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Policy Review of Dairy Industry in Indonesia



Prepared by

Arief Daryanto¹, Sahara Sahara², Antonya R. Sinaga¹, Mutiara Probokawuryan²,
Silvia Dewi Sagita Andik¹, Yuni Resti¹, Zulva Azijah², Pria Sembada¹

¹ Vocational School, IPB University

² Department of Economics-FEM, IPB University

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EXECUTIVE SUMMARY

The Indonesian dairy industry is characterized by small farmers, having fewer than five dairy cows. In 2020, Indonesia still produced less than a third of the domestic demand for dairy products. Currently, the dependence on imported milk supply is still at the level of 77 percent in covering Indonesia's milk consumption needs. The Government of Indonesia (GoI) puts huge resources into the national dairy sector, aiming to increase domestic production. Similarly, the private sector is also playing a role in investment to develop infrastructure and build capacity to enhance growth in Indonesia's dairy sector.

This report describes the main points of policy undertaken as a component of the AGB/2012/099 study: 'Improving the supply, competitiveness, and livelihoods of small-scale dairy production in Indonesia' (IndoDairy), commissioned by the Australian International Center for Agricultural Research (ACIAR). Specifically, this report discussed several regulations issued by the Government of Indonesia (GoI) related to (1) Dairy Inputs, (2) Price of Domestic and Imported Dairy Products, (3) Investments in the Domestic Industry, (4) Access to Credit, (5) Importation Regulation of Live Dairy Cattle, and (6) Importation of Dairy Products. By using SWOT analysis, the strengths, weaknesses, opportunities, and threats in each regulation are discussed particularly to support the development of sustainable, profitable, and smallholder-inclusive dairy supply chains.

Many regulations have been established by the GoI related to the dairy industry. During pandemic Covid 19, additional regulations were also issued aiming to address the impact of the Covid-19 pandemic on the dairy industry. It is necessary to implement regulations that can encourage the increase in domestic fresh milk (SSDN) through coordination between ministries and agencies, both at the central and regional levels. This coordination is expected to create concrete steps so that small businesses in the national dairy sector can have better access to good quality dairy cow inputs and dairy cattle feed, green land, capital, as well as digital and traditional markets. The results of SWOT analysis give the best position for facing competition which is SO or strengths-opportunities strategies.

For the regulations related to **dairy inputs** since the high quality of fresh milk is important for the processing milk industry, the procurement of refrigeration facilities at the farmer and cooperative levels is important. The selection of seeds at the breeder level, quality parent procurement, importation of superior semen, and recording of national data collection

of seeds for selection purposes should also be implemented. From the aspect of cultivation, the strategy should focus on the provision of forage land for fodder, concentrate feed, fermented feed through the utilization of land potential.

For **the regulation related to the price of domestic and imported dairy products**, a progressive policy strategy should include increasing the promotion of dairy products, producing premium dairy products, shortening the sales chain through digital marketing, and increasing the added value of dairy products. A progressive policy strategy related to **investments in the dairy industry** could include tax allowance facilities for investors, simplify administration aspects, eliminate unnecessary costs, and create stable economic and political situations in Indonesia. A progressive policy strategy related to **access to credit** could include the effort to improve the knowledge and competence of dairy farmers related to the financial records, support from industry through dairy development partnership programs, and special interest rate for farmers/cooperatives or other investors interested in developing dairy industry in Indonesia.

A progressive policy strategy in the area of **importation regulation of live dairy cattle and other inputs** could include the increase of the government's role in foreign trade policy, particularly in the World Trade Organization (WTO) related to the regulations of the protection of breeders, and negotiations with import policy makers in the international agencies and trade partner countries. It is also important to provide training related to the importance of animal welfare for dairy farmers, cooperatives, and related institutions to avoid conflict with animal care organizations at national and international levels.

A progressive policy strategy related to **dairy product** importation could include the increase of the government roles in strengthening the domestic powdered milk market through policies that can provide incentives for the processing milk industry (Industri Pengelohan Susu-IPS) to be able to produce domestic powdered milk that can compete with imported product. Regulation of the Minister of Agriculture 2017 that requires businesses producing processed milk (IPS) to have a processing unit within three years should also be monitored related to the implementation. For importers that cannot produce processed milk, they are required to establish partnerships with relevant actors along the dairy values chain in the form of production facilities and capital for dairy farmers.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
TABLE OF CONTENTS.....	4
LIST OF FIGURES	5
LIST OF TABLES	5
1. INTRODUCTION	7
2. OVERVIEW OF THE REGULATORY FRAMEWORKS.....	11
2.1. Dairy Inputs.....	12
2.1.1 Challenges/Issues on Dairy Inputs.....	12
2.1.2. Regulation Related to Dairy Input	13
2.2. Investments in the Dairy Industry	15
2.2.1 Challenges/Issues on Livestock Investments.....	15
2.2.2 Regulation related to Livestock Investment	16
2.3. Access to credit for Key Players in the Dairy Industry.....	21
2.3.1. Challenges/Issues Access to Credit	21
2.3.2. Regulation related to Access to credit in the dairy industry	22
2.4. Additional Regulation due to Pandemic Covid-19	23
3. AN ANALYSIS OF THE STRENGTHS , WEAKNESSES, OPPORTUNITIES, AND THREATS (SWOT)	48
3.1. Dairy Inputs.....	49
3.2. Price of Domestic and Imported Dairy Products	51
3.3. Investments in The Domestic Industry	53
3.4. Access to Credit for Key Players in the Dairy Industry	54
3.5. Importation Regulation of Live Dairy Cattle and Other Related Inputs	57
3.6. Importation of Dairy Products.....	59
4. PROSPECTS & FUTURE OPPORTUNITIES FOR FUTURE GROWTH	61
5. CONCLUSION AND RECOMMENDATIONS	66
REFERENCES	68
APPENDIX.....	70

LIST OF FIGURES

Figure

1	The Dairy Value Chain in West Java Province	7
2	SWOT Analysis Diagram	47
3	SWOT Analysis Diagram for Dairy Inputs	49
4	SWOT Analysis Diagram for Price of Domestic and Imported Dairy Products	50
5	SWOT Analysis Diagram for Investments in The Domestic Industry	52
6	SWOT Analysis Diagram for Access to Credit for Key Players in The Dairy Industry	54
7	SWOT Analysis Diagram for Importation Regulation of Live Dairy Cattle, Semen Etc	56
8	SWOT Analysis Diagram for Importation of Dairy Products	58

LIST OF TABLES

Table

1	Domestic Needs, Production, Import and Consumption of Milk in Indonesia in 2017-2020	5
2	Number of Dairy Cattle in Indonesia from 2016 to 2020	6
3	Fresh Milk Production in Indonesia from 2016 to 2019	6
4	The Roles of Actors along the Dairy Value Chain in Indonesia	8
5	Value of Livestock Domestic Investment 2018-2020	14
6	Value of Livestock Foreign Direct Investment 2018-2020	24
7	Policies and Regulations Related to Dairy Industry in Indonesia	24
8	Number of Factors of SWOT in Each Regulation Focused in the Study	46
9	Internal Factors SWOT Analysis for Dairy Inputs	
10	External Factors SWOT Analysis for Dairy Inputs	48
11	Internal Factors SWOT Analysis for Price of Domestic and Imported Dairy Products	49
12	External Factors SWOT Analysis for Price of Domestic and Imported Dairy Products	50

Table

13	Internal Factors SWOT Analysis for Investments in The Domestic Industry.....	51
14	External Factors SWOT Analysis for Investments in The Domestic Industry.....	51
15	Internal Factors SWOT Analysis for Access to Credit for Key Players in The Dairy Industry	53
16	External Factors SWOT Analysis for Access to Credit for Key Players in The Dairy Industry	53
17	Internal Factors SWOT Analysis for Importation Regulation of Live Dairy Cattle, Semen Etc	55
18	External Factors SWOT Analysis for Importation Regulation of Live Dairy Cattle, Semen Etc	56
19	Internal Factors SWOT Analysis for Importation of Dairy Products	57
20	External Factors SWOT Analysis for Importation of Dairy Products	58
21	The Most Important Factors in Each Component of SWOT Analysis and The Proposed Strategy	60

1. INTRODUCTION

Indonesia's dairy industry is characterized by smallholder farmers. Farm sizes are typically small with farms, on average, owning less than five milking cows (Guntoro et al. 2016). In 2012 Indonesia was producing less than one-third of its domestic demand for dairy products. The fragility of domestic milk supply within Indonesia was demonstrated during 2014 when approximately 40 percent of the nation's dairy herd was slaughtered due to high beef prices.

The Government of Indonesia (GoI) is investing substantial resources into the nation's dairy sector, aiming to increase domestic production. Likewise, the private sector is investing heavily in developing infrastructure and building capacity to improve the growth of the Indonesian dairy sector.

The dairy industry in Indonesia has shown an increase in domestic consumption of milk and its derivative products. This trend is driven by the increasing population, people's awareness of healthy life, and increasing per capita income (USD 3,927.3/capita) in 2018, even though it slightly decreased in 2020 (USD 3,911.7/capita) due to pandemic covid-19 (Statistics Indonesia, 2021). The average growth of whole milk consumption in Indonesia from 2017-2020 has increased by 1.23% per year (Ministry of Agriculture, 2021). In 2017, the national milk consumption was about 16.29 kg/capita/year, increased to 16.49 kg/capita/year in 2018, then decreased to 16.23 kg/capita/year in 2019 (Table 1). During the Covid-19 pandemic (2020), milk consumption in Indonesia slightly increased to 16.27 kg/capita/year. By increasing milk consumption, the immunity will increase reducing the probability to be infected by the virus. However, the consumption of milk per capita in Indonesia was still lower compared to other Southeast Asian countries, e.g., Malaysia (36.20 kg/capita/year), Myanmar (26.7 kg/capita/year), and Thailand (22.2 kg/capita/year).

Table 1. Domestic Needs, Production, Import and Consumption of Milk in Indonesia in 2017-2020

Description	2017	2018	2019	2020	Growth (%)
Domestic needs (000 ton)	4267.32	4355.08	4332.88	4385.73	2.06
Production (000 ton)	918.24	992.64	957.22	997.35	8.10
Import (000 ton)	3355.81	3368.08	3380.4	3392.76	0.37
Percent import	78.64	77.34	78.02	77.36	-1.66
Consumption (kg/capita/year)	16.29	16.49	16.32	16.27	1.23

Source: Ministry of Agriculture (2021)

The dairy market in Indonesia is still heavily reliant on imported milk products. During the period of 2017-2020, imported milk contributed more than 77 percent of milk national needs. During the same period, the average growth of milk production in Indonesia was only about 8.10 percent. The growth of milk production was far behind the domestic needs. As such Indonesia still relies on milk import to fulfill domestic needs.

Table 2. Number of Dairy Cattle in Indonesia from 2016 to 2020

No	Province	Number of Cattle (head)					Average (head)	Contribution (%)	Growth (%)
		2016	2017	2018	2019	2020			
1	East Java	265,002	273,881	295,809	287,196	295,141	283,406	50.8%	-1%
2	Central Java	137,334	138,560	154,202	140,520	139,605	142,044	25.5%	2%
3	West Java	119,595	115,827	118,800	122,505	118,212	118,988	21.3%	-13%
4	DI Yogyakarta	4,069	4,003	3,747	3,873	3,537	3,846	0.7%	11%
5	DKI Jakarta	2,411	1,897	2,023	2,024	2,024	2,076	0.4%	-16%
6	Other Provinces	5,522	6,273	6,941	8,883	9,746	7,473	1.3%	76%
	Indonesia	533,933	540,441	581,522	565,001	568,265	557,832	100%	6.43%

Source: Statistics Indonesia (2021)

The milk production is concentrated in Java Island which the population of cattle reached 97.6 percent of the total population in Indonesia (Table 2). East Java, Central Java, and West Java Provinces were the main production zones of milk producers. East Java Province accounted for 54.2 percent of the total national milk production, followed by West Java with 33 percent contribution and Central Java with 10.8 percent (Table 3). However, it is important to note that the growth of fresh milk production in West Java reduced by 1 percent during the period 2016-2019.

Table 3. Fresh Milk Production in Indonesia from 2016 to 2019

No	Province	Production (ton)				Average (ton)	Contribution (%)	Growth (%)
		2016	2017	2018	2019			
1	East Java	492,460.6	498,915.8	512,846.8	521,123.4	506,337	54.2%	6%
2	West Java	302,559	310,461	319,004	300,337	308,090	33.0%	-1%
3	Central Java	99,997	99,607	100,998	102,949	100,888	10.8%	3%
4	D.I Yogyakarta	6,226	6,125	4,059	5,926	5,584	0.6%	-5%
5	DKI Jakarta	4,726	5,418	5,098	5,100	5,085	0.5%	8%
6	Other Provinces	6,767	7,582	8,997	9,101	8,112	0.9%	34%
	Indonesia	912,735	928,108	951,004	944,537	934,096	100.0%	3%

Source: Statistics Indonesia (2021)

There have been several development efforts to increase domestic milk production. Over the last few years (2016-2020), the national dairy cattle numbers have increased by 6.43 percent to reach the amount of 568,265 dairy cattle (Table 2). Milk production has also increased during the four years (2016-2019) by 3 percent to reach 944,537 tons in 2019 (Table 3). In Java, the biggest growth of dairy cow number over the last five years has occurred in East Java province, with a growth of 6 percent. Meanwhile, the biggest growth of fresh milk production during the last four years occurred in DKI Jakarta provinces with a rate of 8 percent.

The majority of cows in Indonesia are owned by individual farmers with an average of three to four cows per farmer. In East Java, 94 percent of cows are owned by individual farmers which dairying is only a part-time business for many farmers. However, for some individual farmers, milk is their main income source. Many of the individual dairy farmers are represented by the Indonesian Association of Dairy Cooperatives (Gabungan Koperasi Susu Indonesia /GKSI) which oversees industry development including policies regarding sourcing funding for infrastructure and cattle and milk price negotiation. Some larger size dairy farmers operate outside the cooperative system and sell to milk processors directly.

Corporate dairy farming consists of only several producers but their roles tend to expand. Corporate dairy farming contributes only 6 (six) percent of dairy cows and milk production in East Java. In Indonesia, there are five corporate dairy farms with 4 (four) located in West Java and 1 (one) in East Java. Corporate farming will expand into North Sumatra with two major liquid milk companies planning to establish dairy farms and milk processing plants near Medan in North Sumatra with a focus on export to Asian markets.

The Indonesian Association of Milk Processors (MPI) represents the milk processing sector and has the five largest milk processors including Frisian Flag, Nestle, Sari Husada / Danone, Ultra Jaya, and Indolakto / Indomilk. The five major companies absorb about 85 percent of Indonesia’s milk production. Their main factories are located in the following regions: 1) Jakarta – Frisian Flag; 2) West Java – Indolakto, Ultra Jaya; 3) Central Java – Sari Husada; and 4) East Java – Nestle

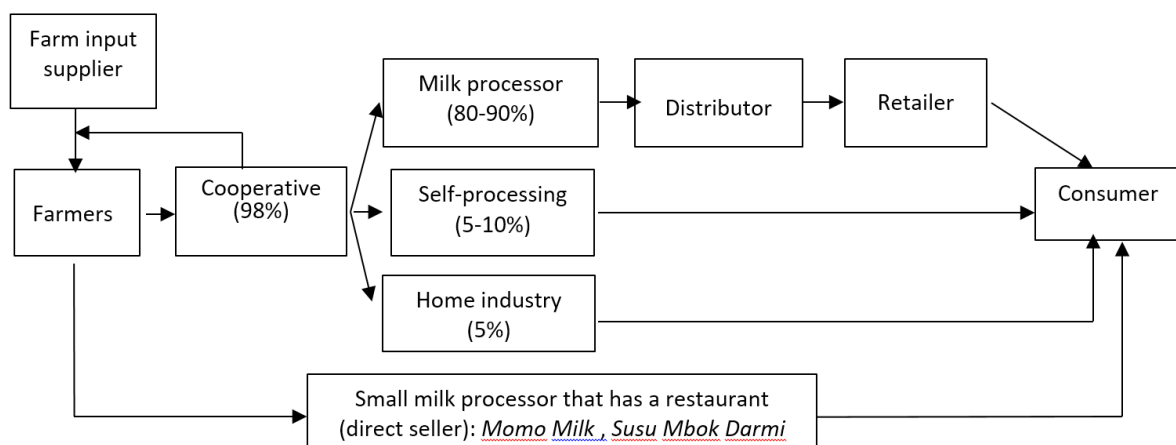


Figure 1. The Dairy Value Chain in West Java Province

The dairy sector in Indonesia also contributes substantially to livelihoods especially to smallholder households in rural areas. Based on field research in West Java in 2016, the

Indonesian dairy value chain consists of farm input suppliers, farmers, cooperatives, milk processors, distributors, retailers, and consumers (Figure 1). The roles of the actors along the dairy value chain are presented in Table 4

Table 4. The Roles of Actors along the Dairy Value Chain in Indonesia

No	Value Chain Actor	Role
1	Input Supplier	Farm input suppliers provide feed, equipment, infrastructure, and veterinary care for cattle. Raw materials of feed mostly are obtained from suppliers near the farmers' location.
2	Farmers	The roles of farmers in the value chain are maintaining the cattle and selling fresh milk. Most of the farmers are classified as smallholders which they mostly have on average 2-3 cattle. For most farmers producing milk, dairy production is the primary source of income (80 percent).
3	Dairy Co-operatives	Dairy cooperatives have a vital role to bridge farmers and milk processors. A cooperative gives technical and managerial skills for farmers, financial support, and market access
4	Milk processors	Milk processors transform fresh milk into some milk products such as pasteurized milk, Ultra High-Temperature milk, yogurt, cheese, and others
5	Retailers	Retailers sell the milk products to end consumers

Several regulations have been issued by the Indonesian Government (GoI) to increase domestic milk production and the performance of dairy value chains. This report discussed policies related to (1) Dairy Inputs, (2) Price of Domestic and Imported Dairy Products, (3) Investments in the Domestic Industry, (4) Access to Credit, (5) Importation Regulation of Live Dairy Cattle, and (6) Importation of Dairy Products. Strategies and policies to support the development of sustainable, profitable, and smallholder-inclusive dairy supply chains are also discussed.

