PHILIPPINE HOG INDUSTRY ROADMAP 2022-2026

DEPARTMENT OF AGRICULTURE
1898

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PHILIPPINE HOG INDUSTRY ROADMAP 2022-2026

Department of Agriculture

NATIONAL LIVESTOCK PROGRAM

The Philippine Hog Industry Roadmap (2022-2026)

Published by:

Department of Agriculture - Bureau of Agricultural Research
through the UPLB Foundation, Inc.
in collaboration with the *Philippine Council for Agriculture and Fisheries*

Coordinating Office:

National Livestock Program
Department of Agriculture
Diliman, Quezon City, Philippines

Cover & Book Design:

Alphabet Communications Graphics & Print
Quezon City, Philippines
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ACRONYMS AND ABBREVIATIONS

ADG	Average Daily Grain
AFF	Agriculture, Forestry and Fishery
AI	Artificial Insemination
AMAS	Agribusiness and Marketing Assistance Service
ASF	African Swine Fever
ATI	Agricultural Training Institute
BAI	Bureau of Animal Industry
BAR	Bureau of Agricultural Research
BIR	Bureau of Internal Revenue
BOC	Bureau of Customs
CW	Carcass Weight
DA	Department of Agriculture
DA-NLP	Department of Agriculture – National Livestock Program
DBM	Department of Budget and Management
DENR	Department of Environment and Natural Resources
FAOSTAT	Food and Agriculture Organization Corporate Statistical Database
FCR	Feed Conversion Ratio
GAHP	Good Animal Husbandry Practice
GDP	Gross Domestic Product
GVA	Gross Value Added
HACCP	Hazard Analysis Critical Control Point

INSPIRE	Integrated National Swine Production Initiatives for Recovery and Expansion Program
ITCPH	International Training Center on Pig Husbandry
KRAs	Key Result Areas
LGUs	Local Government Units
LW	Liveweight
MT	Metric Tons
NAFC	National Agricultural and Fishery Council
NFHFI	National Federation of Hog Farmers, Inc.
NMIS	National Meat Inspection Service
OECD	Organisation for Economic Co-Operation and Development
PCAARRD	Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development
PCAF	Philippine Council for Agriculture and Fishery
PNS	Philippine National Standards
PROPORK	Pork Producers Federation of the Philippines
PRRS	Porcine Reproductive and Respiratory Syndrome
PSA	Philippine Statistics Authority
SIDC	Soro-soro Ibaba Development Cooperative
SUCs	State Universities and Colleges
SWOT	Strengths, Weaknesses, Opportunities and Threats
UN	United Nations

MESSAGE

REBOOT – Recover... Repopulate... Rehabilitate...

The Hog Industry faces a big challenge in the years ahead, posed by the African Swine Fever (ASF) epidemic that affected several areas in the country. It needs a boost to propel it back to where it was before; progressive, profitable, and a major contributor to local economic growth.

The Hog Industry Roadmap for 2022-2026 would be the driving force to push the industry back to its track. Following the new norm of the Department of Agriculture – "New Thinking in Agriculture: Consolidation, Modernization, Industrialization and Professionalization", it focuses on how the government could assist local swine producers to have sustainable businesses and become globally-competitive. Its salient features include repopulation of hog inventory thru clustering of pig producers especially the backyard raisers, financial and infrastructure-support to the industry, technical staff development and establishment of a reliable Philippine Animal Industry Management Information System (PhilAIMIS). All these programs are geared towards REBOOTING THE PHILIPPINE HOG INDUSTRY in the next five (5) years.

Thereby, uplifting the continuous and sustainable recovery and (further) development of the Philippine hog industry.

WILLIAM D. DAR, Ph.D.
Secretary
Department of Agriculture

FOREWORD

The Philippine Hog Industry Roadmap 2022-2026 was formulated to achieve the industry's goal of being productive, sustainable and globally competitive by 2026. It presents important data and information to give a picture of the present situation of the industry and its evaluation, using value chain analysis and strengths, weaknesses, opportunities, and threats (SWOT) analysis. Key result areas (KRAs) and action plans are identified to achieve the goal after five (5) years of implementation.

A series of consultations were carried out to generate the analysis and action plans contained in this roadmap. The consultations with industry stakeholders were spearheaded by the Office of the Undersecretary for Livestock, under its National Livestock Program.

The consultations and preparation of this document started in 2013 under the supervision of Dr. Rubina Cresencio of the Bureau of Animal Industry. In 2016, Dr. Jose Reaño, Undersecretary for Livestock directed the further development of this Roadmap.

Finally, it was completed in 2021. The ATI-International Training Center on Pig Husbandry (ATI-ITCPH) finalized this Roadmap, together with industry representatives from the National Federation of Hog Farmers. Inc. (HFHFI), Pork Producers Federation of the Philippines, Inc. (ProPork), Philippine College of Swine Practitioners (PCSP), Philippine Veterinary Drug Association (PVDA), and the Philippine Association of Meat Processors Incorporation (PAMPI). The earlier versions of the document were reviewed and revised according to the situation of the industry when it was developed.

This document serves as a guide to policy makers, government agencies and the private sector in implementing development plans and projects geared towards a revitalized and competitive Philippine hog industry.

WILLIAM C. MEDRANO, Ph.D.
Undersecretary for Livestock
Department of Agriculture

PREFACE

Greetings from the Swine Industry!

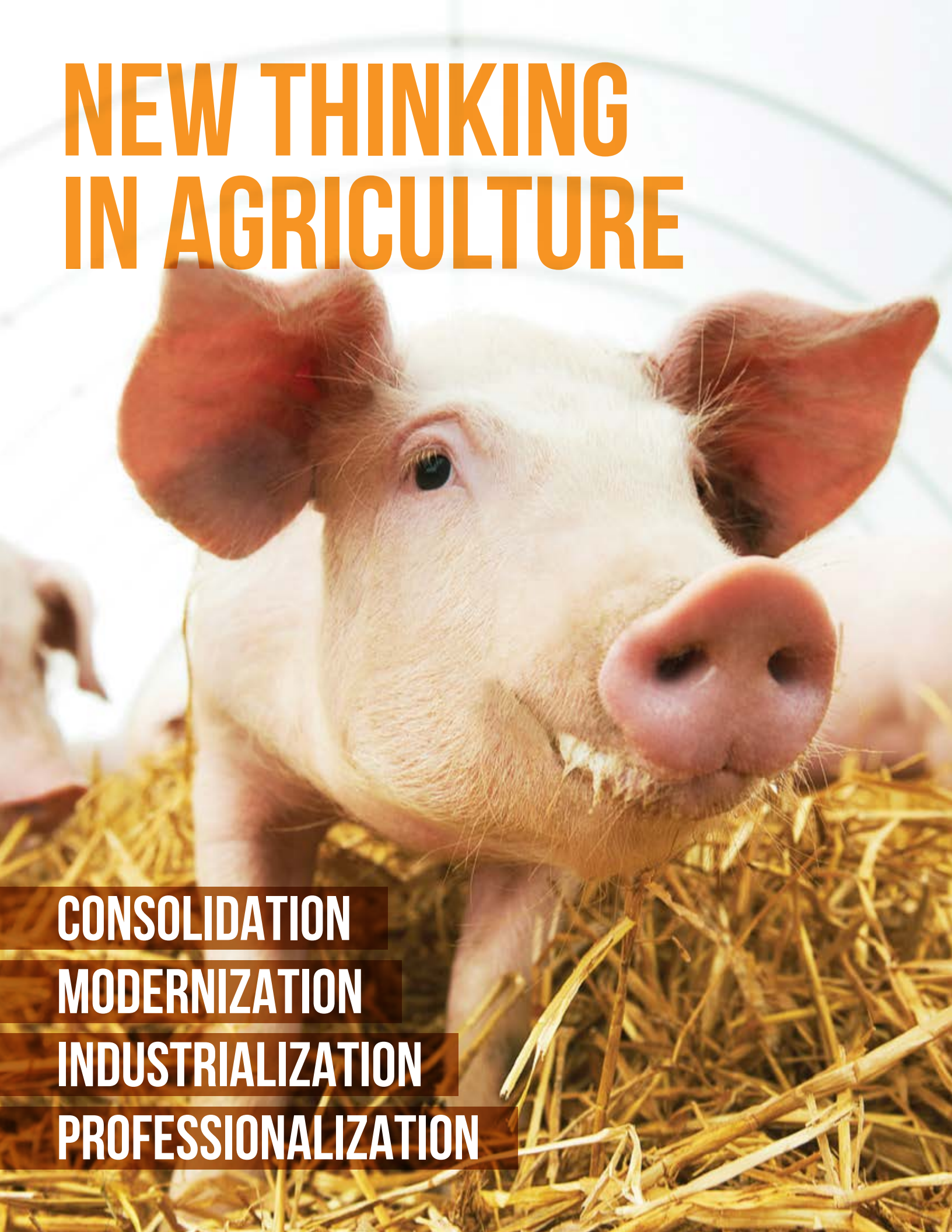
It is with honor that we present here the Roadmap for the Swine Industry. This may not be perfect or the most ideal roadmap, but considering all the challenges and the limited resources we have, we think this roadmap will help develop a stronger more sustainable industry within the next five years.