2. OVERVIEW OF THE REGULATORY FRAMEWORKS

This section reviews relevant policies and regulations related to dairy inputs, investment, and access to credit. Some issues of each aspect are also presented based on the field trip results conducted by the study team in North Sumatra and West Java.

The section is started by providing of the overview of the main stakeholders in the Indonesian dairy industry as follows.

- i) DGLAHS – The Directorate General of Livestock and Animal Health Services at the Ministry of Agriculture oversees the national strategy and Government policy issues affecting Indonesia’s dairy industry. There are five directorates under DGLAHS covering (1) breeding, (2) livestock production, (3) livestock fodder, (4) animal health, and (5) veterinary public health and post-harvest.
- ii) GKSI – The Indonesian Association of Dairy Cooperatives (GKSI) oversees the industry development including policies regarding accessing funding for infrastructure and cattle. The activities of GKSI are mainly handled by branches in East Java, Central Java and West Java.
- iii) KUDs – Koperasi Unit Desa (KUD) is the local dairy center known as the primary village cooperative of GKSI. The KUDs supply farmers with technical services on production, animal health (veterinarian) etc. The KUDs act as the local milk collection center which have important roles in linking smallholder dairy farmers and milk processors. The KUD collects and distributes payments to its members (dairy farmers) based on their milk quality and volume. Some of the KUDs have exclusive arrangements to supply a major milk processor and some have established their milk products and brands for the local market.
- iv) MPI – The Indonesian Association of Milk Processors (MPI) represents the milk processing sector. MPI members buy milk from GKSI members and can buy direct from some large farmers and import milk powders to fulfill their needs. There are five milk processors that are a member of MPI – the five major milk processors are Nestle, Frisian Flag, Sari Husada, Indomilk, and Ultra Jaya.
- v) AI Centres – Semen for artificial insemination in cattle is domestically produced by two Artificial Insemination (AI) centers located in Malang, East Java, and Lembang, West Java.

- vi) Cikole Dairy Training Centre– The Centre is funded by Japan International Corporation Agency (JICA) and provides technology transfer to improve dairy farming and milk production.
- vii) Smallholders – Smallholder dairy farmers have important roles in milk production in Indonesia. Most of Indonesia’s 192,160 dairy farmers are smallholders with an average of three to four cows each. The majority of farmers are a member of cooperatives (KUD) in which they sell their products to milk processors through their KUDs. Smallholder dairy farmers face several challenges enterprise-scale, herd nutrition, animal husbandry, reproductive performance, and milk harvesting cause low levels of business profitability and productivity. There is also poor transparency of marketplace signals and asymmetric information.

2.1. Dairy Inputs

2.1.1 Challenges/Issues on Dairy Inputs

Based on field research in West Java and North Sumatera Province conducted in YEAR - YEAR, there are some challenges or issues related to dairy inputs. The main problems in the feed are quality, availability, and price:

- **Quality**

The quality of feed raw materials in the off-season, like brans, is still low while the price is high. Concentrates used by farmers are classified as medium quality so that the milk quality is low. Lack of raw materials is the other problem to producing high quality concentrates.

The other constraint to increasing milk production is inadequate to feed resources.

- **Availability**

Availability of feed raw material tends to fluctuate. In terms of forages, lands for forages are limited and keep decreasing. There is competition with the poultry industry in using some raw materials. Formerly, pollard is only used for dairy cattle, but currently, it is also used for poultry.

- **Price**

Factors affecting the feed price fluctuation are stock, demand, and weather. For example, raw materials coming from outside Java, sometimes, cannot be delivered on time because of the bad weather and ocean wave is high. For pollard, there is a tendency to export rather than fulfilling domestic demand due to the higher export price.

2.1.2. Regulation Related to Dairy Input

The regulations related to dairy input were issued by the Government of Indonesia, Law of the Republic of Indonesia No. 11 of 2020 on Job Creation (Revising Law Number 41 of 2014 and Law Number 18 of 2009 about Livestock and Animal Health). It regulates the provision and development of seeds that are carried out by prioritizing domestic production (Article 13). The Government and/or the Regional Government in accordance with its authority are obliged to undertake breeding, development of seeding and/or breeding business by involving the participation of the community to ensure the availability of seeds and by encouraging the application of reproductive technology. Every seed in circulation shall have a seed certificate containing information about the pedigree and its superiority features. Seed certificates are issued by an accredited seed certification institution.

It also regulates the importation of seeds (Article 15). Seed importation can be done to a) improve genetic quality and diversity; b) develop science and technology; c) overcome the shortage of seed in the country; and d) meet research and development needs. Every person who imports seeds is required to fulfill Business Licensing from the Government. Meanwhile, the exportation of seeds is regulated in Article 16. Seed exportation from a domestic to a foreign country can be done if the domestic requirement has been fulfilled and the preservation of local Livestock has been guaranteed. Every person who exports seeds is required to fulfill Business Licensing from the Government.

To meet the availability of seedlings (regulated in (Article 18), productive female ruminants are selected for breeding, whereas unproductive female ruminants are removed to be cut. Local Government in accordance with the authority to provide funds to collect livestock (productive female ruminants) issued by the community and accommodate the livestock in the technical implementation unit in the area for the breeding purposes and provision of productive female ruminants in the area.

Another regulation related to dairy inputs has been issued by Central Government Number 6 of 2013 about Farmers Empowerment. This regulation states that government/local government have livestock services program, namely: a) provision and management of common grazing land; b) provision of superior seeds; c) rescue of productive female ruminants; and d) provision of artificial insemination post (Law Number 6 of 2013 Article 10). In facilitating the program, government and local government in accordance with their authorities to provide facilities for: a) good farming practices in livestock; b) harvesting and post-harvest activities of livestock products through the provision of slaughterhouses, dairy, meat, and eggs

processing industries; c) distribution and marketing activities of livestock products through the provision of conveyance, animal markets, livestock collecting place, and refrigeration installations; and d) storage of animal and fodder products through the provision of warehouses and/or refrigerated warehouses (Law Number 6 of 2013 Article 17).

In order to increase the quality of dairy inputs especially for the provision of cattle seeds, the Indonesian Ministry of Trade has issued regulation Number 29 of 2019 about Provision of Animal and Animal Products Export & Import (Replacing Regulation Number 59/M-DAG/PER/8/2016 and Regulation Number 05/M-DAG/PER/1/2016). This regulation states that Import of Animal Species and Animal Products can only be done after obtaining Import Approval from the Minister. The Minister delegates the authority to issue Import Approval to the Director-General. The Director-General mandates the issuance of the Import Approval as to the Director of Import. Import of animal and Animal Products can only be done by: a) importer holding NIB that acts as an Identification Number (*Angka Pengenal Impor/API*); b) social institutions; and c) representatives of Foreign Countries/International Institutions.

To obtain import approval, the importers who own NIB (that act as API) must submit an application electronically (<http://inatrade.kemendag.go.id>) to the Director-General through the Director of Export by enclosing: a) The deed of establishment of the company and its amendments; b) NIB that act as API; c) Evidence of ownership of the raising animal place; d) Proof of ownership of cold storage and refrigerated transportation; e) Statement letter stating that the slaughter will be carried out at the Slaughterhouse in accordance with the provisions of the laws and regulations; f) Recommendation from the Minister of Agriculture or an official appointed by the Minister of Agriculture; or f) Recommendation from the Head of the National Agency of Drug and Food Control (BPOM) or an officer appointed by the Head of the National Agency of Drug and Food Control (BPOM) and a recommendation from the Minister of Agriculture or an official appointed by the Minister of Agriculture for the import of animal products which still has a risk of spreading zoonosis.

The latest regulation related to Milk Supply and Distribution has been issued by the Indonesian Ministry of Agriculture Number 33/Permentan/PK.450/7/2018 which revise Regulation of Minister of Agriculture Number 30/Permentan/PK.450/7/2018 about Milk Supply and Distribution (also Revising Regulation of Minister of Agriculture Number 26/Permentan/PK.450/7/2017). Improvement of milk productivity can be done through a) improving seed quality; b) provision of fodder; c) improving the quality of fodder and feeding; and d) improving animal raising and health management (Article 4). The improvement of cattle

population can be done through a) Improvement of birthrate; b) Preventing slaughter on productive female cattle; c) Supply of productive female cattle, and d) Rearing (Article 10). The improvement of birthrate is done through the handling of reproduction disturbance and the improvement of reproduction efficiency based on Technical Guidance to Reproduction Optimization and Handling of Reproduction Disturbance on Cattle (Article 11).

The prevention of slaughter on productive female cattle is based on the terms of the Law (Article 12). The supply of productive female cattle is done through the foreign cattle supply into the territory of the Republic of Indonesia. The supply of productive female cattle can be done by farmers, cooperatives, businessmen, and the government. The supply of foreign cattle into the territory of the Republic of Indonesia is based on the terms of the Law (Article 13). Rearing activity is done by farmers, cooperatives, businessmen, and the government and is based on the pasture pattern, intensive, and/or semi-intensive (Article 14).

It also regulates how to improve national milk quality through a) providing high-quality fodder with adequate nutritional content to the cattle; b) preserving cattle's hygiene, shelter sanitation, tools, water, and milker (Article 15). To increase milk production quality, the Ministry of Agriculture (Article 32) also regulates production partnership through a) increasing the population of dairy cattle in farmers, joint groups of farmers, and/or cooperatives; b) improving rearing facilities; and/or c) enhancing of skills and competences of farmers, a joint group of farmers and/or cooperatives.

2.2. EWD's draft (Price of domestic and imported products)

2.3. Investments in the Dairy Industry

2.2.1 Challenges/Issues on Livestock Investments

Based on field research in West Java and North Sumatera Province, there are some challenges or issues related to investments in the domestic dairy industry. There are still challenges to accommodate investment opportunities that would lead to the development of new and sustainable smallholder dairy supply chains in North Sumatera and improve the functioning of dairy supply chains in West Java. There is still a lack in the regulation and program implementation of the enhancement of investment activities both domestic and foreign investment to accelerate development in order to support micro, small and medium enterprises, and cooperatives in the dairy industry. The dairy industry still has not got a strong priority to be developed.

2.2.2 Regulation related to Livestock Investment

The livestock domestic investments (PMDN) are detailed by the sectors (Table 5), seems that the biggest livestock domestic investments value in 2018 was livestock of poultry amounting to Rp632.47 billion (72.99 percent of the total livestock PMDN), followed by livestock of cattle and buffaloes amounting to Rp123.92 billion (14.3 percent). The biggest livestock domestic investments value in 2020 was still livestock of poultry amounting to Rp2,160.55 billion (94.99 percent of the total livestock PMDN), followed by livestock of cattle and buffaloes amounting to Rp100.86 billion (4.43 percent).

Table 5. Value of Livestock Domestic Investment 2018-2020

Sector	2018		2019		2020	
	Value (Million Rp)	Share (%)	Value (Million Rp)	Share (%)	Value (Million Rp)	Share (%)
Cow and Buffalo Farm	123,919	14.30%	174,724	16.63%	100,863	4.43%
Pig Farm	26,000	3.00%	-	0.00%	10,881	0.48%
Poultry Farm	632,470	72.99%	875,765	83.37%	2,160,547	94.99%
Goat and Sheep Farm	-	0.00%	-	0.00%	2,146	0.09%
Livestock Service Sector	84,074	9.70%	-	0.00%	-	0.00%
Total	866,464	100%	1,052,689	100%	2,283,452	100%

Source: Directorate General of Livestock and Animal Health (2020)

The livestock foreign direct investments (FDI) are shown in Table 6. Those are also detailed by its sector, seems that the biggest livestock foreign direct investments value in 2018 was livestock of poultry amounting to USD71.11 million (59.74 percent of the total livestock foreign direct investments), followed by livestock of cattle and buffaloes amounting to USD47.63 million (40.01 percent). The biggest livestock foreign direct investments value in 2020 was still livestock of poultry amounting to USD40.97 million (92.20 percent of the total livestock FDI), followed by livestock of cattle and buffaloes amounting to USD3.47 million (only 7.8 percent).

Table 6. Value of Livestock Foreign Direct Investment 2018-2020

Sector	2018		2019		2020	
	Value (Thousand USD)	Share (%)	Value (Thousand USD)	Share (%)	Value (Thousand USD)	Share (%)
Cow and Buffalo Farm	47,632	40.01%	9,855	26.09%	3,468	7.80%
Pig Farm	-	0.00%	-	0.00%	-	0.00%
Poultry Farm	71,110	59.74%	24,290	64.30%	40,975	92.20%
Goat and Sheep Farm	94	0.08%	1,900	5.03%	-	0.00%

Livestock Service Sector	203	0.17%	1,733	4.59%	-	0.00%
Total	119,039	100%	37,778	100%	44,443	100%

Source: Directorate General of Livestock and Animal Health (2020)

Domestic investment for cow and buffalo farms in 2018-2020 decreased by 0.64 percent, and if in 2020 is compared to 2019, the domestic investments decreased even more significantly by 42.27 percent. The FDI in the cow and buffalo sector decreased by 72.06 percent in the 2018-2020 period. The decline in investment in 2020 occurred due to regulations from the Australian Government that limited the trade of cattle to all partner countries including Indonesia (Directorate General of Livestock and Animal Health, 2020).

The regulation related to livestock investment were issued by the central government through President Decree Number 49 of 2021 which revise some of the regulations in the President Decree Number 10 of 2021 about the list of business sectors in investment (replacing the President Decree Number 44 Of 2016). Article 2 paragraph (1) of President Decree 49/2021 states that all business fields are open to investment activities, except for the following business fields: a.) declared closed for investment; or b.) for activities that can only be carried out by the Central Government. Business fields that are declared closed for investment are Alcoholic Liquor Industry (KBLI 11010), Alcoholic Beverage Industry: Wine (KBLI 11020), and Malt Containing Beverage Industry (KBLI 11031). Business fields for activities that can only be carried out by the Central Government are activities that are of a service nature or in the framework of defense and security that are strategic and cannot be carried out or cooperated with other parties.

The business fields that are open for investment activities are divided into 3 types, namely: (a) open business fields; (b) closed business fields, and (c) business fields that are open with conditions. Meanwhile, in the new provisions, Article 2 paragraph (1) of President Decree 10/2021 states that all business fields in investment activities are open unless the business fields are explicitly declared closed or are part of business fields that can only be carried out by the Central Government. The Open Business Fields consist of:

- a. Priority Business Fields;
- b. Business fields allocated or partnerships with Cooperatives and MSMEs;
- c. Business Fields with certain requirements; and
- d. Business Fields that can be cultivated by all Investors.

Investors who invest in Business Fields listed on the list of priority business fields are given fiscal incentives; and/or non-fiscal incentives. Non-fiscal incentives include ease of

business licensing, provision of supporting infrastructure, a guarantee of energy availability, guarantee of the availability of raw materials, immigration, employment, and other facilities in accordance with the provisions of laws and regulations. Fiscal incentives consist of:

- a. Tax incentives provided:
 - income tax for investment in certain business fields and or in certain areas (tax allowance);
 - reduction of corporate income tax (tax holiday); or
 - reduction of corporate income tax and net income reduction facility in the context of investment as well as reduction of gross income in the context of certain activities (investment allowance)
- b. Customs incentives in the form of exemption from import duty on the import of machinery and goods and materials for the construction or industrial development in the context of Investment.

Priority Business Fields refers to a business field that meets criteria: a. national strategic programs/projects; b. capital intensive; c. labor-intensive; d. high technology; e. pioneer industry; f. export orientation; and/or g. orientation in research activities, development, and innovation. Business fields allocated or partnerships with Cooperatives and MSMEs are business fields allocated for Cooperatives, MSMEs and are the business open to Large Enterprises to do partnership with Cooperatives and MSMEs. Business Fields with certain requirements are Business Fields that can be operated by all Investors including Cooperatives and MSMEs that meet the following requirements:

- a. Investment requirements for domestic investors;
- b. Investment requirements with restrictions on foreign capital ownership;
- c. Investment requirements with special permits; or
- d. Other investment requirements are business fields that are limited and closely monitored and regulated in separate laws and regulations in the field of control and supervision of alcoholic beverages.

In order to meet the reduction of the national unemployment rate (until 4-4.6 percent by 2024), according to the National Medium-Term Development Plan (RPJMN), 2020-2024 of which should be encouraged to increase investment in labor-intensive industries. The other regulation related to livestock investment has been issued by Central Government Law Number 78 of 2019 about Tax Allowance Facility for Investment in Certain Business and/or in Certain Regions. This regulation states that to encourage economic growth, equitable development and

accelerated development in certain regions, to deepen of industrial structure, and to encourage foreign investment and domestic investment in certain business fields and/or in certain regions, for taxpayers who make new investments or expansions from existing businesses in certain business fields and/or in certain regions can be provided with Tax Allowance Facility.

Following tax allowance facilities which are conducted by the government, namely: a) net income deduction of 30 percent charged for 6 years each at 5 percent/year; b) depreciation and amortization are accelerated; c) income tax of 10 percent on dividends paid to overseas taxpayers or lower rates if there is a Tax Treaty; and d) Compensation for losses longer than 5 years but not more than 10 years.

There are some milk processing industries related to President Decree Number 10 of 2021 (revised in President Decree Number 49 of 2021) regulation:

1. Annex 1 No 14: Breeding and Cultivation of Dairy Cattle (KBLI code: 01412)
This group includes livestock businesses that organize dairy cow breeding, to produce dairy cattle breeds, semen, and embryos and farms that organize dairy cow cultivation to produce milk. The requirements are doing partnerships with farmers in cattle farming business at least 10 percent of the cage capacity and integrated and/or partnerships with fresh milk and cream processing industries (KBLI 10510).
2. Annex 1 No 51: Milk Processing Industry (MPI) for Fresh and Cream Milk (KBLI code: 10510)
This group includes the business of processing fresh liquid milk, pasteurized, sterilized, homogenized, and/or ultra heating (UHT) milk and the cream processing industry of fresh liquid milk, pasteurization, sterilization, and homogenization. This is applied for all industries related in all provinces in Indonesia.
3. Annex 1 No 60: Baby Food Industry (KBLI code: 10791)
Some products included in this category, namely: infant formula, advanced milk and other advanced foods, baby food, and foods containing homogenized ingredients.

In order to improve the scale and efficiency of livestock business, the economic capability of farmers or businessmen, market access, competitiveness, and build a synergy of mutual benefit, and equitable, it is necessary to establish a partnership of livestock business. Indonesian Ministry of Agriculture has been issued regulation Number 13/Permentan/PK.240/5/2017 about Livestock Business Partnership. Based on the regulation in Article 2, the types of livestock business that can be in partnership consist of: a) Livestock;

b) animal products; and c) production facilities and infrastructure. Livestock as intended includes cows, buffalo, goats, sheep, chickens, ducks, quail, pigs, and rabbits. The animal products as intended include eggs, meat, milk, and other dairy products. Production facilities and infrastructure are implemented from upstream to downstream (Article 3).

Participants of Livestock Business Partnership include a) farmers; b) farming companies; c) companies in other fields; and d) the government and/or local government. Livestock Business Partnership can be done through the following patterns: a) core-plasma; b) profit sharing; c) lease; d) general trading; and/or e) subcontracts. Partnerships between livestock companies and/or companies in other fields with the government and/or regional governments are implemented in order to improve the competitiveness of livestock business through education, training, counseling, apprenticeship, promotion, and/or technology transfer process.

Partnership agreements shall be done in the form of a written agreement that at least contains: a) types of Livestock, types of animal products, and/or types of production facilities cooperation; b) rights and obligations; c) stipulation of quality standards; d) market price; e) marketing guarantees; f) sharing of profits and business risks; g) capital and/or financing; h) payment mechanism; i) duration; and j) dispute resolution. Partnership agreements must be recognized by the local government as a fostering of business partnerships.

Regulation Number 13/Permentan/PK.240/5/2017 which is issued by the Indonesian Ministry of Agriculture in accordance with Law Number 6 of 2013 Chapter V about partnership development in increasing synergy between livestock businessmen. The regulation regulates how to increase the income of farmers, synergy, and business competitiveness through business partnerships: a) between farmers; b) between farmers and livestock companies; and c) between breeders and companies in other sectors. Business partnerships can be performed at least in the form of a) revenue sharing; b) lease; or c) the plasma core.

Law Number 41 of 2014 (some articles are revised in Law of the Republic of Indonesia No. 11 of 2020 on Job Creation) also regulates business partnership. Farmers can conduct business partnerships in the field of cattle farming based on mutual agreement, strengthening, benefits, respect, responsibility, dependency, and justice. A business partnership can be done: a) Inter-farmers; b) between farmers and livestock companies; c) between farmers and companies in other sectors; and d) between the livestock companies and the Government or the Regional Government in accordance with its authority. Business partnerships can be: a)

provision of production facilities; b) production; c) marketing; and d) capital or financing. Government and Local Government in accordance with their authority to guide/coach business partnership.

Regulation of Minister of Agriculture Number 26/Permentan/PK.450/7/2017 Chapter IV has been revised in Regulation of Minister of Agriculture Number 33/Permentan/PK.450/7/2018. It also regulates livestock business partnerships especially related to milk production or the dairy industry. Businessman shall establish a partnership with breeders, farmer group associations, and/or cooperatives using domestic fresh milk (SSDN) or mutually beneficial promotions.

Utilization of milk based on the suitability of milk production and real production capacity of businessmen. The suitability of milk production and the real production capacity of a businessman shall be calculated annually no later than November of the previous year and shall be determined by the Directorate General of Livestock and Animal Health. The calculation of the milk production suitability and the real production capacity of a businessman can be done by the analysis team of supply and demand of milk which is consist of the Coordination Ministry for Economic Affairs, Ministry of Agriculture, Ministry of Trade, Ministry of Industry, Ministry of Cooperatives and SMEs, Statistics Indonesia and higher education institution.

Partnership in the provision of production facilities can be done through the provision of equipment and buildings. Production partnerships can be done through: a) increasing the population of dairy cattle in farmers, joint groups of farmers, and/or cooperatives; b) Rearing facilities; and/or c) enhancement of skills and competence of farmers, a joint group of farmers and/or cooperatives. Capital or financing partnerships be done through: a) facilitation of business capital with affordable interest; and/or b) guarantee to obtain business credit

2.4. Access to credit for Key Players in the Dairy Industry

2.4.1. Challenges/Issues Access to Credit

Based on field research in West Java and North Sumatera Province, there are some challenges or issues related to credit access for key players in the dairy industry. Based on regulation, the central and local government should provide financially and capital supports to farmers to buy dairy cows, equipment, and other dairy inputs through partnership. However, there is still a lack of regulation and program implementation. The farmers and farmer groups in both provinces still have a problem getting access to financial and capital supports from the

government. Furthermore, access to credit is difficult as many farmers do not have collateral to meet the bank requirements.

The government also still has challenges in establishing a good partnership between processing industries and farmers and/or cooperatives that produce livestock products. Partnerships between them can be cooperation in: a) capital or financing; b) processing; c) marketing; d) distribution; e) supply chain.

2.4.2. Regulation related to Access to credit in the dairy industry

The regulation related to livestock investment has been issued by the central government through Law Number 6 of 2013 Chapter II Part 1 about Access to Financial and Capital Sources. Financial and capital sources for farmers' empowerment can come from the government and local governments. Besides that, it can also come from the community, banking institutions, and other financial institutions non-bank, and other business entities (Article 4).

The regulation in Article 5 states that supports from the government and regional government can be financial or capital assistance for business development. Financial or capital assistance is given to farmers through farmer groups or collective farmers groups. Financial or capital assistance are sourced from the Indonesian Budget (APBN) and/or Regional Government budget (APBD) in accordance with the provisions of laws and regulations. Further provisions on the terms and procedures for granting financial or capital assistance should be regulated by Ministerial Regulation.

Another regulation related to access to credit in the dairy industry has been issued by Ministry of Agriculture Number 33/Permentan/PK.450/7/2018 which revise Regulation of Minister of Agriculture Number 30/Permentan/PK.450/7/2018 about Milk Supply and Distribution (Revising Regulation of Minister of Agriculture Number 26/Permentan/PK.450/7/2017) in Article 32. It regulates that capital or financing partnerships be done through a) facilitation of business capital with affordable interest; and/or b) guarantee to obtain business credit.

In order to increase livestock business partnership, the central government has been issued Law No. 11 of 2020 on Job Creation (Revising Law Number 41 of 2014). Based on Article 31, farmers can conduct business partnerships in the field of cattle farming based on mutual agreement, strengthening, benefits, respect, responsibility, dependency, and justice. A business partnership can be done: a) Inter-farmers; b) between farmers and livestock companies; c) between farmers and companies in other sectors; and d) between the livestock

companies and the Government or the Regional Government in accordance with its authority. Business partnerships can be: a) provision of production facilities; b) production; c) marketing; and d) capital or financing. Government and Local Government in accordance with their authority to guide/coach business partnership. Based on Article 37 of the processing industry states that the central government and regional governments in accordance with their respective authorities based on the norms, standards, procedures, and criteria set by the Central Government shall foster and facilitate the development of the Animal Product processing industry.

The above regulations are in accordance with the Agriculture Minister Number 13/Permentan/PK.240/5/2017 about Livestock Business Partnership. Based on the regulation in Article 11 regulates the implementation of business partnership. Partnership agreements shall be done in the form of a written agreement at least containing: a) types of Livestock, types of animal products, and/or types of production facilities cooperation; b) rights and obligations; c) stipulation of quality standards; d) market price; e) marketing guarantees; f) sharing of profits and business risks; g) capital and/or financing; h) payment mechanism; i) duration; and j) dispute resolution. Partnership agreements must be recognized by the local government as a fostering of business partnerships.

2.5 Additional Regulation due to Pandemic Covid-19

The Covid-19 pandemic is a national disaster that affects economic stability and community productivity as workers and business actors, so it is necessary to make efforts to regulate the provision of tax incentives to support mitigating the impact of the pandemic. In order to handle the impact of the Covid-19 pandemic, it is necessary to extend the time of tax incentives needed during the national economic recovery period by facilitating the use of wider incentives. This is regulated by the government in the Regulation of the Minister of Finance Number 9/PMK.03/2021 which was later revised in the Regulation of the Minister of Finance Number 82/PMK.03/2021. Based on Article 2, the income received or earned by the employee must be withheld by the employer in accordance with the provisions in Article 21 of the Income Tax Law. The Income Tax Article 21 is borne by the Government on the income received by the employee with certain criteria including:

- a. Receive or earn income from an employer who:
 - have a Business Field Classification code
 - has been designated as a KITE Company (obtains Import Ease for Export Purposes); or

- has obtained Bonded Zone Management Permit, Permit as Business Practitioner of Bonded Zone or PDKB (*Pengusaha Dalam Kawasan Berikat*);
- b. have NPWP; and
- c. during the Tax Period, the person concerned receives or obtains a Gross Income which is fixed and regular which is annualized not more than Rp. 200,000,000.00 (two hundred million rupiah).

The dairy industry that receives this tax incentive is the fresh milk and cream processing industry (business classification code 10510), the powdered milk and condensed milk processing industry (business classification code 10520), the other dairy product processing industry (business classification code 10590), and entrepreneurs who are members of the milk and milk product wholesale trade sector (business classification code 46326).

In addition, there is also a government regulation regarding the relief of import duties on imports of goods and materials to produce goods/services by certain industrial sectors affected by the COVID-19 pandemic in 2021 (The regulation of the Minister of Finance Number 68/PMK.010/21). In this case, certain industries will get relief in the form of Government Borne Import Duty (BM DTP). In article 2, BM DTP can be granted on the import of goods and materials by certain industrial sector companies. Types of goods and materials imported by companies in certain industrial sectors that get BM DTP must meet the following conditions:

- a. Goods and Materials have not been produced domestically;
- Goods and Materials have been produced domestically but have not met the required specifications; or
- Goods and Materials have been produced domestically but the amount is not sufficient for industrial needs in accordance with the recommendations of the relevant ministries/institutions.

Then, the Goods and Materials that receive BM DTP are not:

- a. Goods and Materials subject to import duty of zero percent;
- b. Goods and Materials subject to imposition of import duty of zero percent based on international agreements or agreements;

- Goods and Materials that are subject to Anti-Dumping Import Duties/Temporary Anti-Dumping Import Duties, Safeguard Measures Import Duties/Temporary Safeguard Measures Import Duties, Compulsory Import Duties, or Retaliatory Import Duties; or
- Goods and Materials intended to be stockpiled in a bonded stockpile.

In this case, the milk processing industry gets a reduction in BM DTP with a budget ceiling of Rp 70 billion. Several types of goods/materials imported by the milk processing industry are included in the HS code (tariff postal code): 04021041 (milk does not contain added sugar or other sweetening ingredients in the form of powder/granules/other solid forms with a fat content of not more than 1.5 percent according to weight); 04021091 (milk containing added sugar or other sweetening matter in the form of powder/granule/another solid form with a fat content of not more than 1.5 percent according to weight); 04022120 (milk does not contain added sugar or other sweetening matter in the form of powder/granule/other solid forms with a fat content of more than 1.5 percent according to weight) a; 04039010 (buttermilk); 04041010 (whey and modified whey); 04051000 (unsalted butter); and 10059090 (maize other than seeds and popcorn with aflatoxin levels ≤ 20 ppb).

Table 7. Policies and Regulations Related to Dairy Industry in Indonesia

No	Regulation	Description
1	<p>Law of the Republic of Indonesia No. 11 of 2020 on Job Creation (Revising Law Number 41 of 2014 and Law Number 18 of 2009)</p>	<ul style="list-style-type: none"> • Article 13: The provision and development of seeds is carried out by prioritizing domestic production. <ul style="list-style-type: none"> - The Government and/or the Regional Government in accordance with its authority are obliged to undertake to breed, development of seeding, and/or breeding business by involving the participation of the community to ensure the availability of seeds and by encouraging the application of reproductive technology. - Every seed in circulation shall have a seed certificate containing information about the pedigree and its superiority features. Seed certificates are issued by an accredited seed certification institution. • Article 15: Importation of seeds <ul style="list-style-type: none"> - Seed importation can be done to a) improve genetic quality and diversity; b) develop science and technology; c) overcome the shortage of seed in the country; and d) meet research and development needs. - Every person who imports seeds is required to fulfill Business Licensing from the Government. Further provisions regarding Business Licensing as regulated in other regulations

No	Regulation	Description
		<ul style="list-style-type: none"> • Article 16: Exportation of seeds <ul style="list-style-type: none"> - Seed exportation from a domestic to a foreign country can be done if the domestic requirement has been fulfilled and the preservation of local Livestock has been guaranteed. - Every person who exports seeds is required to fulfill Business Licensing from the Government. Further provisions regarding Business Licensing as regulated in other regulations • Article 18: Availability of seeds <ul style="list-style-type: none"> - In order to meet the availability of seedlings, productive female ruminants are selected for breeding, whereas unproductive female ruminants are removed to be cut. - Local Government in accordance with the authority to provide funds to collect livestock (productive female ruminants) issued by the community and accommodate the livestock in the technical implementation unit in the area for the breeding purposes and provision of productive female ruminants in the area. • Article 31: Business partnership <ul style="list-style-type: none"> - Farmers can conduct business partnerships in the field of cattle farming based on mutual agreement, strengthening, benefits, respect, responsibility, dependency, and justice. - A business partnership can be done: a) Inter-farmers; b) between farmers and livestock companies; c) between farmers and companies in other sectors; and d) between the livestock companies and the Government or the Regional Government in accordance with its authority.

No	Regulation	Description
		<ul style="list-style-type: none"> - Business partnerships can be: a) provision of production facilities; b) production; c) marketing; and d) capital or financing. - Government and Local Government in accordance with their authority to guide/coach business partnership. • Article 36A: Export Ruminantia - Exporting of Livestock and Animal products from the territory of the Republic of Indonesia to overseas can be done if the production and supply in the country has met the needs of public consumption. • Article 36B: Import ruminansia - Importation of Livestock and Animal Products from abroad into Indonesia is carried out to meet the needs by taking into account the interests of breeders. - Everyone who imports Livestock must fulfill a Business License from the Central Government. - Import of Livestock from abroad must: <ul style="list-style-type: none"> a. meet the technical requirements of Animal Health; b. free from Infectious Animal Diseases required by the Veterinary Authority; and c. comply with the provisions of the legislation in the field of animal quarantine.

No	Regulation	Description
		<ul style="list-style-type: none"> • Article 36C: Import ruminansia <ul style="list-style-type: none"> - The importation of Parent Ruminant Livestock into the territory of the Republic of Indonesia may originate from a country that has met the requirements and procedures for its entry. - The requirements and procedures for the importation of Parent Ruminant Livestock from abroad into the territory of the Republic of Indonesia are determined based on risk analysis in the field of Animal Health by the Veterinary Authority. - Importation of Parent Ruminant Livestock originating from a country must first: <ul style="list-style-type: none"> a) declared free of Communicable Animal Diseases by the Veterinary Authority of the country of origin in accordance with the provisions stipulated by the world animal health agency and recognized by the Indonesian Veterinary Authority; b) strengthening the domestic surveillance system and implementation; and c) specified entry point. - Every person who imports ruminant broodstock is required to fulfill a business license from the Central Government. • Article 37: Processing Industry <ul style="list-style-type: none"> - The Central Government and Regional Governments in accordance with their respective authorities based on the norms, standards, procedures, and criteria set by the Central Government shall foster and facilitate the development of the Animal Product processing industry.

No	Regulation	Description
		<ul style="list-style-type: none"> • Article 58: Animal product <ul style="list-style-type: none"> - In order to ensure safety, healthy, intact, and halal animal products in the required, the Government and the Regional Government in accordance with its authority is obliged to carry out supervision, inspection, product testing, standardization, certification, and registration of animal products. - Supervision, inspection, and testing of animal products are respectively carried out at the site of production, at the time of cutting, storage, collection, at fresh times, prior to preservation, and at the time of circulation after preservation. - Animal products produced in and/or imported in Indonesia for circulation shall be accompanied by: a) veterinary certificate; and b) halal certificate for the required animal products. • Article 59: Importation Animal Products <ul style="list-style-type: none"> - Everyone who will import Animal Products into the territory of the Republic of Indonesia must fulfill the Business License from the Central Government. - Requirements and procedures for importing Animal Products from abroad into the territory of the Republic of Indonesia refer to the provisions based on risk analysis in the field of Animal Health and Veterinary Public Health. Further provisions regarding Business Licensing are regulated in other regulations.