Let me also take this opportunity to thank the technical team who worked hard to put together this roadmap, to the technical consultants for taking time and offering their expertise and our other partners in the industry. We could have not possibly come up with this roadmap without all your contributions.

Lastly, we hope that we get the support from the stakeholders to realize the goals that we have set for the industry in the next five years through the roadmap. Together we can make that dream of a sustainable swine industry a reality!

ENGR. ROLANDO TAMBAGO, Pork Producers Federation of the Philippines, Inc.
Team Leader
Hog Industry Roadmap Development Team

NEW THINKING IN AGRICULTURE



CONSOLIDATION
MODERNIZATION
INDUSTRIALIZATION
PROFESSIONALIZATION

EXECUTIVE SUMMARY

Philippine hog industry is a private-led industry that thrived through the years. It is a major contributor to the local economy among the agriculture sector. Its output is the highest among livestock and poultry sector in terms of volume and value of production. Gradually, the industry is becoming commercialized as evidenced by the increase in commercial farms, from 18% in 1994 to 29% in 2021 (PSA Swine Situation Report, 01 July 2021).

However, the occurrence of the African Swine Fever (ASF) in 2019 devastated the industry locally. A lot of farms closed, and animals were killed and buried to control the spread of the disease. Inventory of hogs decreased dramatically such that prices of pork went up. It affected consumers in the middle of the Covid 19 pandemic, making the situation worse.

Given the scenario and the challenges brought about by ASF and the pandemic, the government must do something to rehabilitate and repopulate the Philippine hog industry. The industry needs to reboot.

This Roadmap of the Philippine Hog Industry presents a clear picture of the present situation of the industry. The situationer highlights the industry's economic contributions, production, trade, and analysis of its value chain. An in-depth SWOT analysis provided the basis in determining the issues and gaps.

Finally, eight (8) Key Result Areas (KRAs) are identified to serve as driving forces to move the hog industry back to its previous state and support its growth. These KRAs include: 1) increased hog inventory; 2) improved agricultural data system; 3) increased farm productivity; 4) reduced cost of inputs; 5) modernized and restructured post-production and marketing system; 6) increased access of smallhold farmers to information and extension services; 7) adopted food safety regulations and standards; and 8) improved animal health status. The Action plan details how the KRAs would be achieved.

The private sector's investment amounts to a total of PhP6.64B, excluding the loans available to hog producers from the Landbank of the Philippines (LBP) and Development Bank of the Philippines (DBP). The government needs to provide a substantial budget to support the industry. Under the INSPIRE (Integrated National Swine Production Interventions for Recovery and Expansion) Program, the government should allot a budget of PhP26.65B for repopulation and establishment of nucleus and multiplier farms. For the whole 5-year program, the government would need a busget of PhP48.18B.

With this, the Roadmap will be an instrument to make the Philippine Hog Industry back to its pre-ASF level, sustainable and globally competitive by 2026.

INTRODUCTION

Rationale/Background

The Philippine hog industry was declared an FMD – free country without vaccination by the World Organisation for Animal Health (OIE). Indeed, a technical advantage for the Philippines compared to its Asian pork-producing neighbors. For the last 10 years, the Philippine hog industry has been growing in terms of volume, despite the slight decrease in total pig population and inventory.[1]

On the other hand, the Philippine pork still cannot compete in the international market since the country's cost of production is one of the highest in Asia. The local producers attribute this to the high cost of inputs (feeds, electricity, veterinary drugs, etc.) in the country. The continuous entry of smuggled pork and its by-products is also undermining the local industry.

In August 2019, the Philippines officially reported the presence of African Swine Fever (ASF) Disease. Since then, over 300,000 pigs were culled due to the disease. However, industry stakeholders believed that the actual number of lost pigs is higher than the official numbers, including those from farm depopulation. The Philippine Department of Agriculture (DA) has so far released USD14.6 million to compensate hog farmers affected by ASF.

The current Secretary of Agriculture espoused the "New Thinking in Agriculture" thru four (4) paradigms. These paradigms include consolidation, modernization, industrialization, and professionalization; "designed to increase productivity and profitability of farmers and fishers through sustainable, globally-competitive and climate resilient technologies and practices".

1 Based on the Philippine Statistics Authority database, swine inventory in 2010 was reported at 13.4M head. It went down to as low as 12.0 M in 2015 and slightly increased to 12.8M by January of 2020. Meanwhile, volume of production for the same period was reported at 1.9, 2.0 and 2.3 million metric tons, respectively.

Considering all these challenges, this road map anchors on these paradigms to articulate a 5-year roadmap. Specifically, it highlights the role and commitment of the private sector which can effectively complement the government's plans and thrusts to move and accelerate the industry forward. Eventually, this road map would contribute to the achievement of the department's goal of "a sustainable and globally-competitive hog industry by the year 2026".

The road map will present the country's current hog industry situation with special focus on LIVE HOGS value chain. The different key result areas, policies and strategies will be discussed, including the implementation and monitoring schemes to be undertaken to further steer the industry forward.

Objectives

This road map describes and discusses the blueprint for the rebooting of the Philippine hog industry. It is a plan that is inclusive, stakeholder-crafted and market-driven[2].

Specifically, it: a) provides a situational assessment of the hog industry; b) identifies goals and strategies as well as targets towards a competitive and sustainable hog industry, and c) recommends strategic directions and action programs for the next five (5) years, covering the period 2022-2026.

2 The scope of the road map will not include native pigs since there is a separate DA Program specifically for native animals' development – Philippine Native Animal Development Project – under the Bureau of Animal Industry.

Methodology
(Data Sources and Analytics)

The study used both primary and secondary data. Primary data were obtained through workshops and consultations with industry players. Findings of the national and regional consultations done by MADECOR were reviewed. The preliminary findings at the regional consultations were validated at national level sessions.

Secondary data, on the other hand were gathered from government institutions such as the Philippine Statistics Authority (PSA), the Bureau of Animal Industry (BAI), National Meat Inspection Service (NMIS), International Training Center on Pig Husbandry (ITCPH), Philippine Council for Agriculture and Fishery (PCAF), Bureau of Agricultural Research (BAR), Agribusiness and Marketing Assistance Service (AMAS), Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD), Department of Environment and Natural Resources (DENR), and the Department of Agriculture and its Regional Field Offices. International data came from FAOSTAT and UN Trademap. Websites of private institutions were also used for gathering data.

The study conducted various types of analyses from industry situationer, benchmark analysis, supply value chain analysis, SWOT analysis, and strategy setting and target planning.

Key Result Areas (KRAs) were formulated with the inputs from farm owners and representatives of pig producers and processors associations.

INDUSTRY SITUATION AND OUTLOOK

Industry Contribution to the Philippine Economy and Agriculture Sector

The local hog industry is a major contributor to the Philippine economy, particularly in the agricultural sector. In 2021, Gross Domestic Product (GDP) of the country rebounded to a 5.6 percent growth, coming from a -9.6 percent decline in the previous year (Mapa, Philippine Statistics Authority (PSA), 2022). The Gross Value Added (GVA) of Agriculture, Forestry and Fishery (AFF) during the fourth quarter of 2021 registered a positive growth of 1.4 percent. However, on an annual basis, this sector posted a reduction of -0.3 percent.

In terms of employment, the AFF sector employed 9.75 million workers which comprised 24.8 percent of national employment. The country's labor force in 2020 reached 43.88 million individuals and only 39.38 million were employed.

According to PSA (2021), livestock production further declined by -15.2 percent in the third quarter of 2021. Hog production, which is a major contributor for the livestock sector dramatically decreased by -17.8 percent during Q3 of 2021, from -6.71 percent in 2020. This is due to the African Swine Fever (ASF) disease that affected the industry and caused inventory to decrease tremendously.

However, Gordoncillo, et.al. (2020) also reported that the livestock and poultry industry contributed extensively to Philippine agriculture, in general. The industry's output was approximately one-fourth of the total output of the country in terms of agricultural and fishery production.

For the last five (5) years (2017 – 2021 Q3), hog production was the top grosser among the livestock and poultry sector in terms of volume (**Table 1)** and value of production (**Table 2**). Its average volume of production was 2,054.01 MT, while average value of production was PhP242,624M.

TABLE 1. VOLUME OF PRODUCTION OF LIVESTOCK AND POULTRY BY TYPE, 2017-2021

Commodity	2017	2018	2019	2020	2021*
			('000 MT)		
Livestock (LW)					
Carabao	144.4	143.1	140.7	120.4	92.62
Cattle	266.3	263.3	260.6	229.1	166.3
Hog	2,265.0	2,319.8	2,296.7	2,142.7	1,245.9
Goat	77.3	77.0	76.4	71.7	51.8
Dairy	22.8	23.7	24.4	26.7	19.5
Poultry (LW)					
Chicken	1,745.9	1,836.7	1,927.4	1,809.9	1,261.8
Duck	31.1	30.8	30.1	29.6	22.3
Egg					
Chicken	492.4	533.9	583.2	605.8	486.8
Duck	45.4	46.4	49.6	50.5	37.5

*as of September 2021
SOURCE: Value of Production in Philippine Agriculture and Fisheries, PSA, Third Quarter 2021

TABLE 2.VALUE OF PRODUCTION OF LIVESTOCK AND POULTRY BY TYPE, 2017-2021

Commodity	2017	2018	2019	2020	2021*
			(million pesos, at current prices)		
Livestock	**305,503.2**	**331,419.8**	**328,107.0**	**303,677.0**	**183,645.0**
Carabao	12,589.7	13,648.5	13,413.0	11,482.0	8,722.0
Cattle	26,953.2	28,648.7	28,354.0	24,932.0	17,936.0
Hog	255,417.8	277,531.8	274,803.0	256,265.0	149,105.0
Goat	9,707.8	10,654.0	10,573.0	9,940.0	7,121.0
Dairy	834.7	936.8	965.0	1,058.0	762.0
Poultry	**214,742.0**	**231,655.0**	**245,281.0**	**236,710.0**	**174,299.0**
Chicken	156,563.5	170,723.8	179,211.0	168,352.0	119,794.0
Duck	2,872.8	3,125.1	3,052.0	2,999.0	2,249.0
Chicken egg	50,923.3	53,356.4	58,288.0	60,539.0	48,664.0
Duck egg	4,382.3	4,449.7	4,731.0	4,819.0	3,593.0

*as of September 2021
SOURCE: Value of Production in Philippine Agriculture and Fisheries, PSA, Third Quarter 2021

Structure

Industry Definition

PSA (2021) differentiates a backyard/smallhold farm from a commercial farm based on the number of heads raised by the producer. A backyard/smallhold farm is a farm or household that grows: 1-20 finishers with no piglets, or 1-40 piglets or 1-10 sows with 1-21 piglets. A commercial farm, on the other hand grows 21 or more finishers, or 41 or more piglets, or more than 10 sows with 22 piglets.

Table 3 presents the differentiation between the backyard/small hold farm and the commercial farm.

TABLE 3. HOG POPULATION BY FARM TYPE*

Farm type	Hog population
Backyard/Small hold (70.6%)	1-20 finishers; zero piglets 1-40 heads of piglets 1-10 sows + 1-21 heads of piglets
Commercial (29.4%)	≥21 heads of finishers ≥41 heads of piglets >10 heads of sows + 22 piglets

*as of September 2021
SOURCE: Value of Production in Philippine Agriculture and Fisheries, PSA, Third Quarter 2021

As of 1 January 2022, the population of pigs in small hold farms decreased by 7.0 percent and increased by 1.9 percent in commercial farms. Still, the small hold producers dominated the industry which was 70.6 percent of the total population engaged in swine production (PSA, October – December 2021).

PIG FACTS IN THE PHILIPPINES

- Belongs to the *Suidae* family
- *Sus scrofa domesticus* – scientific name of domesticated pigs
- Mature weight: 90 kilograms
- Intelligent animals with brain size almost similar with humans
- BREEDS: Landrace, Largewhite, Duroc and Pietrain, including Hybrids
- Berkshire and Hampshire breeds are commonly used to upgrade native pigs by native animal enthusiasts.
- The Philippine market still prefers white pigs, except for some areas like the Cordillera region which uses colored pigs for cultural purposes.
- White Duroc is not considered as purebred by some raisers in the Philippines.

Pigs are classified into...

Breeders include sows, boars and gilts.

Piglets are young suckling pigs.

Finishers are pigs grown for slaughtering purposes.

Products

A pig is sold in the market either as live animal or as meat, known as pork. Live pigs are either used as breeders or grown as finishers for meat consumption. Pork on the other hand, could be cooked as is, or further processed into ham, bacon, sausages, "bagnet", etc. **Figure 1** summarizes the forms and uses of pigs.

FIGURE 1. PIG PRODUCTS

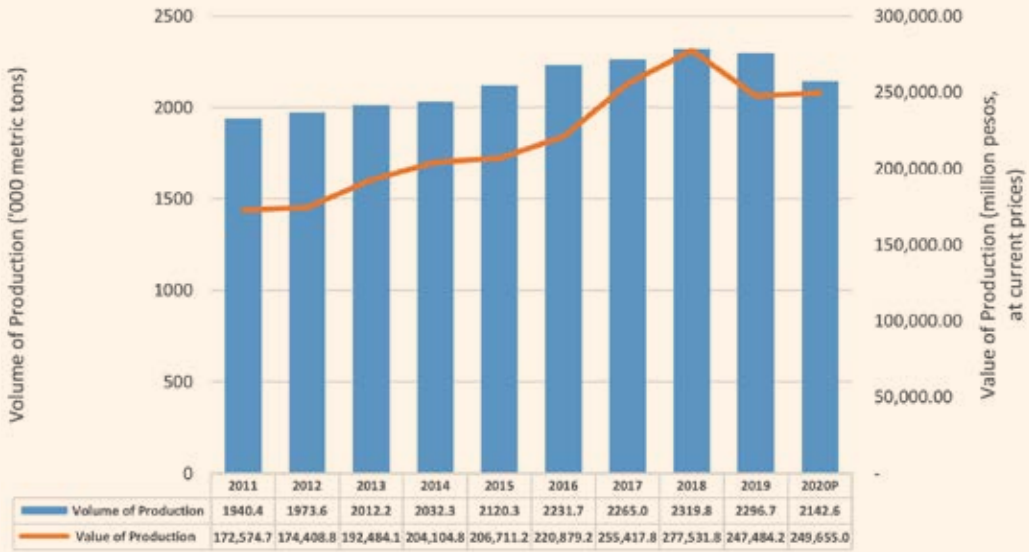
This Roadmap would focus on the industry for LIVE HOGS spilling over to the pork meat cuts along the value chain.