No	Regulation	Description
2	<p>Central Government Law Number 78 of 2019 about Tax Allowance Facility for Investment in Certain Business and/or in Certain Regions (Replacing Law Number 9 of 2016)</p>	<ul style="list-style-type: none"> • There are some dairy cattle breeding and cultivation and milk processing industries related to this regulation: <ul style="list-style-type: none"> - Annex 1 No 14: Dairy cattle breeding and cultivation (KBLI 01412) <p>This group includes livestock businesses that organize dairy cow breeding, to produce dairy cattle breeds, semen, and embryos and farms that organize dairy cow cultivation to produce milk. The requirements are doing partnerships with farmers in cattle farming business at least 10 of the cage capacity and integrated and/or partnerships with fresh milk and cream processing industries (KBLI 10510).</p> - Annex 1 No 51: Fresh milk and cream processing industry (KBLI 10510) <p>This group includes the business of processing fresh liquid milk, pasteurized, sterilized, homogenized, and/or ultra heating (UHT) milk and the cream processing industry of fresh liquid milk, pasteurization, sterilization, and homogenization.</p> - Annex 1 No 60: Baby Food (KBLI: 10791) <p>Covering the business: making baby food, such as infant formula, advanced milk, and other advanced foods, baby food, and foods containing homogenized ingredients.</p> • To encourage direct investment, both in terms of economic growth, development of the business sector, legal certainty to improve the business climate that is more conducive to direct investment activities in certain business fields and/or in certain areas that receive high priority

No	Regulation	Description
3	Law Number 6 of 2013 about Farmers Empowerment	<p data-bbox="837 331 2033 419">on a scale national level, as well as equitable distribution and acceleration of development for certain business fields and/or in certain regions.</p> <ul style="list-style-type: none"> <li data-bbox="786 443 1160 475">• Tax Allowance Facility: <ul style="list-style-type: none"> <li data-bbox="837 499 1738 531">- Net income deduction of 30% charged for 6 years each at 5%/year, <li data-bbox="837 555 1473 587">- Depreciation and amortization are accelerated, <li data-bbox="837 611 2033 699">- Income Tax of 10% on dividends paid to overseas taxpayers or lower rates if there is a Tax Treaty, and <li data-bbox="837 722 1805 754">- Compensation for losses longer than 5 years but not more than 10 years. <hr/> <ul style="list-style-type: none"> <li data-bbox="786 778 1637 810">• Chapter II Part 1: Access to Financial and Capital Sources <li data-bbox="786 834 965 866">• Article 4: <ul style="list-style-type: none"> <li data-bbox="786 890 2033 1034">- Financial and capital sources for farmers' empowerment can come from the government and local governments. Besides that, it can also come from the community, banking institutions, and other financial institutions non-bank, and other business entities. <li data-bbox="786 1058 965 1090">• Article 5: <ul style="list-style-type: none"> <li data-bbox="786 1114 2033 1201">- Supports from the government and regional government can be financial or capital assistance for business development. <li data-bbox="786 1225 2033 1313">- Financial or capital assistance is given to farmers through farmer groups or collective farmers groups.

No	Regulation	Description
		<ul style="list-style-type: none"> - Financial or capital assistance are sourced from the Indonesian Budget (APBN) and/or Regional Government budget (APBD) in accordance with the provisions of laws and regulations. Further provisions on the terms and procedures for granting financial or capital assistance should be regulated by Ministerial Regulation. • Chapter III Part 1: Livestock and Animal Health Service • Article 10: <ul style="list-style-type: none"> - Livestock Services consists of: a) provision and management of common grazing land; b) provision of superior seeds; c) rescue of productive female ruminants; and d) provision of artificial insemination post. • Chapter IV Part 1: Avoidance of high-cost economy • Article 16-17: <ul style="list-style-type: none"> - Avoidance of high-cost economy shall be effected through efficiency in the provision of production facilities, cultivation, postharvest, and marketing or distribution of animals and animal products. - In facilitating the program, government and local government in accordance with their authorities to provide facilities for: a) good cultivation of livestock; b) harvesting and post-harvest activities of livestock products through the provision of slaughterhouses, dairy, meat, and eggs processing industries; c) distribution and marketing activities of livestock products through the provision of conveyance, animal markets, livestock collecting place, and

No	Regulation	Description
4	<p>President Decree Number 49 of 2021 revise some of the regulations in the President Decree Number 10 of 2021 about the list of business sectors in investment (Replacing the President Decree Number 44 of 2016)</p>	<p>refrigeration installations; and d) storage of animal and fodder products through the provision of warehouses and/or refrigerated warehouses.</p> <ul style="list-style-type: none"> • Chapter V: Partnership development in increasing synergy between livestock businessman • Article 19: <ul style="list-style-type: none"> - To increase the income of farmers, synergy, and business competitiveness, it is necessary to do business partnerships: a) between farmers; b) between farmers and livestock companies; and c) between breeders and companies in other sectors. Business partnerships can be performed at least in the form of a) revenue sharing; b) lease; or c) the plasma core. <hr/> <ul style="list-style-type: none"> • There are dairy cattle breeding and cultivation, also milk processing industries related in this regulation that include in priority open business fields <ul style="list-style-type: none"> - Fiscal incentive in income tax for investment in certain business fields and or in certain areas (tax allowance): <ul style="list-style-type: none"> a. Annex 1 No 14: Dairy cattle breeding and cultivation (KBLI 01412) <p>This group includes livestock businesses that organize dairy cow breeding, to produce dairy cattle breeds, semen, and embryos and farms that organize dairy cow cultivation to produce milk. The requirements are doing partnerships with farmers in cattle farming business at least 10% of the cage capacity and integrated and/or partnerships with fresh milk and cream processing industries (KBLI 10510).</p>

No	Regulation	Description
		<p>b. Annex 1 No 51: Fresh milk and cream processing industry (KBLI 10510)</p> <p>This group includes the business of processing fresh liquid milk, pasteurized, sterilized, homogenized, and/or ultra heating (UHT) milk and the cream processing industry of fresh liquid milk, pasteurization, sterilization, and homogenization.</p> <p>- Fiscal incentive in reduction of corporate income tax for the labor-intensive industry:</p> <p>Annex 1 No 208: Fresh milk and cream processing industry (KBLI 10510)</p> <p>This group includes the business of processing fresh liquid milk, pasteurized, sterilized, homogenized, and/or ultra heating (UHT) milk and the cream processing industry of fresh liquid milk, pasteurization, sterilization, and homogenization. This applies to the related industries in all provinces of Indonesia.</p> <ul style="list-style-type: none"> • There are milk powder and condensed milk processing industries related to this regulation that include business fields allocated for or partnerships with Cooperatives and MSMEs. <p>Annex 2 No 69: Milk powder and condensed milk processing industries (KBLI 10520)</p> <p>This group includes the industrial business of processing milk powder or condensed milk with sweetener or not and the processing industry of milk or cream in solid form. These industries are assigned to do the partnership with MSMEs.</p>

No	Regulation	Description
5	<p data-bbox="286 331 636 363">Regulation of Minister of Agriculture Number 33/Permentan/PK.450/7/2018</p> <p data-bbox="286 499 651 587">which revise Regulation of Minister of Agriculture Number 30/Permentan/PK.450/7/2018</p> <p data-bbox="286 722 607 810">about Milk Supply and Distribution (Revising Regulation of Minister of Agriculture Number 26/Permentan/PK.450/7/2017)</p>	<ul style="list-style-type: none"> <li data-bbox="790 331 1160 363">• Chapter II Milk Supply <li data-bbox="790 395 965 427">• Article 4: <ul style="list-style-type: none"> <li data-bbox="790 451 2029 595">- Improvement of milk productivity can be done through a) improving seed quality; b) provision of fodder; c) improving the quality of fodder and feeding; and d) improving animal raising and health management. <li data-bbox="790 619 987 651">• Article 10: <ul style="list-style-type: none"> <li data-bbox="790 675 2029 818">- The improvement of cattle population can be done through a) Improvement of birthrate; b) Preventing slaughter on productive female cattle; c) Supply of productive female cattle, and d) Rearing. <li data-bbox="790 842 987 874">• Article 11: <ul style="list-style-type: none"> <li data-bbox="790 898 2029 1042">- The improvement of birthrate is done through the handling of reproduction disturbance and the improvement of reproduction efficiency based on Technical Guidance to Reproduction Optimization and Handling of Reproduction Disturbance on Cattle. <li data-bbox="790 1066 987 1098">• Article 12: <ul style="list-style-type: none"> <li data-bbox="790 1121 1973 1153">- The prevention of slaughter on productive female cattle is based on the terms of the Law. <li data-bbox="790 1177 987 1209">• Article 13: <ul style="list-style-type: none"> <li data-bbox="790 1233 2029 1321">- The supply of productive female cattle is done through the foreign cattle supply into the territory of the Republic of Indonesia.

No	Regulation	Description
		<ul style="list-style-type: none"> - Supply of productive female cattle can be done by Farmer, Cooperatives, businessmen, and the government. - The supply of foreign cattle into the territory of the Republic of Indonesia is based on the terms of the Law. • Article 14: - Rearing activity is done by Farmer, Cooperatives, businessmen, and the government and based on the pasture pattern, intensive, and/or semi-intensive. • Article 15: - The improvement of milk quality is done through a) Providing high-quality fodder with adequate nutritional content to the cattle; b) Preserving cattle's hygiene, shelter sanitation, tools, water, and milker. • Chapter III Milk Distribution • Article 16-17: - The milk distribution can be done through a) farmers to cooperatives; b) farmers to a businessman; and c) cooperative to the businessman. - The distributed milk should meet the quality of SNI (Indonesian National Standard). • Article 21-22: - The classification of milk quality is determined by the content: a) fat; b) non-fat dry ingredients; and c) protein.

No	Regulation	Description
		<ul style="list-style-type: none"> - Microbial contamination rate is determined by microbial contamination (Total Plate Count/TPC). • Chapter IV Partnership • Article 23: <ul style="list-style-type: none"> - Businessman conducts partnership with Breeders, Farmer Group Associations, and/or Cooperatives using domestic fresh milk (SSDN) or mutually beneficial promotions. • Article 24: <ul style="list-style-type: none"> - Partnerships using domestic fresh milk (SSDN) are carried out for Business Actors who produce processed milk. - Businessmen, who produce processed milk, produce processed milk in their own milk processing unit or cooperate (toll manufacturing) with the businessman who already has a milk processing unit. • Article 25-27: <ul style="list-style-type: none"> - Utilization of milk based on the suitability of milk production and real production capacity of businessmen. - The suitability of milk production and the real production capacity of the businessman shall be calculated annually no later than November of the previous year and shall be determined by the Directorate General of Livestock and Animal Health.

No	Regulation	Description
		<ul style="list-style-type: none"> - The calculation of the milk production suitability and the real production capacity of the businessman can be done by the analysis team of supply and demand of milk which is consist of The Coordination Ministry for Economic Affairs, Ministry of Agriculture, Ministry of Trade, Ministry of Industry, Ministry of Cooperatives and SMEs, Statistics Indonesia and higher education institution. • Article 31: <ul style="list-style-type: none"> - Partnership in the provision of production facilities can be done through the provision of equipment and buildings. • Article 32: <ul style="list-style-type: none"> - Production partnerships can be done through: a) increasing the population of dairy cattle in farmers, joint groups of farmers, and/or cooperatives; b) Rearing facilities; and/or c) enhancement of skills and competence of farmers, a joint group of farmers and/or cooperatives. - Capital or financing partnerships be done through: a) facilitation of business capital with affordable interest; and/or b) guarantee to obtain business credit.
6	Regulation of The Trade Minister Number 29 of 2019 about Provision of Animal and Animal Products Export &	<ul style="list-style-type: none"> • To improve the effectiveness of the implementation of export and import policies of animal and animal products. Some livestock products regulated in this regulation, namely: <ul style="list-style-type: none"> a. Cattle, purebred breeding animals (HS 0102.21.00.00) that is included as the type of livestock whose import and export are regulated

No	Regulation	Description
	<p>Import (Replacing Regulation Number 59/M-DAG/PER/8/2016 and Regulation Number 05/M-DAG/PER/1/2016)</p>	<p>b. sweetened condensed milk (HS 04.02); milk powder (HS 0402.10); buttermilk (HS 0403.90.10.00); Yogurt (HS 0403.10); Whey (HS 0404); Dairy spreads (HS 0405); cheese and milk curd (HS 0406) that are included as the type of dairy products whose import is regulated</p> <ul style="list-style-type: none"> • Article 3: <ul style="list-style-type: none"> - Animal export can only be done if the needs of seeds, and/or domestic animals are fulfilled and the preservation of local livestock is guaranteed. • Article 5: <ul style="list-style-type: none"> - To obtain export approval, the exporters must apply electronically (http://inatrade.kemendag.go.id) to the Director-General through the Director of Export by enclosing: a.) Trading business license or business license in the field of husbandry and animal health; b.) Business Registration Number (NIB); and c.) Recommendation from the Minister of Agriculture or an official appointed by the Minister of Agriculture • Article 10 <ul style="list-style-type: none"> - Import of animal and animal products can only be done by: <ol style="list-style-type: none"> a. Importer holding NIB that acts as an Identification Number (<i>Angka Pengenal Impor/API</i>); b. Social Institutions; and c. Representatives of Foreign Countries/International Institutions.

No	Regulation	Description
		<ul style="list-style-type: none"> <li data-bbox="790 336 2029 587"> <p>• Article 12</p> <p>Import of Animal Species and Animal Products can only be done after obtaining Import Approval from the Minister. The Minister delegates the authority to issue Import Approval to the Director-General. The Director-General mandates the issuance of the Import Approval as to the Director of Import.</p> <li data-bbox="790 616 2029 1311"> <p>• Article 13:</p> <p>- To obtain import approval, the importers who own NIB (that act as API) must apply electronically (http://inatrade.kemendag.go.id) to the Director-General through the Director of Export by enclosing: a) The deed of establishment of the company and its amendments; b) NIB that acts as API; c) Evidence of ownership of the raising animal place; d) Proof of ownership of cold storage and refrigerated transportation; e) Statement letter stating that the slaughter will be carried out at the Slaughterhouse in accordance with the provisions of the laws and regulations; f) Recommendation from the Minister of Agriculture or an official appointed by the Minister of Agriculture, or f) Recommendation from the Head of the National Agency of Drug and Food Control (BPOM) or an officer appointed by the Head of the National Agency of Drug and Food Control (BPOM) and a recommendation from the Minister of Agriculture or an official appointed by the Minister of Agriculture for the import of animal products which still has a risk of spreading zoonosis.</p>

No	Regulation	Description
7	<p>Regulation of The Agriculture Minister Number 49/Permentan/PK.440/10/2016 about Large Ruminants Importation (Replace Number 16/Permentan/PK.440/5/2016)</p>	<ul style="list-style-type: none"> • Article 3: <ul style="list-style-type: none"> - Imports of large ruminant livestock can be done by businessmen, farmer cooperatives, and farmer groups. • Article 4: <ul style="list-style-type: none"> - Businessmen, farmer cooperatives, and farmer groups who conducted import must obtain an import permit from the Minister of Trade after receiving a recommendation from the Minister of Agriculture. • Article 5: <ul style="list-style-type: none"> - Imports of large ruminant livestock shall meet the following requirements: a) administration; b) technical animal health; and c) specification of large ruminant livestock. • Article 11: <ul style="list-style-type: none"> - Country of large ruminants origin shall meet the following requirements: a) free of Mouth and Face Disease (RWC), Rift Valley Fever (RVF), Contagious Bovine Pleuropneumonia, Peste des Petit Ruminant referring to the declaration of World Organization for Animal Health / Office International des Epizooties WOAHP / OIE); b) a negligible or controlled BSE risk status which refers to the declaration of the World Organization for Animal Health / Office International des Epizooties (WOAH / OIE); and c) implement monitoring and surveillance programs residues of antibiotics, hormones, and other substances that endanger the health of animals and humans.

No	Regulation	Description
9	Regulation of The Agriculture Minister Number 13/Permentan/PK.240/5/2017 about Livestock Business Partnership	<ul style="list-style-type: none"> • Article 13: <ul style="list-style-type: none"> - Farm or Registered Premises / Approved Premises shall meet the following requirements: a) originating from the country of origin designated by the Minister; b) no outbreaks of contagious animal diseases are occurring; c) registered as a Farm or Registered Premises / Approved Premises or has been audited by the veterinary authority of the Country of Origin; d) applied biosecurity; e. does not provide fodder containing Meat Bone Meal (MBM) ruminants; f) does not exclude cattle that has not passed through withholding periods of antibiotics and growth hormone; g) apply animal welfare principles; and h) applied good farming practice. • Article 15: <ul style="list-style-type: none"> - Specifications of large ruminant livestock for cattle (HS 0102.29) are a) average weight maximum 350 kilograms based on Goods Import Declaration (PIB); and b) maximum age of 30 (thirty) months as evidenced by a letter from the origin country. • To improve the scale and efficiency of livestock business, the economic capability of farmers or businessmen, market access, competitiveness, and build a synergy of mutual benefit, and equitable, it is necessary to establish a partnership of livestock business. • Article 2: <ul style="list-style-type: none"> - The types of livestock business that can be in partnership consist of: a) Livestock; b) animal products; and c) production facilities and infrastructure.