Industry Performance

Production
(Including Spatial Concentration)

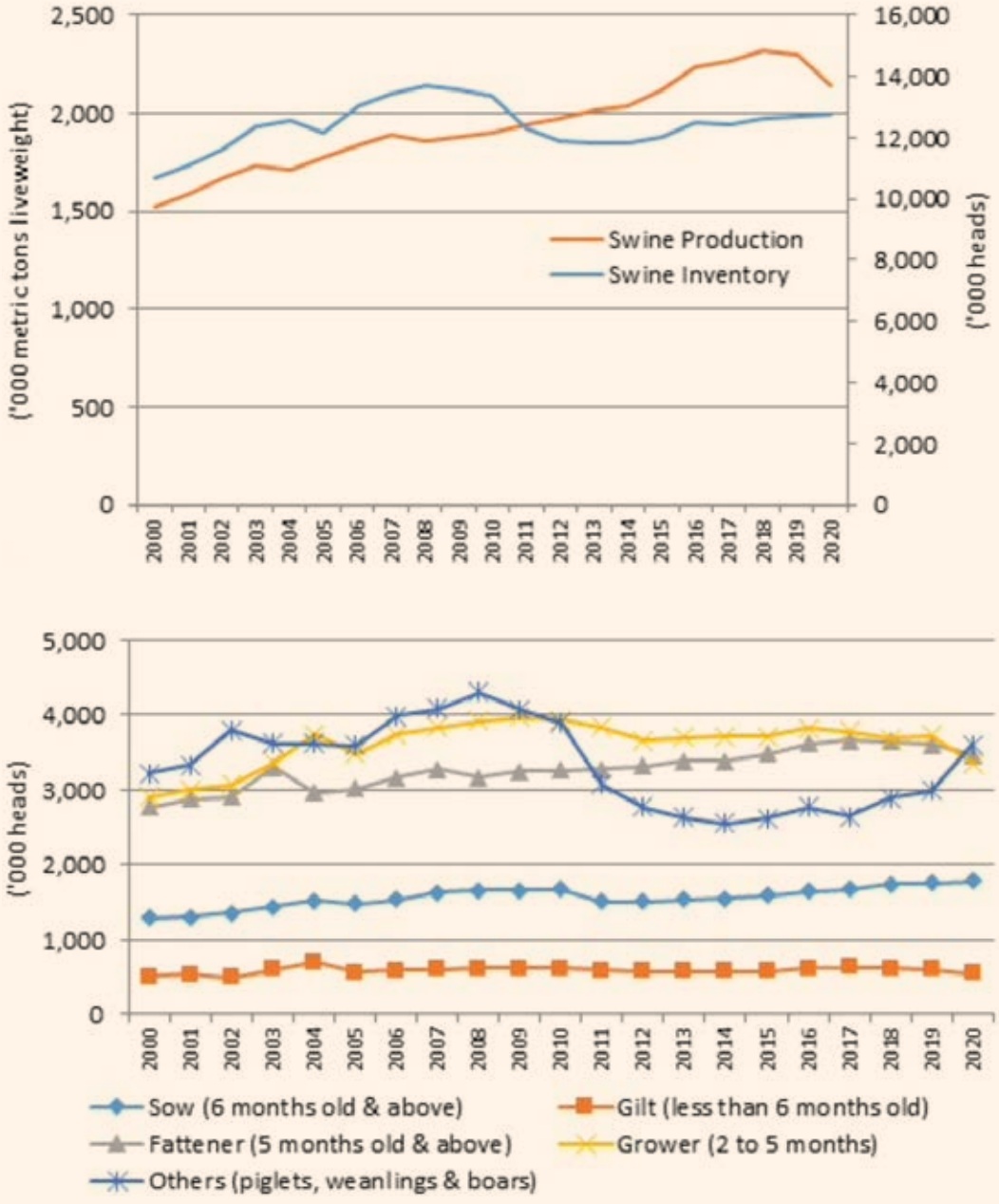
Hog production grew (on the average) by 1.27 percent from 2011 to 2020 (**Figure 2**). Average production was 2,133.45 thousand metric tons per annum. Production increased yearly except for 2019 and 2020 when output decreased by -1% and -6.71%, respectively. The reduction in production was caused by the African Swine Fever (ASF) that plagued the industry during the said period. The highest production was registered in 2018 at 2,319.76 thousand metric tons, valued at PhP277,531.80 million. The gross value of production in 2020 (PhP249,655.00 million) was 0.9 percent higher than the previous year due to high prices of pork brought by the ASF pandemic.

FIGURE 2. HOG VOLUME (THOUSAND METRIC TONS) AND VALUE OF PRODUCTION (MILLION PESOS), 2011-2020



SOURCE: PSA Selected Statistics on Agriculture, 2021

FIGURE 3. TRENDS IN SWINE PRODUCTION AND ANIMAL INVENTORY, 2000-2020



Note: Inventory as of January 1 of every year
SOURCE: PSA, 2021

Growth in hog production is associated with corresponding growth in animal inventory. For example, hog production improved by 1.8% per year from 2000-2020 due to 1.0% annual inventory growth during the same 20-year period (**Figure 3**). However, hog inventory decreased starting in 2010 due to declines in piglets and weanlings. The incidence of Porcine Reproductive and Respiratory Syndrome (PRRS) resulted to weak piglets and increased mortality.

Spatial Concentration

As of October 1, 2021, the regions (out of 17) with highest hog inventory were Western Visayas (12.1%), Central Visayas (11.6%), Northern Mindanao (11.0%), CALABARZON (10.2%), and Davao Region (8.5%), see **Table 4**.

Western Visayas ranked 1st, with its market dominated by small hold producers (14.8%). Western Visayas is one of the regions with the highest number of cities. Other regions that led in terms of small hold hog inventory were Central Visayas (11.8%), Davao Region (10.0%), Zamboanga Peninsula (9.7%), and Bicol Region (9.5%). The five (5) regions had 55.8% of the total small hold hog inventory.

On the other hand, most of **commercial** hog production can be found in the region of **CALABARZON**, raising 24.9% of the total inventory. CALABARZON is near Metro Manila that has the largest urban concentration. Other regions with high commercial hog production were Northern Mindanao (15.1%), Central Luzon (13.0%), SOCCSKSARGEN (12.8%) and Central Visayas (11.1%). These regions had **76.9%** of the total commercial hog inventory.

TABLE 4. HOG INVENTORY OF TOP PRODUCING REGIONS IN THE PHILIPPINES, AS OF 01 OCTOBER 2021

Total (Backyard and Commercial)		Backyard		Commercial	
Region	Inventory	Region	Inventory	Region	Inventory
Western Visayas	1,190,380	Western Visayas	1,056,641	CALABARZON	685,342
Central Visayas	1,142,880	Central Visayas	836,421	Northern Mindanao	416,197
Northern Mindanao	1,086,140	Davao Region	708,460	Central Luzon	356,346
CALABARZON	1,006,550	Zamboanga Peninsula	669,942	SOCCSKSARGEN	352,109
Davao Region	842,200	Bicol Region	674,127	Central Visayas	306,455
Sub-Total	**5,268,150**	**Sub-Total**	**3,945,591**	**Sub-Total**	**2,116,449**
Other Regions	**4,598,296**	**Other Regions**	**3,171,785**	**Other Regions**	**632,621**
Philippines	**9,866,446**	**Philippines**	**7,117,376**	**Philippines**	**2,749,070**
Western Visayas	12.1	Western Visayas	14.8	CALABARZON	24.9
Central Visayas	11.6	Central Visayas	11.8	Northern Mindanao	15.1
Northern Mindanao	11.0	Davao Region	10.0	Central Luzon	13.0
CALABARZON	10.2	Zamboanga Peninsula	9.7	SOCCSKSARGEN	12.8
Davao Region	8.5	Bicol Region	9.5	Central Visayas	11.1
Sub-Total	**53.4**	**Sub-Total**	**55.8**	**Sub-Total**	**76.9**
Other Regions	**46.6**	**Other Regions**	**44.2**	**Other Regions**	**23.1**

SOURCE: PSA Swine Situation Report, July to September 2021

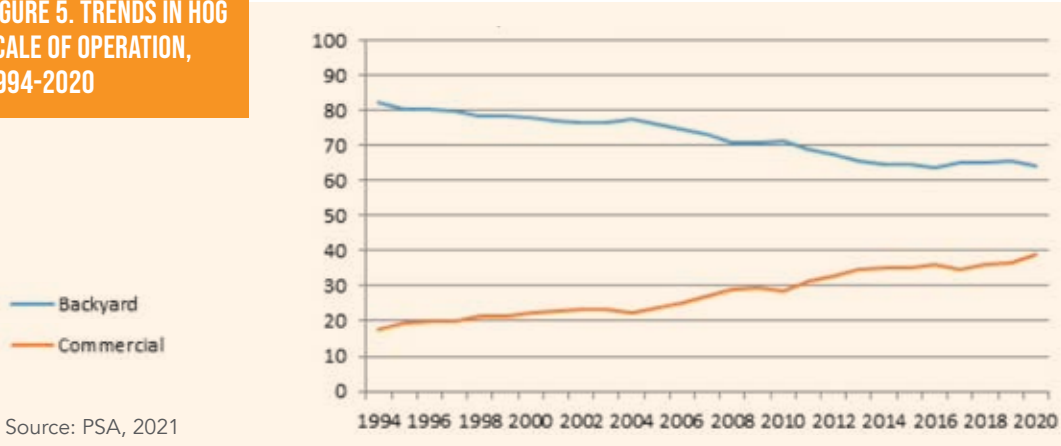
In the provincial level, Batangas was the major source of hogs, producing 8% of the total production. Other provincial major producers were: Bulacan (7%), Bukidnon (6%), Cebu (5%), and Tarlac (4%). **Figure 4** shows the share of the top hog producing provinces in the Philippines. It is important to note that no province extremely dominated the production of pigs.