No	Regulation	Description
		<ul style="list-style-type: none"> • Article 3: <ul style="list-style-type: none"> - Livestock as intended includes cows, buffalo, goats, sheep, chickens, ducks, quail, pigs, and rabbits. - The animal products as intended include eggs, meat, milk, and other dairy products. - Production facilities and infrastructure are implemented from upstream to downstream. • Article 4: <ul style="list-style-type: none"> - Participants of Livestock Business Partnership include a) farmers; b) farming companies; c) companies in other fields; and d) the government and/or local government. • Article 6: <ul style="list-style-type: none"> - Livestock Business Partnership can be done through the following patterns: a) core-plasma; b) profit sharing; c) lease; d) general trading; and/or e) subcontracts. • Article 9: <ul style="list-style-type: none"> - Partnerships between livestock companies and/or companies in other fields with the government and/or regional governments are implemented in order to improve the competitiveness of livestock business through education, training, counseling, apprenticeship, promotion, and/or technology transfer process. • Article 11: <ul style="list-style-type: none"> - Partnership agreements shall be done in the form of a written agreement at least containing: <ul style="list-style-type: none"> a) types of Livestock, types of animal products, and/or types of production facilities

No	Regulation	Description
		<p>cooperation; b) rights and obligations; c) stipulation of quality standards; d) market price; e) marketing guarantees; f) sharing of profits and business risks; g) capital and/or financing; h) payment mechanism; i) duration; and j) dispute resolution. Partnership agreements must be recognized by the local government as a fostering of business partnerships.</p>
10	<p>Regulation of the Minister of Finance Number 9/PMK.03/2021 which was later revised in the Regulation of the Minister of Finance Number 82/PMK.03/2021</p>	<ul style="list-style-type: none"> • Article 2 <p>The income received or earned by the employee must be withheld by the employer in accordance with the provisions in Article 21 of the Income Tax Law. The Income Tax Article 21 is borne by the Government on the income received by the employee with certain criteria including:</p> <ol style="list-style-type: none"> a. Receive or earn income from an employer who: <ul style="list-style-type: none"> - have a Business Field Classification code - has been designated as a KITE Company (obtains Import Ease for Export Purposes); or - has obtained Bonded Zone Management Permit, Permit as Business Practitioner of Bonded Zone or PDKB (<i>Pengusaha Dalam Kawasan Berikat</i>); b. have NPWP; and c. during the Tax Period, the person concerned receives or obtains a Gross Income which is fixed and regular which is annualized not more than Rp. 200,000,000.00 (two hundred million rupiah). <ul style="list-style-type: none"> • The dairy industry that receives this tax incentive is the fresh milk and cream processing industry (business classification code 10510), the powdered milk and condensed milk

No	Regulation	Description
		processing industry (business classification code 10520), the other dairy product processing industry (business classification code 10590), and entrepreneurs who are members of the milk and milk product wholesale trade sector (business classification code 46326).
11	The regulation of the Minister of Finance Number 68/PMK.010/21	<ul style="list-style-type: none"> • Certain industries will get relief in the form of Government Borne Import Duty (BM DTP). • Article 2 BM DTP can be granted on the import of goods and materials by certain industrial sector companies. Types of goods and materials imported by companies in certain industrial sectors that get BM DTP must meet the following conditions: <ul style="list-style-type: none"> - Goods and Materials have not been produced domestically; - Goods and Materials have been produced domestically but have not met the required specifications; or - Goods and Materials have been produced domestically but the amount is not sufficient for industrial needs in accordance with the recommendations of the relevant ministries/institutions. <p>Then, the Goods and Materials that receive BM DTP are not:</p> <ul style="list-style-type: none"> - Goods and Materials subject to import duty of 0% (zero percent); - Goods and Materials subject to the imposition of import duty of 0% (zero percent) based on international agreements or agreements;

No	Regulation	Description
		<ul style="list-style-type: none"> - Goods and Materials that are subject to Anti-Dumping Import Duties/Temporary Anti-Dumping Import Duties, Safeguard Measures Import Duties/Temporary Safeguard Measures Import Duties, Compulsory Import Duties, or Retaliatory Import Duties; or - Goods and Materials intended to be stockpiled in a bonded stockpile. • The milk processing industry gets a reduction in BM DTP with a budget ceiling of Rp 70 billion. Several types of goods/materials imported by the milk processing industry are included in the HS code (tariff postal code): 04021041 (milk does not contain added sugar or other sweetening ingredients in the form of powder/granules/other solid forms with a fat content of not more than 1.5% according to weight); 04021091 (milk containing added sugar or other sweetening matter in the form of powder/granule/other solid forms with a fat content of not more than 1.5% according to weight); 04022120 (milk does not contain added sugar or other sweetening matter in the form of powder/granule/other solid forms with a fat content of more than 1.5% according to weight) a; 04039010 (buttermilk); 04041010 (whey and modified whey); 04051000 (unsalted butter); and 10059090 (maize other than seeds and popcorn with aflatoxin levels \leq 20ppb).

3. AN ANALYSIS OF THE STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS (SWOT)

This section discusses the results of SWOT analysis for each regulation focused in the study including (1) Dairy Inputs, (2) Price of Domestic and Imported Dairy Products, (3) Investments in the Domestic Industry, (4) Access to Credit, (5) Importation Regulation of Live Dairy Cattle, and (6) Importation of Dairy Products. Specifically, the study team uses SWOT analysis to evaluate the ‘strengths’, ‘weaknesses’, ‘opportunities’, and ‘threats’ involved in the dairy industry in Indonesia. This analysis is simple but provides a powerful tool for sizing up an organization’s resource capabilities and deficiencies, market opportunities, and the external threats to support the future of the organization” (Thompson et al., 2007: 97).

In this study, several stages were implemented in conducting a SWOT analysis. **The first stage** is identifying factors for each component of SWOT (strengths, weaknesses, opportunities, and threats) for each regulation. This stage was conducted by desktop study and the results were discussed to the expert in the dairy industry. The experts provided comments and inputs as the basis for the study team to conduct the revisions. For each policy regulation, the study team came up with four factors in each component of SWOT (Table 8).

Table 8. Number of Factors of SWOT in Each Regulation Focused in the Study

No	Regulations	Strength (S)	Weakness (W)	Opportunity (O)	Threat (T)
1	Dairy inputs	4	4	4	4
2	Price of domestic and imported of dairy products	4	4	4	4
3	Investments in the dairy industry	5	4	4	4
4	Access to credit	4	4	4	4
5	Importation of live dairy cattle and other related inputs	4	4	4	4
6	Importation of dairy products	4	4	4	4

The second stage is building SWOT Questionnaire. The draft of the questionnaire was tested on the selected respondents to obtain feedback related to the wording and the flow of the questionnaire. After some revisions, the final questionnaire was transformed into an online version (google form).

The third stage is conducting an online survey. There were nine respondents who are the experts which represent academia, industry, and government institutions who participated in the survey. The survey was conducted from October to November 2021.

The fourth stage is data analysis. The data collected from the online survey were analyzed and presented in the form of Internal and External Factors Evaluation (IFE) tables and SWOT matrix. The table IFE consists of weight, rating, score, and ranking for each factor for SWOT in each policy regulation. Matrix SWOT can be divided into four quadrants (Figure 2). **Quadrant 1** shows that the industry faces external opportunities and internal strengths. This situation provides benefit the industry/business/company/because the industry only needs to optimize the existing conditions. The strategy that is commonly applied in quadrant 1 is an aggressive growth-oriented strategy (SO strategy). **Quadrant 2** indicates that the industry faces external threats and internal strengths. A proposed strategy in Quadrant 2 is that the industry should use its strengths to overcome challenges and take advantage of long-term opportunities (ST strategy). **Quadrant 3** illustrates that the industry faces external opportunities and internal weaknesses. To deal with such a situation, the industry should minimize the company's internal problems and maximize existing external opportunities (WO strategy). **Quadrant 4** shows that the industry faces external threats and internal weaknesses. The strategy in this quadrant refers to the WT strategy.

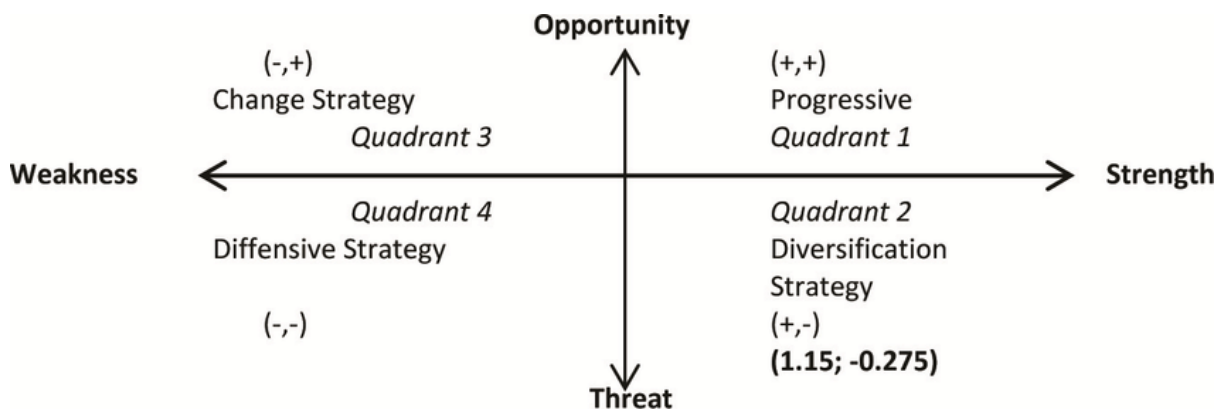


Figure 2. SWOT Analysis Diagram, (Rangkuti, 2016 : 20)

3.1. Dairy Inputs

The Internal Factor Evaluation (IFE) matrix for strengths and weaknesses (internal factors) in the dairy input regulation is presented in Table 9. The calculations are based on the calculation of the weights and ratings of each factor. It is found that the average score of the internal evaluation results is 3.436. This average IFE score is above 2.5, which is concluded

that there is an internal strength in the dairy input regulation. This means the regulation can overcome the existing weaknesses by using its strengths. The biggest strength in developing the dairy input regulation is the adaptability of cows to a tropical climate (0.532).

Table 9. Internal Factors SWOT Analysis for Dairy Inputs

Strength (S) and Weakness (W)		Weight (a)	Rating (b)	Score (a x b)	Ranking
S	Feed Quality	0.136	3.750	0.508	2
	Feed Availability	0.130	3.625	0.471	3
	Cow adaptability into tropical climate	0.147	3.625	0.532	1
	Land Availability	0.096	3.125	0.300	4
W	Reliance on purchased feed	0.107	2.750	0.295	4
	Inadequate milk farmers competencies (skills & knowledge)	0.130	3.500	0.455	1,2
	Inadequate facilities and infrastructure	0.124	3.375	0.419	3
	Low Animal reproductive performance	0.130	3.500	0.455	1,2
TOTAL		1.000	27.25	3.436	

The Internal Factor Evaluation (IFE) matrix for opportunities and threats (external factors) in the dairy input regulation is shown in Table 10. The average score is 3.237. This average IFE score is above 2.5, which is concluded that there is an external strength in the dairy input regulation. This means the regulation can take advantage of opportunities in responding to the challenges faced. The biggest opportunity in developing the dairy input regulation is feed quality improvement (0.488).

Table 10. External Factors SWOT Analysis for Dairy Inputs

Opportunity (O) and Threat (T)		Weight (a)	Rating (b)	Score (a x b)	Ranking
O	Farm Expansion (animal numbers)	0.112	3.500	0.393	4
	Forage Expansion	0.124	3.625	0.450	3
	Inseminator availability	0.154	3.500	0.538	1
	Feed Quality Improvement	0.130	3.750	0.488	2
T	Feed Cost	0.095	2.750	0.260	4
	Cost control issues of farmers	0.118	3.000	0.355	2
	Animal diseases	0.148	2.875	0.425	1
	Inadequate information (price, quality, quantity of feeds)	0.118	2.750	0.325	3
TOTAL		1.000	25.750	3.237	

The results of the SWOT analysis chart show (Figure 3) that the proposed strategy for the dairy input regulation is SO (quadrant 1).

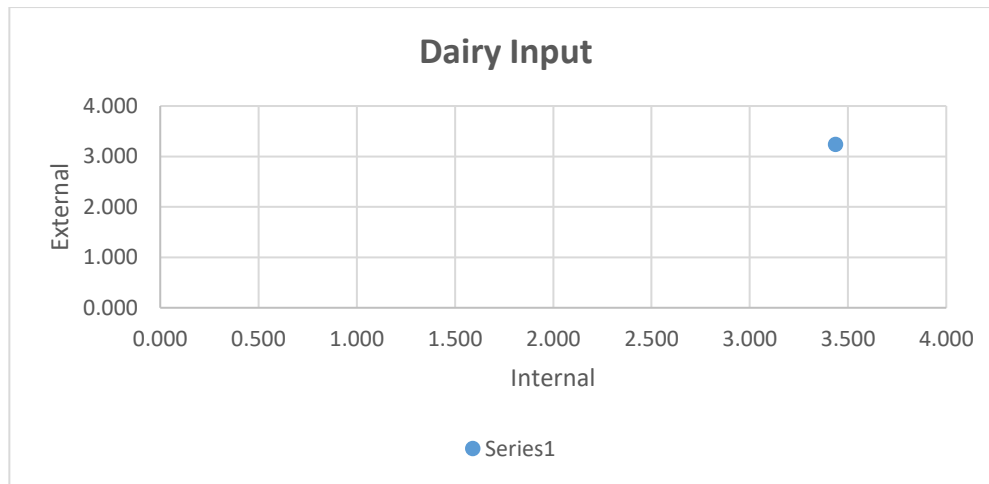


Figure 3. SWOT Analysis Diagram for Dairy Inputs

3.2. Price of Domestic and Imported Dairy Products

The Internal Factor Evaluation (IFE) matrix for strengths and weaknesses (internal factors) in the domestic price and imported dairy products regulation is presented in Table 11. It is found that the average score is 3.513 meaning that the regulation can overcome the existing weaknesses by using its strengths. The biggest strength in developing the regulation is the business partnership between dairy/cooperative farming groups with industry (0.543).

Table 11. Internal Factors SWOT Analysis for Price of Domestic and Imported Dairy Products

Strength (S) and Weakness (W)		Weight (a)	Rating (b)	Score (a x b)	Ranking
S	Access to financial resources and capital for the empowerment of breeders	0.112	3.750	0.419	3
	The business partnership between dairy/cooperative farming groups with industry	0.155	3.500	0.543	1
	Financial or capital assistance provided to breeders through breeder groups or collective breeder groups	0.124	3.000	0.373	4
	High-cost economic avoidance is carried out through efficiency in the provision of means of production, cultivation, post-harvest, and marketing or distribution of animals and product products.	0.130	3.625	0.473	2
W	Difficulty to transport fresh milk which affects prices at the farmer level.	0.106	3.375	0.356	4
	Inadequate equipment & cooling facilities	0.106	3.750	0.396	3
	Lack of understanding (across-chain) market dynamics, including price signals	0.124	3.500	0.435	2
	Premium prices have not been applied at the breeder level	0.143	3.625	0.518	1
TOTAL		1.000	28.125	3.513	

The Internal Factor Evaluation (IFE) matrix for opportunities and threats (external factors) in the domestic price and imported dairy products regulation is shown in Table 12. The average score is 3.269 showing that there is an external strength in the regulation. This means the regulation can take advantage of opportunities in responding to the threats. The biggest opportunity in developing the regulation is increased income and lifestyle changes due to health awareness (0.488).

Table 12. External Factors SWOT Analysis for Price of Domestic and Imported Dairy Products

Opportunity (O) and Threat (T)		Weight (a)	Rating (b)	Score (a x b)	Ranking
O	Products produced (e.g. sweetened condensed milk, processors) can replace non-fresh milk ingredients	0.078	2.000	0.156	4
	Growing future dairy market	0.139	3.625	0.503	3
	Cooperation with industry for premium prices	0.139	3.875	0.538	2
	Increased income and lifestyle changes due to health awareness	0.161	3.750	0.604	1
T	Competitive resilience	0.128	3.250	0.415	2
	Ability to cope with price volatility	0.122	3.500	0.428	1
	The base price of farmers is influenced by international market prices.	0.100	2.250	0.225	4
	The basic price of farmers is affected by cooperative prices.	0.133	3.000	0.400	3
TOTAL		1.000	25.250	3.269	

The results of the SWOT analysis chart in Figure 4 shows that the proposed strategy used is in quadrant 1 namely benefit from external opportunities for development and internal competing strength (SO strategy).

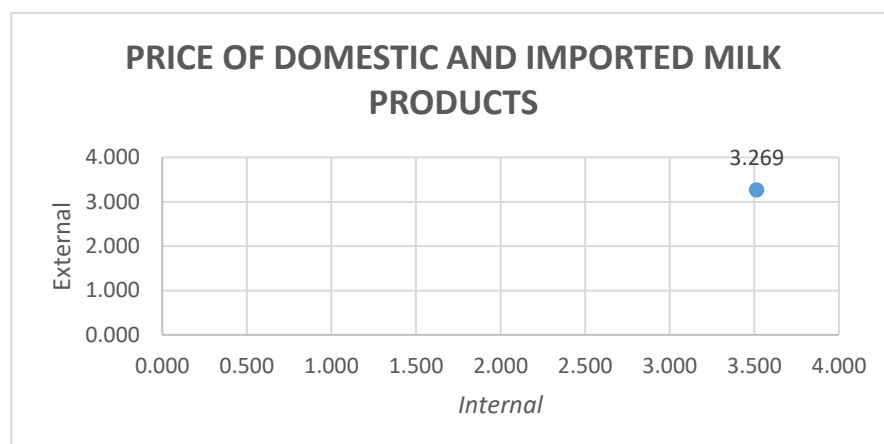


Figure 4. SWOT Analysis Diagram for Price of Domestic and Imported Dairy Products

3.3. Investments in The Domestic Industry

The Internal Factor Evaluation (IFE) matrix for strengths and weaknesses (internal factors) in the domestic industry investment strategies is presented in Table 13. The average score is 2.882 meaning that the strategy framework can overcome the existing weaknesses by using its strengths. The biggest strength in developing the domestic and foreign investment in domestic industry is the tax allowance facility for investment (0.528).