FIGURE 4. PERCENTAGE SHARE OF THE TOP PRODUCING PROVINCES TO THE HOG INVENTORY IN THE PHILIPPINES, AS OF 31 MARCH 2021

SOURCE: PSA Swine Situation Report, January-December 2020.

The trend during the last 26 years indicated that hog farms are becoming commercialized. The share of commercial farms to total inventory significantly improved from 18% in 1994 to 39% in 2020 (**Figure 5**). This trend implies higher pork production due to technical parameter improvements including higher average weight sold, lower feed conversion ratio, and lower mortality rate.

FIGURE 5. TRENDS IN HOG SCALE OF OPERATION, 1994-2020



Source: PSA, 2021

However, the level of commercialization varied by region. The top hog producing areas of Regions III and IV-A are more than 75% commercialized.

Animal Population and Inventory

From 2012 to 2021 (as of 01 October), hog population decreased by an average of 1.88 percent annually. Average annual inventory stood at 12.0 million heads. On the average, small hold and commercial farms accounted for 65% and 35%, respectively of the total hog population. This figure shows that hog production in the country is starting to be "commercialized".

FIGURE 6. HOG POPULATION IN THE PHILIPPINES (IN MILLION HEADS), 2012-2021

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Commercial	3.88	4.09	4.14	4.21	4.51	4.30	4.51	4.54	4.82	2.81
Backyard	7.98	7.75	7.65	7.78	7.95	8.12	8.09	8.16	7.97	6.91

SOURCE: PSA Swine Situation Report, July to September 2021

During the 10-year period, 2020 had the highest hog population in the commercial sector, recorded at 4.82 million heads (**Figure 6**). But due to ASF pandemic, this sector was also the one greatly affected, registering a -41.70 percent increase. The drop in the population of hogs among backyard raisers was also significant, from 7.97 million heads in 2020 to 6.91 million heads in the third quarter of 2021.

By the third quarter of 2021, the big impact of ASF was observed. From a total hog population of 12.8 million heads in 2020, it drastically decreased to 9.72 million heads.

Yield

Table 5 indicates that total supply of hogs in the country continuously declined from 2018 to 2020 with the biggest decline observed in 2020. With the ASF epidemic in 2019 and 2020, importation of live breeders decreased. Also, deaths/losses due to pest and diseases increased abruptly in 2020, resulting to a lower ending inventory.

TABLE 5. SWINE SUPPLY AND DISPOSITION IN THE PHILIPPINES, 2018-2020P[3]

ITEM	SUPPLY AND DISPOSITION (in number of heads)			GROWTH RATE (in percent)	
	2018	2019	2020P	2019	2020P
TOTAL SUPPLY	**41,442,962**	**41,136,342**	**36,640,937**	**-0.7**	**-10.9**
Beginning Inventory[4]	12,604,441	12,709,248	12,795,721	0.8	0.7
Born Live	28,836,245	28,423,676	23,842,799	-1.4	-16.1
Imports[5]	2,276	3,418	2,417	50.2	-29.3
DISPOSITION	**28,733,714**	**28,340,621**	**26,925,542**	**-1.4**	**-5.0**
Slaughtered	27,712,985	27,167,256	25,363,010	-2.0	-6.6
Deaths/Losses[6]	1,020,729	1,173,365	1,562,532	15.0	33.2
ENDING INVENTORY	**12,709,248**	**12,795,721**	**9,715,395**	**0.7**	**-24.1**

Source: PSA Swine Situation Report, January to December 2020.

Domestic Consumption

Filipinos are basically pork eaters. In 2020 (**Table 6**), per capita consumption of pork of Filipinos was 14.90 kilograms per person (Statista Research Department, 2021). This was -4.91% lower than the 2019 per capita consumption of 15.67 kilograms. And, it will continue to fall to (approximately) 14.17 kilograms in 2021 and several years hence due to the effect of COVID-19 pandemic. Such low demand is brought about by reduced household spending due to lower incomes, decreased food service and logistical limitations (OECD-FAO Agricultural Outlook 2021-2030).

3 Preliminary
4 As of 01 January of each year
5 Live breeders
6 Mortality due to pest and diseases

TABLE 6. PHILIPPINE NET FOOD DISPOSABLE[7], 2016-2021

YEAR	PER CAPITA (kg/year)	GROWTH RATE (percent)
2016	15.68	4.05
2017	15.93	1.59
2018	16.22	1.82
2019	15.67	-3.39
2020	14.90[a]	-4.91
2021[8]	14.17	-4.90

SOURCE: PSA Supply Utilization Accounts of Selected Agricultural Commodities
[a] SOURCE: Statista Research Department, 2021

But there is a growing demand and increased preference for processed foods among Filipino consumers.

Comparing the pork consumption of the Filipinos in the last 12 years, a downward trend was observed from 2010 to 2014 (**Figure 7**). This was brought about by the occurrence of several diseases, notably the Porcine Reproductive and Respiratory Syndrome (PRRS) (Lapus, 2011). During the period, the government subsidized vaccinations for backyard farms against PRRS.

FIGURE 7. PER CAPITA PORK CONSUMPTION OF THE PHILIPPINES, 2010-2021

7 Refers to the amount of food commodity available in its original (unprocessed) form for the human consumption (PSA Supply Utilization Accounts of Selected Agricultural Commodities)

8 Estimated from 2020 results

Then it increased in 2015 until 2018, the year which recorded the highest per capita pork consumption among Filipinos at 16.22 kilograms. However, due to the incidence of the African Swine Fever (ASF) in the last quarter of 2019, pork consumption decreased significantly again until 2021.

Pork is the main source of protein of Filipino families (**Figure 8**). It is therefore preferred over alternative protein sources including chicken meat, beef, fish, and legumes. In fact, the Philippines have higher pork consumption compared to the world average. For chicken meat and beef, Filipinos consumed less relative to the world average consumption.

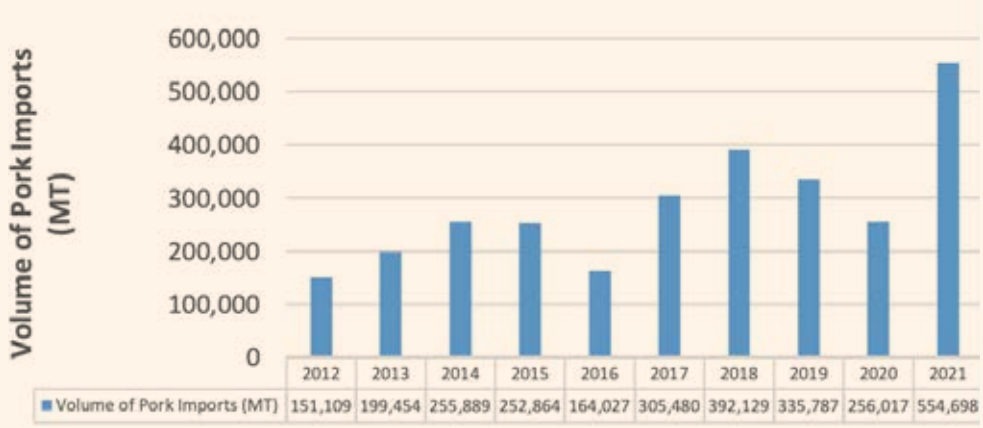
FIGURE 8. PER CAPITA MEAT CONSUMPTION OF THE PHILIPPINES AND THE WORLD, 2021

Source: OECD, 2021

Trade

Volume of frozen pork imports of the Philippines from 2012 to 2021 is presented in Figure 9. Volume of pork imports for the period has an erratic movement. The increase in importation of pork was due to the growing need for processing-grade meat of local processors and disease incidence. The ASF pandemic caused the highest recorded importation of pork in 2021.