Table 13. Internal Factors SWOT Analysis for Investments in The Domestic Industry

Strength (S) and Weakness (W)		Weight (a)	Rating (b)	Score (a x b)	Ranking
S	Domestic direct investment & foreign livestock	0.112	3.250	0.363	4
	Restrictions on foreign capital ownership	0.121	3.250	0.394	3
	100% domestic capital	0.136	3.000	0.408	2
	Livestock business partnerships with industry		3.875		
	Tax Allowance Facility for Investment (Reduction in net income, depreciation and accelerated amortization, Income Tax, Loss Compensation)	0.141	3.750	0.528	1
W	Small land ownership	0.083	3.000	0.248	3
	Low milk production	0.068	3.125	0.212	4
	Weak regulation and implementation of the program	0.107	3.25	0.347	2
	Weak skills in managerial business	0.102	3.75	0.382	1
TOTAL		0.869	30.25	2.882	

The Internal Factor Evaluation (IFE) matrix for opportunities and threats (external factors) in the domestic industry investment strategy is shown in Table 14. The average score is 2.759 which shows that there is an external strength in the strategy framework. This means the framework can take advantage of opportunities in responding to the threats. The biggest opportunity in developing the framework is to develop strategies to inform the development of extension programs (0.529).

Table 14. External Factors SWOT Analysis for Investments in The Domestic Industry

Opportunity (O) and Threat (T)		Weight (a)	Rating (b)	Score (a x b)	Ranking
O	Encourage industry advocacy	0.130	3.250	0.422	2
	Collaboration with stakeholders (e.g., PTPN, PERHUTANI) and others related to the use of unused land for the cultivation of animal feed	0.135	3.000	0.405	3
	Develop strategies to inform the development of extension programs	0.146	3.625	0.529	1
	Adopting better management practices/technologies		3.875		

Opportunity (O) and Threat (T)		Weight (a)	Rating (b)	Score (a x b)	Ranking
T	Market signals (price, quality, quantity) are often unclear to breeders.	0.086	3.250	0.281	4
	Feed resources (quality & quantity) vary greatly	0.103	3.500	0.359	3
	Dairy farms are dominated by small ranchers	0.130	3.000	0.389	1
	Domestic fresh milk supply does not meet the growing demand for dairy products with short shelf life	0.124	3.000	0.373	2
TOTAL		0.854	26.500	2.759	

The results of the SWOT analysis chart determine the strategies used is in quadrant 1 (Figure 5) namely benefit from external opportunities for development and internal competing strength, thus are in the best position for facing competition (SO strategy).

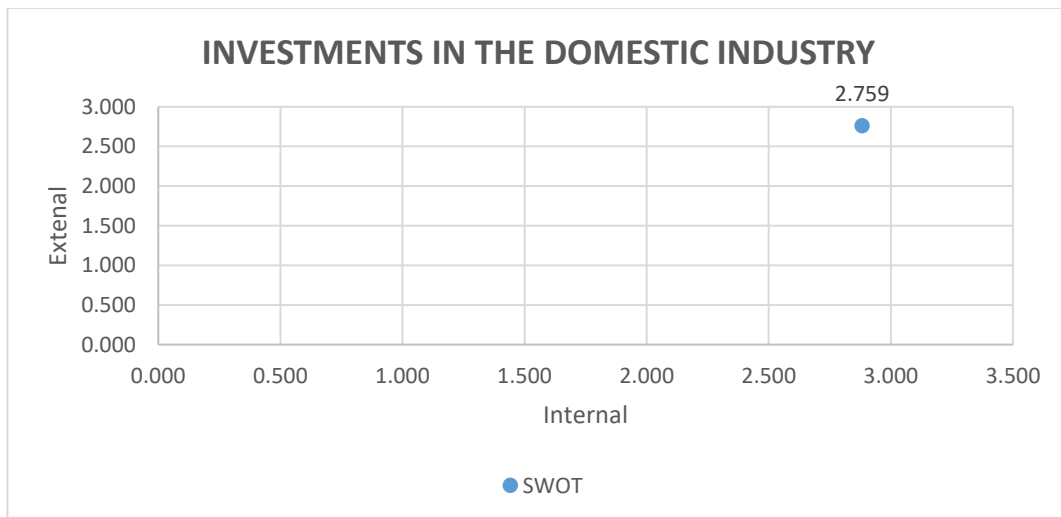


Figure 5. SWOT Analysis Diagram for Investments in the Domestic Industry

3.4. Access to Credit for Key Players in the Dairy Industry

The Internal Factor Evaluation (IFE) matrix for strengths and weaknesses (internal factors) in strategic factors to develop key players in the dairy industry is presented in Table 15. The average score is 3.553 showing that the strategies can overcome the existing weaknesses by using their strengths. The biggest strength is the partnership between the processing industry with breeder groups/cooperatives in capital or financing (0.589).

Table 15. Internal Factors SWOT Analysis for Access to Credit for Key Players in The Dairy Industry

Strength (S) and Weakness (W)		Weight (a)	Rating (b)	Score (a x b)	Ranking
S	The partnership between processing industry with breeder groups/cooperatives in capital or financing	0.152	3.875	0.589	1
	The partnership between the processing industry and breeders in processing	0.135	3.750	0.504	2
	The partnership between the processing industry and breeders in marketing	0.129	3.625	0.466	3,4
	The partnership between the processing industry and breeders in distribution chain and supply chain	0.129	3.625	0.466	3,4
W	Access to credit is difficult because many farmers do not have collateral to meet bank requirements.	0.129	3.500	0.450	1
	Farmers' perception of credit payment period	0.111	2.875	0.319	4
	Lack of financial management skills of small & medium-sized dairy farmers	0.094	3.500	0.327	3
	Lack of self-sustaining dairy farmers' organizing to increase bank credit opportunities	0.123	3.500	0.430	2
TOTAL		1.000	28.250	3.553	

The Internal Factor Evaluation (IFE) matrix for opportunities and threats (external factors) in the case of strategic factors to develop key players in the dairy industry is shown in Table 16. The average score is 3.423 showing that the strategy framework can take advantage of opportunities in responding to the threats. The biggest opportunity is financial and capital support to farmers to buy dairy cows, equipment, and other dairy inputs through partnerships by central and local governments (0.542).

Table 16. External Factors SWOT Analysis for Access to Credit for Key Players in The Dairy Industry

Opportunity (O) and Threat (T)		Weight (a)	Rating (b)	Score (a x b)	Ranking
O	Central and local governments should provide financial and capital support to farmers to buy dairy cows, equipment, and other dairy inputs through partnerships.	0.155	3.500	0.542	1
	Capital or partnership financing is done through the facilitation of business capital with affordable interest & a guarantee to obtain business credit	0.149	3.250	0.484	3
	The partnership is carried out through the provision of facilities (fields, livestock seedlings, feed, technical training of milk production, equipment, byres repair, technical training of business management, capital access)	0.143	3.750	0.536	2

Opportunity (O) and Threat (T)		Weight (a)	Rating (b)	Score (a x b)	Ranking
	Central Government law related to capital or business partnership financing. Breeders can conduct business partnerships in the field of cattle ranching based on mutual agreement, strengthening, mutual benefit, mutual respect, responsibility, dependence, and justice.	0.143	3.375	0.482	4
T	Weak regulation and implementation of programs from governments and financial institutions that are less effective	0.095	3.375	0.321	2
	The limited information that can be accessed by dairy farmers	0.137	3.500	0.479	1
	World Trade Organization (WTO) regulations related to the protection of breeders instead become boomerangs	0.095	3.125	0.298	3
	High interest rates	0.083	3.375	0.281	4
TOTAL		1.000	27.250	3.423	

The results of the SWOT analysis chart indicated that SO strategy (strategy in quadrant 1) should be performed by increasing access of stakeholders along the dairy value chain to the financial institutions (Figure 6).

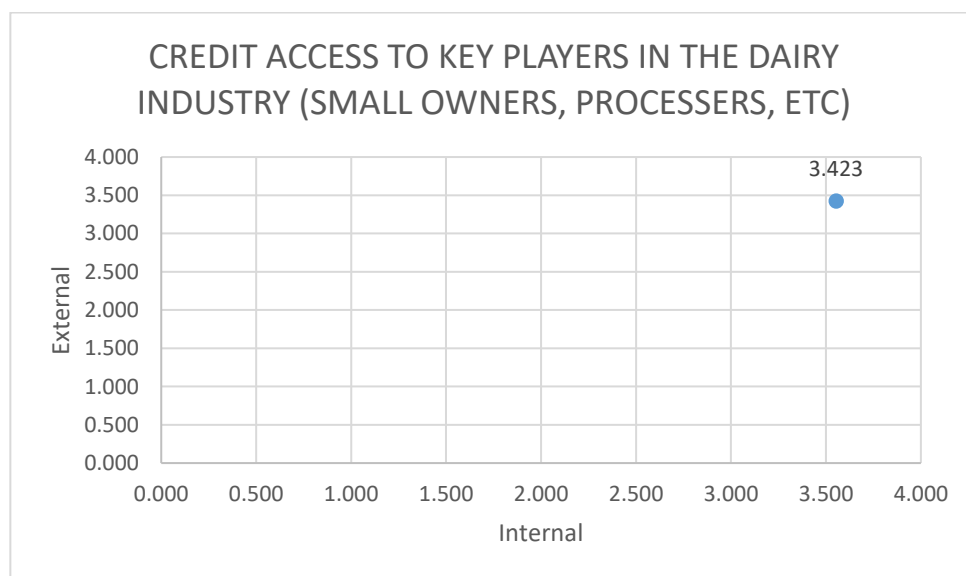


Figure 6. SWOT Analysis Diagram for Access to Credit for Key Players in The Dairy Industry

3.5. Importation Regulation of Live Dairy Cattle and Other Related Inputs

The Internal Factor Evaluation (IFE) matrix for strengths and weaknesses (internal factors) in the import regulation strategy is shown in Table 17. The average score is 3.425. This shows that the strategy can overcome the existing weaknesses by using its strengths. The biggest strength is support from the Central and/or Local government to conduct breeding, repair development, and /or nursery business by involving the participation of the community to ensure the availability of seeds and encourage the application of reproductive technology (0.564).

Table 17. Internal Factors SWOT Analysis for Importation Regulation of Live Dairy Cattle, Semen Etc

Strength (S) and Weakness (W)		Weight (a)	Rating (b)	Score (a x b)	Ranking
S	The Central Government and/or Local Government in accordance with its authority is obliged to conduct breeding, repair development, and /or nursery business by involving the participation of the community to ensure the availability of seeds and encourage the application of reproductive technology.	0.150	3.750	0.564	1
	Every seed in circulation must have a seed certificate that contains information about the genealogy and characteristics of its advantages. Seed certificates are issued by seed certification bodies accredited or appointed by the relevant Minister	0.145	3.625	0.524	3
	Seed imports can be made to a) improve the quality and genetic diversity; b) develop science and technology; c) address the shortage of seeds in the country; and d) meet research and development needs	0.150	3.625	0.545	2
	Export of seeds from domestic to abroad can be done if domestic needs have been met and the sustainability of local livestock has been guaranteed.	0.139	3.250	0.451	4
W	Large ruminant import permits are hard to come by breeders	0.127	3.000	0.382	1
	Import requirements are difficult to achieve by breeders	0.110	3.125	0.343	3
	Low level of knowledge of breeders on the regulation of the import of cattle, seeds, etc.	0.098	3.500	0.344	2
	Increase in input costs	0.081	3.375	0.273	4
TOTAL		1.000	27.250	3.425	

The Internal Factor Evaluation (IFE) matrix for opportunities and threats (external factors) in the import regulation strategy is shown in Table 18. The average score is 3.559 showing that the framework can take advantage of opportunities in responding to the threats.

The biggest opportunity in the import regulation strategy is to increase the commercial profits and viability of *Small Holder Dairies* (0.570) and support refrigeration/frozen product chain development (0.570).

Table 18. External Factors SWOT Analysis for Importation Regulation of Live Dairy Cattle, Semen Etc

Opportunity (O) and Threat (T)		Weight (a)	Rating (b)	Score (a x b)	Ranking
O	Increase the commercial profits and viability of <i>Small Holder Dairies</i> (SHD)	0.147	3.875	0.570	3,4
	SHD processor price and supply policy (to encourage livestock growth and improve milk quality)	0.153	3.750	0.574	2
	Product development and marketing support policy for KUD or SHD	0.153	3.875	0.593	1
	Support for refrigeration/frozen product chain development	0.147	3.875	0.570	3,4
T	Animal welfare issues	0.094	3.25	0.306	2
	Lack of socialization from the government related to import regulations for cattle, seeds, etc.	0.112	3.375	0.377	1
	Barriers to the import quota of cattle, seeds, etc.	0.100	2.875	0.288	3
	Congenital diseases of the importing country	0.094	3.000	0.282	4
TOTAL		1.000	27.875	3.559	

The results of the SWOT analysis chart (Figure 7) show that the proposed strategy is in quadrant 1 namely benefit from external opportunities for development and internal competing strength (SO strategy).

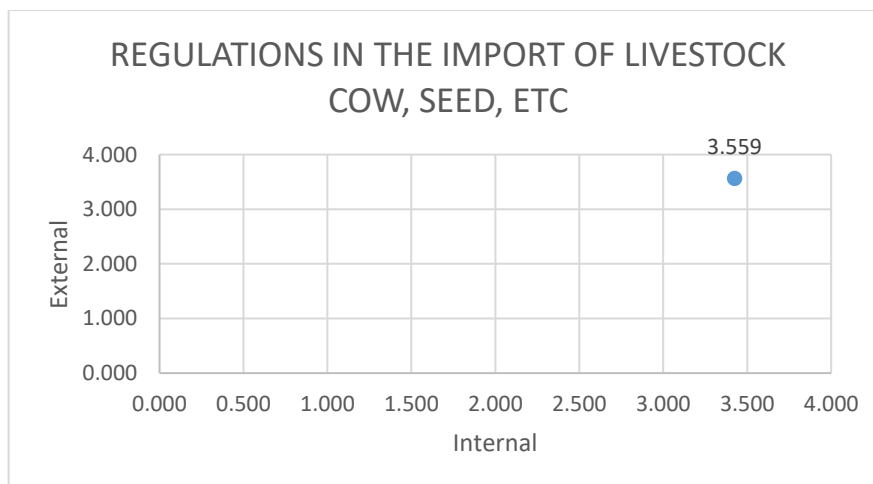


Figure 7. SWOT Analysis Diagram for Importation Regulation of Live Dairy Cattle, Semen Etc

3.6. Importation of Dairy Products

The Internal Factor Evaluation (IFE) matrix for strengths and weaknesses (internal factors) in the dairy products import regulation is shown in Table 19. The average score is 3.579 indicating that the regulation can overcome the existing weaknesses by using its strengths. The biggest strength is developing the need for a letter of recommendation from the Ministry of Agriculture (Ministry of Agriculture) and a technical verification process by a designated surveyor if a businessman wants to import the dairy products (0.530).

Table 19. Internal Factors SWOT Analysis for Importation of Dairy Products

Strength (S) and Weakness (W)		Weight (a)	Rating (b)	Score (a x b)	Ranking
S	Dairy food products imported in retail packaging must be registered with the Indonesian Food and Drug Supervisory Agency (BPOM).	0.126	3.750	0.473	4
	The import of dairy products requires a letter of recommendation from the Ministry of Agriculture (Ministry of Agriculture) and must go through a technical verification process by a designated surveyor.	0.141	3.750	0.530	2
	Importers/brand owners need to apply for "establishment approval" from the Ministry of Agriculture	0.141	3.875	0.548	1
	10% value added tax applied to imports	0.136	3.500	0.477	3
W	Products in bulk packaging for further processing cannot register	0.106	3.625	0.384	3
	Increase in input costs	0.086	3.250	0.279	4
	Regulation of dairy imports in Indonesia contributes less to the domestic dairy industry	0.131	3.375	0.443	1,2
	Import requirements are difficult to meet for the local dairy processing industry	0.131	3.375	0.443	1,2
TOTAL		1.000	28.500	3.579	

The Internal Factor Evaluation (IFE) matrix for opportunities and threats (external factors) in the dairy products import regulation is shown in Table 20. The average score is 3.530 showing that the regulation can take advantage of opportunities in responding to the threats. The biggest opportunity in developing the regulation is a significant increase in demand for dairy products (0.533).

Table 20. External Factors SWOT Analysis for Importation of Dairy Products

Opportunity (O) and Threat (T)		Weight (a)	Rating (b)	Score (a x b)	Ranking
O	A significant increase in demand for dairy products. Domestic milk consumption per capita reached 11.8 liters in 2017, since 2015 demand has continued to increase by 5% per year and is expected to continue that trend.	0.142	3.750	0.533	1
	National dairy needs exceed national milk production	0.142	3.625	0.515	2,3
	The real price of domestic milk has a positive and significant effect on the volume of milk imports.	0.142	3.625	0.515	2,3
	The fulfillment of milk demand in Indonesia towards milk supply	0.105	3.750	0.395	4
T	Food safety reputation such as unmonitored labeling (fresh dairy products vs UHT milk/ reconstitution)	0.126	3.750	0.474	1
	Freedom of import of milk and milk powder	0.121	3.250	0.393	2
	Price increases (inflation) in dairy products	0.111	3.500	0.387	3
	Pandemic crisis covid-19	0.111	2.875	0.318	4
TOTAL		1.000	28.125	3.530	

The results of the SWOT analysis chart in Figure 8 show that the proposed strategy is in quadrant 1 namely benefit from external opportunities for development and internal competing strength (SO strategy).