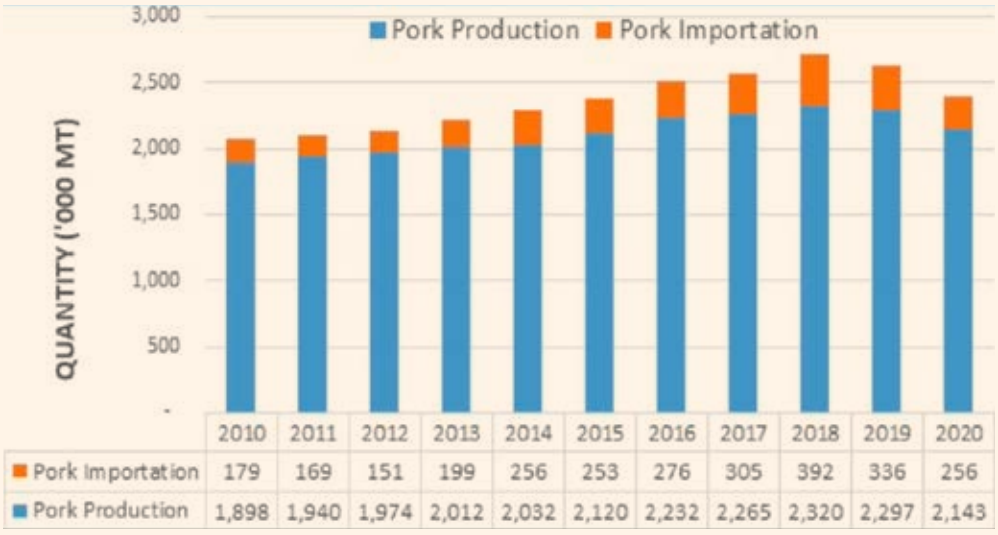
FIGURE 9. VOLUME OF PORK IMPORTS (METRIC TONS) 2012-2021



Source: Bureau of Animal Industry

Figure 10 reflects the distribution of volume of local pork production and volume of meat imported from 2010 to 2020. From the total 554,698 MT pork imports in 2021 (**Figure 11**), pork cuts comprised 39%, followed by offals with 33%. These figures were a reverse of the scenario in 2011 when offals (38%) was the major imported part. Other imports included fats (11%), bellies (10%), rind/skin (6%), whole pork (0.30%) and deboned (0.09%).

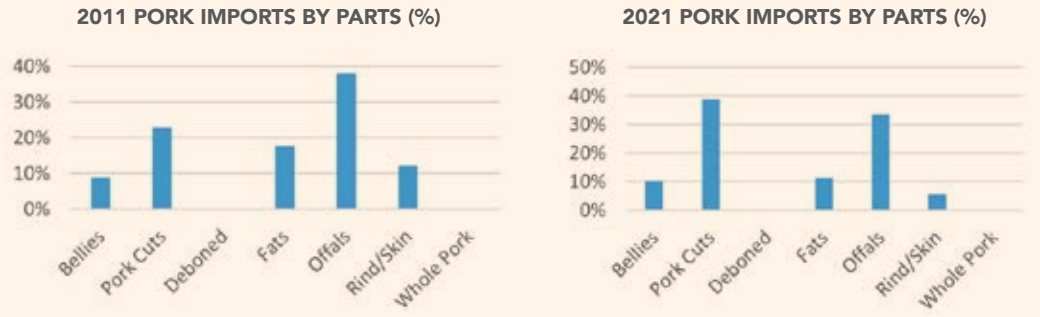
FIGURE 10. PORK PRODUCTION AND IMPORTATION, PHILIPPINES, 2010-2020



Source: PSA Swine Situation Report and Bureau of Animal Industry

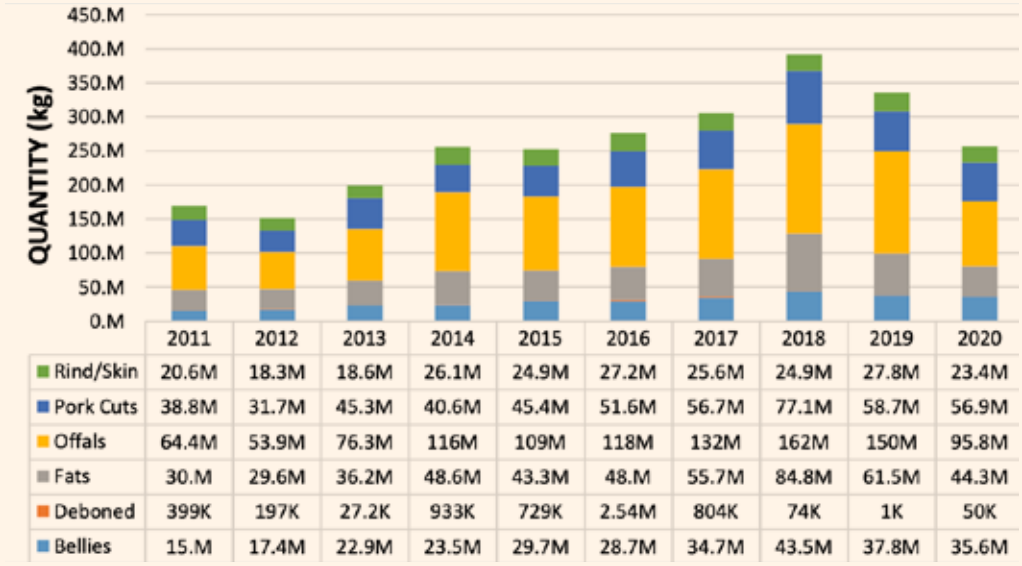
Comparing the 2021 against 2011 importation, it is noticeable that importation of pork cuts was the only one that increased significantly, while the rest decreased in volume. There was also an importation of whole pork in 2021. **Figure 12** shows the distribution of pork imports by parts.

FIGURE 11. PERCENTAGE OF PORK IMPORTS BY PARTS, 2011 VS 2021



Source: Bureau of Animal Industry

FIGURE 12. PORK IMPORTS BY PARTS, 2010-2020



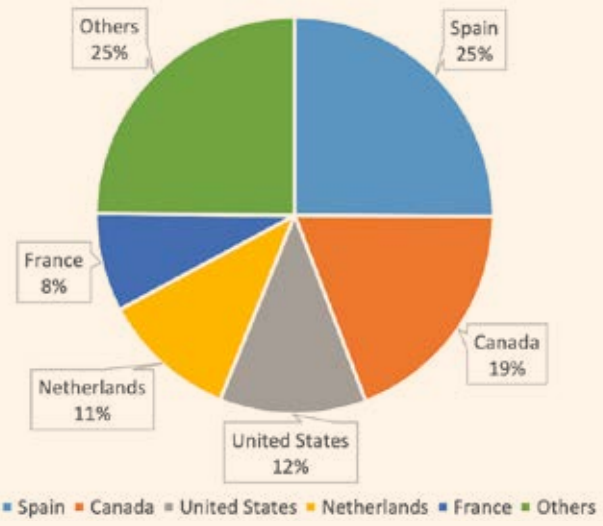
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Rind/Skin	20.6M	18.3M	18.6M	26.1M	24.9M	27.2M	25.6M	24.9M	27.8M	23.4M
Pork Cuts	38.8M	31.7M	45.3M	40.6M	45.4M	51.6M	56.7M	77.1M	58.7M	56.9M
Offals	64.4M	53.9M	76.3M	116M	109M	118M	132M	162M	150M	95.8M
Fats	30.M	29.6M	36.2M	48.6M	43.3M	48.M	55.7M	84.8M	61.5M	44.3M
Deboned	399K	197K	27.2K	933K	729K	2.54M	804K	74K	1K	50K
Bellies	15.M	17.4M	22.9M	23.5M	29.7M	28.7M	34.7M	43.5M	37.8M	35.6M

Source: Bureau of Animal Industry

In 2021, major sources of imported pork (**Figure 13**) were Spain (25%), Canada (19%), United States (12%), Netherlands (11%), and France (8%).

No pork **exports** were registered for the past 10 years except in 2007, 2012 and 2014, which was 151, 26 and 28 metric tons, respectively.

FIGURE 13. SOURCE OF IMPORTS BY COUNTRY, 2021



Source: Bureau of Animal Industry, 2021

Market Segments and Channels

Markets for hogs differ among commercial hog producers and small hold farmers. The former generally sells live hogs to wholesalers and wholesaler-retailers and fresh meat to hotels and restaurants. Some commercial producers even sell directly to consumers in their own meat shops. There are also those who supply specific meat cuts to meat processors.

Small hold producers oftentimes sell live animals to middlemen or viajeros which is disadvantageous to farmers since they sell at a low price. Some farmers also participate in auctions at a local Livestock Auction Markets (LAMs) (Gordoncillo, et. al. 2019). From

here, animals are sold to wholesalers and wholesaler-retailers, who then sell to retailers and end-users in the markets. If prices are low, backyard raisers sell directly to local consumers in their neighborhood.

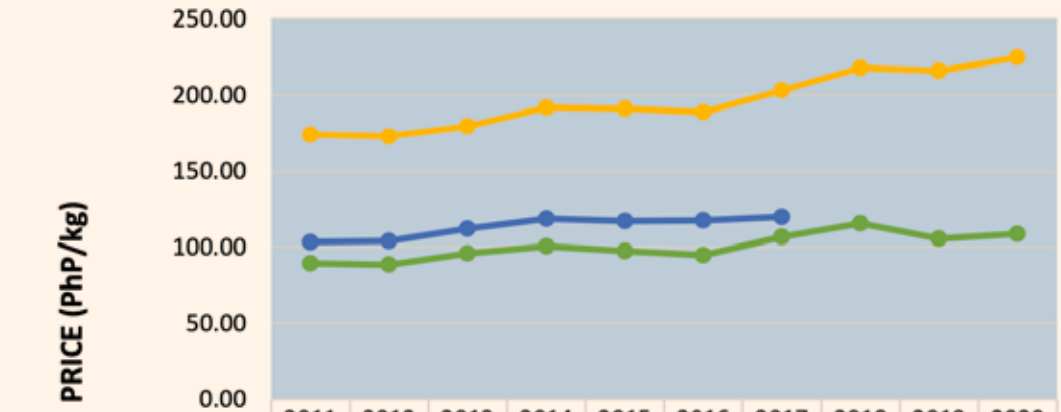
According to a PSA report (2017), 62 percent of the country's households consumed pork, along with chicken (63%).

Hog Prices

Figure 14 shows the hog prices in the Philippines from 2011-2020. In terms of farmgate price, the increase was 22 percent, from PhP89.08/kg in 2011 to PhP108.71/kg in 2020. The highest wholesale price (PhP118.61/kg) within the period registered in 2014 and remained (quite) steady in the succeeding years. Consumers were really affected in 2020 when the retail price of pork reached an all-time highest price of PhP224.73, registering a 24 percent increase compared to 2011.

Annual average growth of farm gate, wholesale and retail prices were 2.44%, 2.57%, and 2.95%, respectively. Annual average prices registered at PhP100.24/kg in the farm gate, PhP113.24/kg in wholesale, and PhP195.87/kg in retail (liempo).

FIGURE 14. HOG PRICES IN THE PHILIPPINES, 2011-2020



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Farmgate Prices	89.08	88.26	95.71	100.48	97.53	94.64	106.73	115.58	105.69	108.71
Wholesale Prices	103.35	103.80	112.27	118.61	117.24	117.44	120.00			
Retail Prices	173.86	172.93	179.36	191.59	190.85	188.59	203.19	217.63	215.96	224.73

Source: Bureau of Animal Industry, 2021

ANALYSIS OF THE HOG INDUSTRY

Value Chain Analysis

Supply Chain Corridor

The supply chain corridor of the hog industry basically starts with input supply or provision. This indicates the inputs necessary for production of quality animals that could lead to a profitable hog business. Production involves the management and operation of the pig farm until the producer reaches the desired market weight.

Marketing and processing come in between producers and end users or consumers.

The value chain of hog production is affected by its enabling environment and support service providers (Figure 15). Enabling environment is composed of the policies and programs of the Department of Agriculture (DA) and its attached agencies that support the industry and its hog producers.

On the other hand, the support service providers are the public and private institutions and organizations that enable the hog industry to develop, be sustainable and profitable in the end.

Structural Analysis

Input Supply

Common inputs needed in swine production include stock (weaners, breeders), feeds, veterinary drugs and biologics. Low-input producers (mostly small hold/backyard raisers) depend on agri-veterinary stores for the supply of feeds, and other inputs like biologics and medicines. Most of the time, breeders or weaners for fattening are sourced from neighbors and seldom from breeder or commercial farms.

On the other hand, commercial producers buy directly from drug companies and their distributors. There are also commercial farms which are integrated already, that is they manufacture their own feeds.

Feed cost accounts for 65%-75% of production costs as feeds primarily define meat quality. There are about 486 registered feed mill operators in the Philippines (USDA Foreign Agriculture Service, 2018). Please refer to **Appendix 1** for the list of registered feedmillers in the Philippines.

There are feed milling companies and also feed mills run by cooperatives. Commercial farms however would often have their own feed milling facility to ensure enough supply for their animals.

The most common ingredients for swine feeds are yellow corn, soybeans, rice/corn bran and molasses. Corn supply in the country has always been an issue. It is a major ingredient in swine feeds that it can greatly affect the live weight price of pigs.

Good genetics is already evident in the hogs being raised in the country. Despite decreasing inventory, volume of production is increasing. Cost of female breeders ranges from PhP15,000-PhP30,000 for F1s or Parent Stock and PhP40,000-PhP150,000 for purebred stocks. The Bureau of Animal Industry (BAI) has accredited local breeder farms to ensure supply of good quality breeder stocks (see **Appendix 2**).

Farm Production

There are two (2) types of producers in the country; backyard/small hold raiser and commercial producers (PSA Swine Situation Report, 2020). The small hold farmers raise a maximum of 20 fatteners, or 40 piglets, or 10 sows and 21 piglets at a time. And, any farm that grows more than these animals is considered a commercial farm.

Commercial producers (29% of total raisers) employ modern and improved housing designs. They have separate buildings/units for each stage of animal growth and workers are assigned to specific units. While small hold raisers use old or improved housing designs with different types of pens housed in one (1) or two (2) buildings made of concrete and local materials.