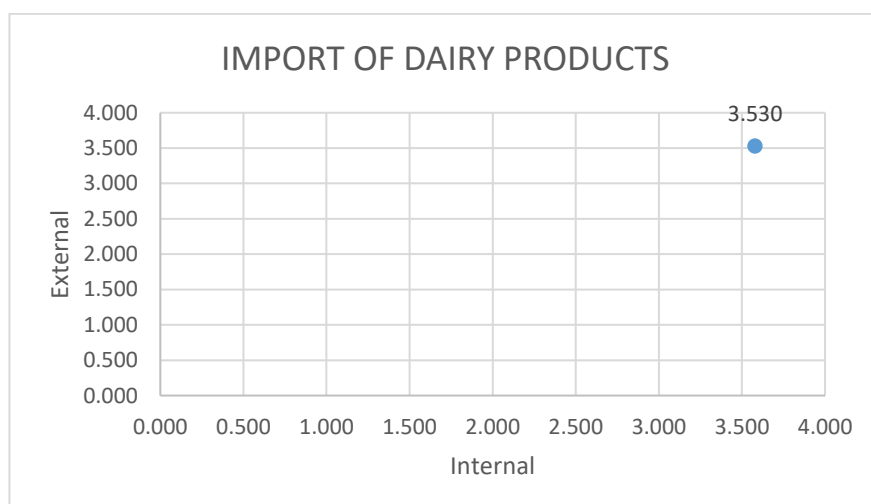


Figure 8. SWOT Analysis Diagram for Importation of Dairy Products

4. PROSPECTS & FUTURE OPPORTUNITIES FOR FUTURE GROWTH

Indonesia's agriculture industry specifically the dairy industry is growing rapidly along with Indonesia's milk consumption. The consumption of milk and dairy products continues to increase rapidly in Indonesia, creating an attractive market for local producers. Indonesians' growing appetite for milk and its derivatives bodes well for dairy consumption going forward. The country's large market potential and westernizing diets in the fast-growing Southeast Asian region could make Indonesia an attractive hub for dairy manufacturing, provided that sufficient raw materials can be sourced from local dairy farms. Dairy production in Indonesia is occupied with smallholder dairy farmers and megafarms, even though smallholder dairy farmers in Indonesia continue to play an outsized role in Indonesia's milk production. Averaging just three cows per farmer with less than 10 liters average daily production per head, these farmers still account for 77 percent of Indonesia's fresh milk production. By contrast, Indonesia's modern dairy farms, which account for 23 percent of production, can reach daily yields exceeding 20 liters per animal through superior genetics, feed, and livestock practices. These integrated producers also benefit from shorter calving intervals of 13-14 months, compared with 18-20 months among smallholder farmers (USDA, 2020). The widening gap between national farm output and dairy consumption reflects poor agricultural productivity but also points to upstream business prospects.

Almost all Indonesian milk originates on the Island of Java, the country's main island in terms of population and economic activity. East Java has seen particularly fast growth in the number of milk cows and the dairy industry in recent years. Domestic milk production is dominated by smallholders who usually own no more than five cows and are members of dairy cooperatives. The latter collect the milk and sell it to processing companies.

The small-scale and often poor equipment of local dairy farms is partly to blame for a low degree of efficiency and inferior milk quality by international comparison. Also, farmers tend to apply sub-optimal production methods for the feeding and nutrition of the cows and use domestic cattle breeds that produce inferior yields. Upgrading farm equipment and importing high-yielding dairy cows are ways to address the situation, and the government supports such measures through several regulations aimed to boost domestic production in the name of food security.

Based on the evaluation of regulations in the six areas, the proposed strategies have already been concluded by implementing a SWOT analysis. The summary of the most important factors in each component of SWOT and the proposed strategy is presented in Table 21. The strategy proposed for each regulation is SO strategy indicating that the regulation provides benefit for the stakeholders in the value chain of the dairy industry, but they need to optimize several factors based on the existing conditions.

Table 21. The Most Important Factors in Each Component of SWOT Analysis and The Proposed Strategy

Regulation	Strength (S)	Weakness (W)	Opportunity (O)	Threat (T)	Strategy
Dairy inputs	Cow adaptability into the tropical climate	Inadequate milk farmers competencies (skills & knowledge)	Inseminator availability	Animal diseases	SO
Price of domestic and imported of dairy products	The business partnership between dairy/cooperative farming groups with industry	Premium prices have not been applied at the breeder level	Increased income and lifestyle changes due to health awareness	Ability to cope with price volatility	SO
Investments in the dairy industry	Tax Allowance Facility for Investment (Reduction in net income, depreciation and accelerated amortization, Income Tax, Loss Compensation)	Weak skills in managerial business	Develop strategies to inform the development of extension programs	Dairy farms are dominated by small ranchers	SO
Access to credit	The partnership between processing industry with farmers groups/cooperatives in capital or financing	Access to credit is difficult because many ranchers do not have collateral to meet bank requirements.	Central and local governments should provide financial and capital support to farmers to buy dairy cows, equipment, and other dairy inputs through partnerships.	The limited information that can be accessed by dairy farmers	SO
Importation of live dairy cattle and	The Central Government and/or Local Government in accordance with	Large ruminant import permits are hard to come by breeders	Product development and marketing support policy	Lack of socialization from the government	SO

Regulation	Strength (S)	Weakness (W)	Opportunity (O)	Threat (T)	Strategy
other related inputs	its authority is obliged to conduct breeding, repair development, and /or nursery business by involving the participation of the community to ensure the availability of seeds and encourage the application of reproductive technology.		for KUD or SHD	related to import regulations for cattle, seeds, etc.	
Importation of dairy products	Importers/brand owners need to apply for "establishment approval" from the Ministry of Agriculture	Regulation of dairy imports in Indonesia contributes less to the domestic dairy industry	A significant increase in demand for dairy products. Domestic milk consumption per capita reached 11.8 liters in 2017, since 2015 demand has continued to increase by 5% per year and is expected to continue that trend.	Food safety reputation such as unmonitored labeling (fresh dairy products vs UHT milk/reconstitution)	SO

Dairy inputs. A progressive policy strategy should be implemented in this regulation since particularly by increasing the procurement of refrigeration facilities at all levels. High-quality fresh milk is important for the processing milk industry. At the farmer scale, it can be in the form of milk cans that have a cooling system, as well as special closed shelters that have cold storage, so that milk deposits can be directly channeled to the cooling truck without having to directly come into contact with outside air or heat. Besides the cooling system, the selection of seeds at the breeder level (there is continuous recording, not selling productive females), at the cooperative level (recording, quality parent procurement programs in collaboration with industry and government), at the government level (importation of superior semen, national data collection of seeds for selection) should also be implemented. From the aspect of cultivation, the strategy should focus on the provision of forage land for fodder, concentrate feed, fermented feed through the utilization of land potential outside Java. This can also be

done by increasing the competence of farmers related to cultivation techniques and farming practices

Price of domestic and imported dairy products. A progressive policy strategy in this aspect might include increasing the promotion of dairy products, producing premium dairy products, shortening the sales chain as well as having your own restaurant or cafe such as KPSBU Lembang, and providing added value to dairy products by producing their own products for the SME industry, as well as dairy farmer skill development on digital marketing.

Investments in the dairy industry. A progressive policy strategy could include tax allowance facility for investment, simplify administration aspect, eliminate unnecessary costs, and create stable economic and political situations in Indonesia. These efforts will attract more investors to invest in Indonesia.

Access to credit. A progressive policy strategy could include support from industry through dairy development partnership programs, such as livestock procurement, equipment procurement, exclusive policies from the government for low-interest loans, and cooperation with banks or other financial institutions. Besides, it is also important to improve the knowledge and competence of dairy farmers related to financial records.

Importation Regulation of Live Dairy Cattle and Other Inputs. A progressive policy strategy could include increasing the government's role in foreign trade policy, such as in the World Trade Organization (WTO) related to the regulations of the protection of farmers which have become a boomerang for Indonesia, and negotiations with import policymakers in the international agencies and trade partner countries. It is also important to provide training related to the importance of animal welfare for dairy farmers, cooperatives, and related institutions. Government policies related to feeding import regulations and animal welfare, use of forage land in collaboration with relevant agencies (e.g. Perhutani) should also be evaluated. Optimization of land outside Java for feed production centers and promotion of livestock products by showing the production process to the community can also be focused on.

Import of dairy products. A progressive policy strategy could include the increase of the government roles in strengthening the domestic powdered milk market through policies that can provide incentives for the processing milk industry (Industri Pengolahan Susu-IPS) to be able to produce domestic powdered milk. Government policies that have been issued to increase domestic milk competitiveness include the development of post-harvest facilities, fostering

partnerships between IPS and farmers and/or cooperatives, provision of income tax facilities in the investment of dairy industries and livestock, and provision of Business Credit schemes Cow breeding (KUPS). Regulation of the Minister of Agriculture 2017 requires businesses that produce processed milk (IPS) to have a processing unit within 3 years after this Regulation of the Minister of Agriculture applies. For importers that cannot produce processed milk, they are required to establish partnerships with relevant actors along the dairy values chain in the form of production facilities and capital for dairy farmers.

The powdered milk industry in Indonesia has a great opportunity in the effort to supply powdered milk products to 255 million Indonesians, whose current average consumption has only reached 0.018 kg/capita/year (Ministry of Agriculture 2016). In addition, AIPS projects that the processing industry based on cow's milk will grow between 6.8-7.0%, with the value of the sales of the cow's milk processing industry reaching Rp. 31 trillion. Furthermore, AIPS stated that the people's purchasing power, availability of raw materials, and government regulations are the main pillars of the growth of milk production.

Government policy on trade is the factor that determines the competitiveness of domestic powdered milk. In the future, the government needs to make policies especially providing incentives to stimulate IPS to produce powdered milk that can compete with imported products. The IPS has an important actor who contributed to milk production in Indonesia. Therefore, it is important to increase the partnership between IPS and farmers. In addition to accommodating fresh milk products from farmers, IPS needs to develop various programs to increase production, productivity, and quality of milk produced by farmer groups as suppliers of raw materials. At the macro-level government must be able to maintain the real exchange rate and reduce the real price of powdered milk by focusing on cost efficiency in the upstream sector. Providing tax incentives to IPS who want to develop dairy farming domestically is also important to attract more investment in the dairy sector.

5. CONCLUSION AND RECOMMENDATIONS

This report has discussed several regulations issued by the Government of Indonesia (GOI) related to (1) Dairy Inputs, (2) Price of Domestic and Imported Dairy Products, (3) Investments in the Domestic Industry, (4) Access to Credit, (5) Importation Regulation of Live Dairy Cattle, and (6) Importation of Dairy Products. By using SWOT analysis, the strengths, weaknesses, opportunities, and threats in each regulation are discussed particularly to support the development of sustainable, profitable, and smallholder-inclusive dairy supply chains.

Several regulations have been issued by the GOI related to the dairy industry in Indonesia before and during pandemic Covid 19. However, there is still a lack of regulation implementation and synchronization at the national and regional levels. As such, Central and Regional Government policies should be synergized with each other and be coordinated with the relevant stakeholders in the implementation of the regulations. A special review on the dairy regional mapping for milk self-sufficiency policy is needed. It is also important for the government to continue several programs aimed to increase awareness of people drinking milk, such as a drinking program for children in the school. Based on SWOT analysis, the proposed strategies for all the regulations are Strength-Opportunities (SO). This means that all regulations could provide benefits for the stakeholders in the value chain of the dairy industry, however, they also need to optimize the several factors. For the regulations related to **dairy inputs** since the high quality of fresh milk is important for the processing milk industry, the procurement of refrigeration facilities at the farmer and cooperative levels is important. The selection of seeds at the breeder level, quality parent procurement, importation of superior semen, and recording of national data collection of seeds for selection purposes should also be implemented. From the aspect of cultivation, the strategy should focus on the provision of forage land for fodder, concentrate feed, fermented feed through the utilization of land potential.

For **the regulation related to the price of domestic and imported dairy products**, a progressive policy strategy should include increasing the promotion of dairy products, producing premium dairy products, shortening the sales chain through digital marketing, and increasing the added value of dairy products. A progressive policy strategy related to **investments in the dairy industry** could include tax allowance facilities for investors, simplify administration aspects, eliminate unnecessary costs, and create stable economic and political

situations in Indonesia. A progressive policy strategy related to **access to credit** could include the effort to improve the knowledge and competence of dairy farmers related to a financial record, support from industry through dairy development partnership programs, and special interest rate for farmers/cooperatives or other investors interested in developing dairy industry in Indonesia.

A progressive policy strategy in the area of **importation regulation of live dairy Cattle and other inputs** could include the increase of the government's role in foreign trade policy, particularly s in the World Trade Organization (WTO) related to the regulations of the protection of breeders, and negotiations with import policymakers in the international agencies and trade partner countries. It is also important to provide training related to the importance of animal welfare for dairy farmers, cooperatives, and related institutions to avoid conflict with animal care organizations at national and international levels.

A progressive policy strategy related to **dairy product** importation could include the increase of the government roles in strengthening the domestic powdered milk market through policies that can provide incentives for the processing milk industry (Industri Pengelohan Susu-IPS) to be able to produce domestic powdered milk that can compete with imported product. Regulation of the Minister of Agriculture 2017 requires businesses that produce processed milk (IPS) to have a processing unit within 3 years after this Regulation of the Minister of Agriculture applies should also be monitored related to the implementation. For importers that cannot produce processed milk, they are required to establish partnerships with relevant actors along the dairy values chain in the form of production facilities and capital for dairy farmers.

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APPENDIX

Annex 1. Law Number 11 Year 2020



PRESIDEN
REPUBLIK INDONESIA

SALINAN

UNDANG-UNDANG REPUBLIK INDONESIA

NOMOR 11 TAHUN 2020

TENTANG

CIPTA KERJA

DENGAN RAHMAT TUHAN YANG MAHA ESA

PRESIDEN REPUBLIK INDONESIA,

- Menimbang :
- a. bahwa untuk mewujudkan tujuan pembentukan Pemerintah Negara Indonesia dan mewujudkan masyarakat Indonesia yang sejahtera, adil, dan makmur berdasarkan Pancasila dan Undang-Undang Dasar Negara Republik Indonesia Tahun 1945, Negara perlu melakukan berbagai upaya untuk memenuhi hak warga negara atas pekerjaan dan penghidupan yang layak bagi kemanusiaan melalui cipta kerja;
 - b. bahwa dengan cipta kerja diharapkan mampu menyerap tenaga kerja Indonesia yang seluas-luasnya di tengah persaingan yang semakin kompetitif dan tuntutan globalisasi ekonomi;
 - c. bahwa untuk mendukung cipta kerja diperlukan penyesuaian berbagai aspek pengaturan yang berkaitan dengan kemudahan, perlindungan, dan pemberdayaan koperasi dan usaha mikro, kecil, dan menengah, peningkatan ekosistem investasi, dan percepatan proyek strategis nasional, termasuk peningkatan perlindungan dan kesejahteraan pekerja;
 - d. bahwa pengaturan yang berkaitan dengan kemudahan, perlindungan, dan pemberdayaan koperasi dan usaha mikro, kecil, dan menengah, peningkatan ekosistem investasi, dan percepatan proyek strategis nasional, termasuk peningkatan perlindungan dan kesejahteraan pekerja yang tersebar di berbagai Undang-Undang sektor saat ini belum dapat memenuhi kebutuhan hukum untuk percepatan cipta kerja sehingga perlu dilakukan perubahan;

e. bahwa ...

SK No 052692 A

Annex 2. Central Government Law Number 78 of 2019



PRESIDEN
REPUBLIK INDONESIA

SALINAN

PERATURAN PEMERINTAH REPUBLIK INDONESIA

NOMOR 78 TAHUN 2019

TENTANG

FASILITAS PAJAK PENGHASILAN UNTUK PENANAMAN MODAL
DI BIDANG-BIDANG USAHA TERTENTU DAN/ATAU
DI DAERAH-DAERAH TERTENTU

DENGAN RAHMAT TUHAN YANG MAHA ESA

PRESIDEN REPUBLIK INDONESIA,

- Menimbang : a. bahwa untuk lebih mendorong dan meningkatkan kegiatan penanaman modal langsung, baik dari sisi pertumbuhan ekonomi, berkembangnya sektor usaha, kepastian hukum guna perbaikan iklim usaha yang lebih kondusif bagi kegiatan penanaman modal langsung di bidang-bidang usaha tertentu dan/atau di daerah-daerah tertentu yang mendapat prioritas tinggi dalam skala nasional, serta pemerataan dan percepatan pembangunan bagi bidang-bidang usaha tertentu dan/atau di daerah-daerah tertentu, perlu mengganti Peraturan Pemerintah Nomor 18 Tahun 2015 tentang Fasilitas Pajak Penghasilan untuk Penanaman Modal di Bidang-bidang Usaha Tertentu dan/atau di Daerah-daerah Tertentu yang telah diubah dengan Peraturan Pemerintah Nomor 9 Tahun 2016 tentang

Annex 3. Law Number 6 Year 2013



PRESIDEN
REPUBLIK INDONESIA

PERATURAN PEMERINTAH REPUBLIK INDONESIA

NOMOR 6 TAHUN 2013

TENTANG

PEMBERDAYAAN PETERNAK

DENGAN RAHMAT TUHAN YANG MAHA ESA

PRESIDEN REPUBLIK INDONESIA,

Menimbang : bahwa untuk melaksanakan ketentuan Pasal 76 ayat (5) Undang-Undang Nomor 18 Tahun 2009 tentang Peternakan dan Kesehatan Hewan, perlu menetapkan Peraturan Pemerintah tentang Pemberdayaan Peternak;

Mengingat :

1. Pasal 5 ayat (2) Undang-Undang Dasar Negara Republik Indonesia Tahun 1945;
2. Undang-Undang Nomor 18 Tahun 2009 tentang Peternakan dan Kesehatan Hewan (Lembaran Negara Republik Indonesia Tahun 2009 Nomor 84, Tambahan Lembaran Negara Republik Indonesia Nomor 5015);

MEMUTUSKAN:

Menetapkan : PERATURAN PEMERINTAH TENTANG PEMBERDAYAAN PETERNAK.

**BAB I
KETENTUAN UMUM**

Pasal 1

Dalam Peraturan Pemerintah ini yang dimaksud dengan:

Annex 4. President Decree Number 49 of 2021



PRESIDEN
REPUBLIK INDONESIA

SALINAN

PERATURAN PRESIDEN REPUBLIK INDONESIA
NOMOR 49 TAHUN 2021
TENTANG
PERUBAHAN ATAS PERATURAN PRESIDEN NOMOR 10 TAHUN 2021
TENTANG BIDANG USAHA PENANAMAN MODAL

DENGAN RAHMAT TUHAN YANG MAHA ESA

PRESIDEN REPUBLIK INDONESIA,

- Menimbang : a. bahwa dalam rangka pembatasan pelaksanaan Penanaman Modal serta pengendalian dan pengawasan minuman yang mengandung alkohol, perlu dilakukan perubahan Peraturan Presiden Nomor 10 Tahun 2021 tentang Bidang Usaha Penanaman Modal;
- b. bahwa berdasarkan pertimbangan sebagaimana dimaksud dalam huruf a, perlu menetapkan Peraturan Presiden tentang Perubahan Atas Peraturan Presiden Nomor 10 Tahun 2021 tentang Bidang Usaha Penanaman Modal;
- Mengingat : 1. Pasal 4 ayat (1) Undang-Undang Dasar Negara Republik Indonesia Tahun 1945;
2. Undang-Undang Nomor 25 Tahun 2007 tentang Penanaman Modal (Lembaran Negara Republik Indonesia Tahun 2007 Nomor 67, Tambahan Lembaran Negara Republik Indonesia Nomor 4724);

Annex 5. President Decree Number 10 of 2021



PRESIDEN
REPUBLIK INDONESIA

SALINAN

PERATURAN PRESIDEN REPUBLIK INDONESIA

NOMOR 10 TAHUN 2021

TENTANG

BIDANG USAHA PENANAMAN MODAL

DENGAN RAHMAT TUHAN YANG MAHA ESA

PRESIDEN REPUBLIK INDONESIA,

- Menimbang** : bahwa untuk melaksanakan ketentuan Pasal 77 dan Pasal 185 huruf b Undang-Undang Nomor 11 Tahun 2020 tentang Cipta Kerja, perlu menetapkan Peraturan Presiden tentang Bidang Usaha Penanaman Modal;
- Mengingat** :
1. Pasal 4 ayat (1) Undang-Undang Dasar Negara Republik Indonesia Tahun 1945;
 2. Undang-Undang Nomor 25 Tahun 2007 tentang Penanaman Modal (Lembaran Negara Republik Indonesia Tahun 2007 Nomor 67, Tambahan Lembaran Negara Republik Indonesia Nomor 4724);
 3. Undang-Undang Nomor 11 Tahun 2020 tentang Cipta Kerja (Lembaran Negara Republik Indonesia Tahun 2020 Nomor 245, Tambahan Lembaran Negara Republik Indonesia Nomor 6573);

Annex 6. Regulation of Minister of Agriculture Number 33 Year 2018



PERATURAN MENTERI PERTANIAN REPUBLIK INDONESIA
NOMOR 33/PERMENTAN/PK.450/7/2018
TENTANG
PERUBAHAN KEDUA ATAS PERATURAN MENTERI PERTANIAN
NOMOR 26/PERMENTAN/PK.450/7/2017 TENTANG
PENYEDIAAN DAN PEREDARAN SUSU

DENGAN RAHMAT TUHAN YANG MAHA ESA

MENTERI PERTANIAN REPUBLIK INDONESIA,

- Menimbang : a. bahwa dengan Peraturan Menteri Pertanian Nomor 26/Permentan/PK.450/7/2017 tentang Penyediaan dan Peredaran Susu sebagaimana telah diubah dengan Peraturan Menteri Pertanian Nomor 30/Permentan/PK.450/7/2018 tentang Perubahan atas Peraturan Menteri Pertanian Nomor 26/Permentan/PK.450/7/2017 tentang Penyediaan dan Peredaran Susu, telah diatur kemitraan antara pelaku usaha dengan peternak, gabungan kelompok peternak, dan/atau koperasi;
- b. bahwa untuk menciptakan kesempatan berusaha dan iklim investasi yang kondusif, perlu mengubah Peraturan Menteri Pertanian Nomor 26/Permentan/PK.450/7/2017 tentang Penyediaan dan Peredaran Susu sebagaimana telah diubah dengan Peraturan Menteri Pertanian Nomor 30/

Annex 7. Regulation of Minister of Agriculture Number 30 Year 2018



PERATURAN MENTERI PERTANIAN REPUBLIK INDONESIA
NOMOR 30/PERMENTAN/PK.450/7/2018
TENTANG
PERUBAHAN ATAS PERATURAN MENTERI PERTANIAN
NOMOR 26/PERMENTAN/PK.450/7/2017 TENTANG
PENYEDIAAN DAN PEREDARAN SUSU

DENGAN RAHMAT TUHAN YANG MAHA ESA

MENTERI PERTANIAN REPUBLIK INDONESIA,

- Menimbang : a. bahwa dengan Peraturan Menteri Pertanian Nomor 26/Permentan/PK.450/7/2017 tentang Penyediaan dan Peredaran Susu, telah diatur kemitraan antara pelaku usaha dengan peternak, gabungan kelompok peternak, dan/atau koperasi;
- b. bahwa agar kemitraan antara pelaku usaha dengan peternak, gabungan kelompok peternak, dan/atau koperasi lebih efektif dan efisien, perlu mengubah Peraturan Menteri Pertanian Nomor 26/Permentan/PK.450/7/2017 tentang Penyediaan dan Peredaran Susu;
- c. bahwa berdasarkan pertimbangan sebagaimana dimaksud dalam huruf a dan huruf b, perlu menetapkan Peraturan Menteri Pertanian tentang Perubahan atas Peraturan Menteri Pertanian Nomor 26/Permentan/PK.450/7/2017 tentang Penyediaan dan Peredaran Susu;

Annex 8. Regulation of Minister of Agriculture Number 26 Year 2017



**MENTERI PERTANIAN
REPUBLIK INDONESIA**

**PERATURAN MENTERI PERTANIAN REPUBLIK INDONESIA
NOMOR 26/PERMENTAN/PK.450/7/2017
TENTANG
PENYEDIAAN DAN PEREDARAN SUSU**

DENGAN RAHMAT TUHAN YANG MAHA ESA

MENTERI PERTANIAN REPUBLIK INDONESIA,

- Menimbang :
- a. bahwa susu segar memiliki kandungan gizi yang masih utuh dan sangat tinggi serta bermanfaat bagi kesehatan dan kecerdasan;
 - b. bahwa dalam rangka memenuhi kebutuhan protein hewani, mewujudkan kemandirian pangan, dan meningkatkan kesejahteraan masyarakat, perlu meningkatkan produksi susu nasional;
 - c. bahwa untuk meningkatkan produksi susu nasional diperlukan sinergi pelaku usaha;
 - d. bahwa berdasarkan pertimbangan sebagaimana dimaksud dalam huruf a, huruf b, dan huruf c, serta untuk melaksanakan ketentuan Pasal 37 Undang-Undang Nomor 18 Tahun 2009 tentang Peternakan dan Kesehatan Hewan sebagaimana telah diubah dengan Undang-Undang Nomor 41 Tahun 2014 tentang Perubahan atas Undang-Undang Nomor 18 Tahun 2009 tentang Peternakan dan Kesehatan Hewan, perlu menetapkan Peraturan Menteri Pertanian tentang Penyediaan dan Peredaran Susu;

Annex 9. Regulation of The Trade Minister Number 29 of 2019



MENTERI PERDAGANGAN REPUBLIK INDONESIA

**PERATURAN MENTERI PERDAGANGAN REPUBLIK INDONESIA
NOMOR 29 TAHUN 2019
TENTANG
KETENTUAN EKSPOR DAN IMPOR HEWAN DAN PRODUK HEWAN**

DENGAN RAHMAT TUHAN YANG MAHA ESA

MENTERI PERDAGANGAN REPUBLIK INDONESIA,

- Menimbang** :
- a. bahwa untuk lebih meningkatkan efektivitas pelaksanaan kebijakan ekspor dan impor hewan dan produk hewan, perlu melakukan pengaturan kembali ketentuan ekspor dan impor hewan dan produk hewan;
 - b. bahwa berdasarkan pertimbangan sebagaimana dimaksud dalam huruf a, perlu menetapkan Peraturan Menteri Perdagangan tentang Ketentuan Ekspor dan Impor Hewan dan Produk Hewan;
- Mengingat** :
- 1. Undang-Undang Nomor 16 Tahun 1992 tentang Karantina Hewan, Ikan dan Tumbuhan (Lembaran Negara Republik Indonesia Tahun 1992 Nomor 56, Tambahan Lembaran Negara Republik Indonesia Nomor 3482);
 - 2. Undang-Undang Nomor 7 Tahun 1994 tentang

Annex 10. Regulation of Minister of Agriculture Number 49 Year 2016



PERATURAN MENTERI PERTANIAN REPUBLIK INDONESIA
NOMOR 49/Permentan/PK.440/10/2016
TENTANG
PEMASUKAN TERNAK RUMINANSIA BESAR
KE DALAM WILAYAH NEGARA REPUBLIK INDONESIA

DENGAN RAHMAT TUHAN YANG MAHA ESA

MENTERI PERTANIAN REPUBLIK INDONESIA,

- Menimbang : a. bahwa Peraturan Menteri Pertanian Nomor 16/Permentan/PK.440/5/2016 tentang Pemasukan Ternak Ruminansia Besar ke dalam Wilayah Negara Republik Indonesia, dalam pelaksanaannya tidak sesuai dengan perkembangan dan kebutuhan;
- b. bahwa berdasarkan pertimbangan sebagaimana dimaksud dalam huruf a dan untuk memenuhi ketersediaan daging, mempercepat peningkatan populasi serta optimalisasi pelayanan pemberian rekomendasi pemasukan ternak ruminansia besar, perlu menetapkan Peraturan Menteri Pertanian tentang Pemasukan Ternak Ruminansia Besar ke dalam Wilayah Negara Republik Indonesia;
- Mengingat : 1. Undang-Undang Nomor 16 Tahun 1992 tentang Karantina Hewan, Ikan, dan Tumbuhan (Lembaran Negara Republik Indonesia Tahun 1992 Nomor 56, Tambahan Lembaran Negara Republik Indonesia Nomor 3482);
2. Undang-Undang Nomor 7 Tahun 1994 tentang Pengesahan *Agreement Establishing the World Trade Organization* (Persetujuan Pembentukan Organisasi Perdagangan Dunia) (Lembaran Negara Republik Indonesia Tahun 1994 Nomor 57, Tambahan Lembaran Negara Republik Indonesia Nomor 3564);

Annex 11. Regulation of Minister of Agriculture Number 13 Year 2017



PERATURAN MENTERI PERTANIAN REPUBLIK INDONESIA
NOMOR 13/PERMENTAN/PK.240/5/2017
TENTANG
KEMITRAAN USAHA PETERNAKAN

DENGAN RAHMAT TUHAN YANG MAHA ESA

MENTERI PERTANIAN REPUBLIK INDONESIA,

- Menimbang :
- a. bahwa kerja sama di bidang usaha pertanian telah diatur dalam Keputusan Menteri Pertanian Nomor 940/Kpts/OT.210/10/1997 tentang Pedoman Kemitraan Usaha Pertanian;
 - b. bahwa dalam rangka meningkatkan skala dan efisiensi usaha peternakan, kemampuan ekonomi peternak atau pelaku usaha, akses pasar, daya saing, dan membangun sinergi saling menguntungkan, serta berkeadilan, perlu ditetapkan kemitraan usaha peternakan;
 - c. bahwa dengan adanya perkembangan kebijakan mengenai kemitraan usaha, dan untuk melaksanakan ketentuan Pasal 31 Undang-Undang Nomor 18 Tahun 2009 tentang Peternakan dan Kesehatan Hewan sebagaimana telah diubah dengan Undang-Undang Nomor 41 Tahun 2014 tentang Perubahan atas Undang-Undang Nomor 18 Tahun 2009 tentang Peternakan dan Kesehatan Hewan, Pasal 19 sampai dengan Pasal 22 Peraturan Pemerintah Nomor 6 Tahun 2013 tentang Pemberdayaan Peternak, dan Pasal 21 Peraturan Presiden Nomor 48 Tahun 2013 tentang Budi Daya Hewan Peliharaan, perlu menetapkan Peraturan Menteri Pertanian tentang Kemitraan Usaha Peternakan;

Annex 12. Regulation of the Minister of Finance Number 9 Year 2021



MENTERI KEUANGAN
REPUBLIK INDONESIA

SALINAN

PERATURAN MENTERI KEUANGAN REPUBLIK INDONESIA

NOMOR 9/PMK.03/2021

TENTANG

INSENTIF PAJAK UNTUK WAJIB PAJAK TERDAMPAK
PANDEMI *CORONA VIRUS DISEASE* 2019

DENGAN RAHMAT TUHAN YANG MAHA ESA

MENTERI KEUANGAN REPUBLIK INDONESIA,

- Menimbang :
- a. bahwa pandemi *Corona Virus Disease* 2019 merupakan bencana nasional yang mempengaruhi stabilitas ekonomi dan produktivitas masyarakat sebagai pekerja maupun pelaku usaha sehingga perlu dilakukan upaya pengaturan pemberian insentif pajak untuk mendukung penanggulangan dampak *Corona Virus Disease* 2019;
 - b. bahwa untuk melakukan penanganan dampak pandemi *Corona Virus Disease* 2019, perlu dilakukan perpanjangan waktu insentif perpajakan yang diperlukan selama masa pemulihan ekonomi nasional dengan memberikan kemudahan pemanfaatan insentif yang lebih luas;
 - c. bahwa Peraturan Menteri Keuangan Nomor 86/PMK.03/2020 tentang Insentif Pajak untuk Wajib

Annex 13. Regulation of the Minister of Finance Number 82 Year 2021



MENTERI KEUANGAN
REPUBLIK INDONESIA

SALINAN

PERATURAN MENTERI KEUANGAN REPUBLIK INDONESIA
NOMOR 82 /PMK.03/2021
TENTANG
PERUBAHAN ATAS PERATURAN MENTERI KEUANGAN
NOMOR 9/PMK.03/2021 TENTANG INSENTIF PAJAK UNTUK WAJIB PAJAK
TERDAMPAK PANDEMI *CORONA VIRUS DISEASE* 2019

DENGAN RAHMAT TUHAN YANG MAHA ESA

MENTERI KEUANGAN REPUBLIK INDONESIA,

- Menimbang : a. bahwa untuk penanganan dampak pandemi *Corona Virus Disease* 2019 masih diperlukan pemberian insentif perpajakan, sehingga diperlukan perpanjangan jangka waktu pemberian insentif pajak dengan memperhatikan kapasitas fiskal untuk mendukung program penguatan kesehatan masyarakat dan mempercepat pemulihan ekonomi nasional;
- b. bahwa pemberian insentif perpajakan harus diberikan secara selektif dengan prioritas kepada sektor tertentu yang tertahan dan perlu lebih didukung laju pemulihannya, sehingga dilakukan penyesuaian

Annex 14. Regulation of the Minister of Finance Number 68 Year 2021



MENTERI KEUANGAN
REPUBLIK INDONESIA

SALINAN

PERATURAN MENTERI KEUANGAN REPUBLIK INDONESIA

NOMOR 68/PMK.010/2021

TENTANG

BEA MASUK DITANGGUNG PEMERINTAH ATAS IMPOR BARANG DAN BAHAN
UNTUK MEMPRODUKSI BARANG DAN/ATAU JASA
OLEH INDUSTRI SEKTOR TERTENTU YANG TERDAMPAK PANDEMI
CORONA VIRUS DISEASE 2019 (COVID-19) TAHUN 2021

DENGAN RAHMAT TUHAN YANG MAHA ESA

MENTERI KEUANGAN REPUBLIK INDONESIA,

- Menimbang :
- a. bahwa pandemi *Corona Virus Disease 2019 (COVID-19)* telah berdampak pada produktivitas sektor industri tertentu, ketersediaan bahan baku industri di dalam negeri, penyerapan tenaga kerja, yang berakibat pada menurunnya pertumbuhan ekonomi dan penerimaan negara, serta stabilitas ekonomi;
 - b. bahwa untuk mempercepat pemulihan ekonomi melalui peningkatan produktivitas sektor industri tertentu, menjamin ketersediaan bahan baku industri di dalam negeri, dan penyerapan tenaga kerja, guna meningkatkan pertumbuhan ekonomi, penerimaan negara, dan stabilitas ekonomi, perlu memberikan insentif fiskal