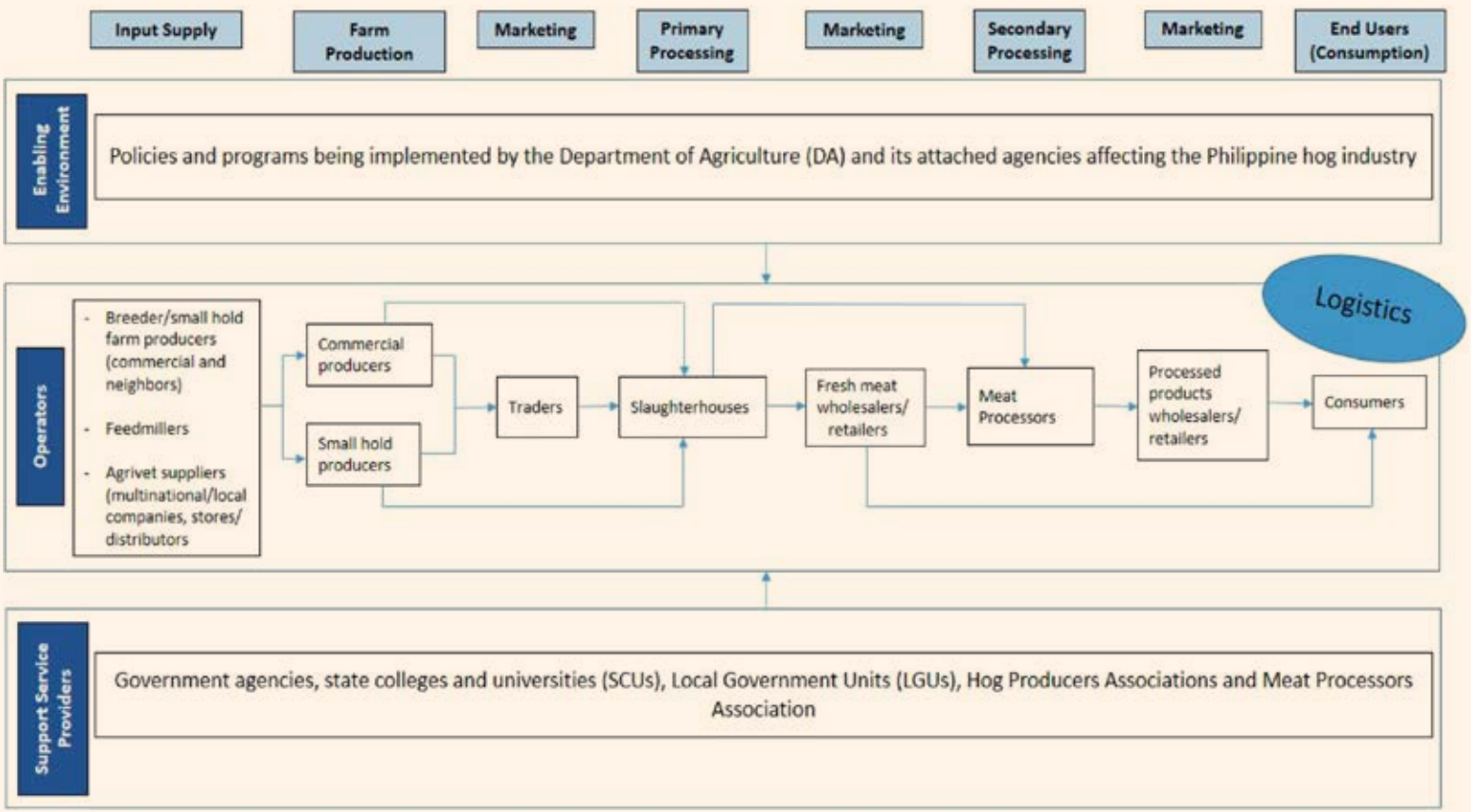
In terms of basic farm management, commercial and small hold producers employ the same system of growing pigs. Although the former weans at an earlier age and can achieve shorter fattening days and higher technical results. Majority of the producers feed commercial feeds and follow a feeding scheme depending on the stage of growth of the animals.

Artificial insemination (AI) is now a popular breeding method especially in commercial farms. It is also gaining popularity among small hold swine raisers. But there are producers who still prefer boar for hire.

Marketing and Processing

After reaching the desired marketable weight - average of 80 kilograms, the animals are brought to the local butchers for slaughtering and cutting and sold to the consumers. This is the shortest supply chain in the country and common when the price of pigs per kilogram liveweight is low.

FIGURE 15. VALUE CHAIN OF THE PHILIPPINE HOG INDUSTRY



Results of consultations indicated that almost 90% of hog marketing is done through traders. As mentioned earlier, about 66% of the swine population is raised in small hold farms and most of these are sold to middlemen. These viajeros market these animals to butchers who, in turn supply retailers who directly sell it to consumers. In this chain, the middlemen are the ones making good profit. Before the product (pork meat) reaches its end users, it passes thru several channels – from traders to butchers to retailers. The longer the supply chain that the product has to go through, the higher the cost that will be incurred and therefore, the higher the price of the commodity.

Among the different value chain structures, an integrated farm (integrated production, processing and marketing) increases the profitability of the hog enterprise. This system is being implemented by successful companies and cooperatives like Monterey Foods Corporation of San Miguel Foods, Inc.; Sorosoro Ibaba Development Cooperative (SIDC) in Batangas City; and the South Cotabato Swine Producers Association (SOCOSPA).

Monterey produces hogs (also thru contract growing), have them slaughtered and fabricated in their own slaughterhouses. The company sells pork in its meat shops scattered all over the country.

In the case of SIDC, members raise hogs through contract growing scheme. The cooperative buys, slaughters and fabricates them in their own slaughterhouse. Pork is sold in the cooperative's meat stores. SOCOSPA also applies the same set-up. However, their operation involves shipping the meat to its Davao and Cebu outlets.

Logistics

Live pigs are usually transported in open trucks by the traders from the farm to slaughterhouses. There are also small hold raisers who transport their pigs to the slaughterhouse in a tricycle which can also be its transportation after slaughter.

On the other hand, slaughtered pigs are transported in refrigerated vans especially those inspected by the National Meat Inspection Service (NMIS).

Also, ports play a major role in inter-island transporting of either live hogs or fresh meat.

Value Adding Activities

The value chain of the Philippine hog industry can be extended to include downstream (e.g., corn production and feed milling) and upstream activities (e.g., processed pork production) to recognize its important link with other industries (**Table 7**). Various activities are performed along the different nodes of the value chain to improve product worthiness. The increments in prices received by various chain participants indicate higher incomes for successive participants. It is important to note that as the producer gets involved in upstream activities, the prices of pork products increase, almost double the liveweight and meat prices.

TABLE 7. PRODUCT AND VALUE-ADDING ACTIVITIES

ITEM	Yellow Corn (Farmers)	Yellow Corn (Traders)	Feeds	Swine	Pork	Pork Pocessed Products
Price of output/ product	Php 12.10/kg - Php 13.00/kg	Php 14.70/kg – PhP 15.00/kg	Php 31/kg	PhP 105/kg – PhP 128/kg	PhP 220/kg- PhP 230/kg	Tocino PhP 165/kg – PhP 400/kg Longganisa PhP 105/kg – PhP 440/kg Hotdog PhP 108 – PhP 504/kg Ham PhP 125/kg – PhP 432/kg
Value adding activities	Yellow corn production Sacking Transport	Sorting Storage Transport of yellow corn to feed miller	Yellow corn is milled with other inputs like: - Soya - Wheat - Darak - Molasses - Pollard - Copra - Corn bran - Rice bran - Medicine (amino acids, minerals, vitamins, and growth promotant) Packaging Storage Transporting	Handling and management of swine (labor) Housing (cost of pig pens, utility bills) Inputs: - Feeds - Vitamins - Deworming medicine	Labor Utility costs Tools and equipment Slaughtering - Slaughter fee - Permit fee - Coral fee - Service fee - Ante-mortem fee - Post-mortem fee - Utility fee Transport Storage	Processing: - Grinding - Mixing with other ingredients: 1. Pepper 2. Garlic 3. Pineapple juice 4. Preservatives Packaging Storing Transporting Wholesaling/Retailing

Source: Elca, et. al, 2020

SWOT Analysis

The SWOT analysis (**Table 8**) focused on evaluating the factors that greatly influence the local hog industry, namely: inputs, farm production, processing, marketing and logistics, and technical and management skills. This analysis is a result of series of consultations with the industry's stakeholders

TABLE 8. RESULTS OF SWOT ANALYSIS OF THE HOG INDUSTRY

STRENGTHS (Advantages)	WEAKNESSES (Constraints)	OPPORTUNITIES	THREATS
INPUTS • Access to good genetics and global technologies • Local raw materials are already available, e.g. large corn base	**INPUTS** • High cost of farm inputs (feeds, animal health products and raw materials) • Heavy dependence on imported feed ingredients • Limited government support in terms of subsidies (i.e., feed and other inputs, waste management for backyard raisers) as support to local producers • Low access to credit	**INPUTS** • Large pool of available feed energy sources, outside of the country	**INPUTS** • Possible influx of highly subsidized ASEAN commodities, including raw materials
FARM PRODUCTION • FMD-free status • Geographic location (possible spread of diseases is minimized) • Existence of highly-organized groups throughout the supply chain • Efforts to develop the native pig industry	**FARM PRODUCTION** • Inadequate program for disease control • Seemingly indiscriminate use of antibiotics • Uncompetitive diagnostic facilities, especially for food safety • High income tax • Lack of unity among the backyard raisers • Weakness in data reporting and recording in farms • Weak information dissemination on food safety policies and studies • Limited financial support and incentives from the government • Production inefficiencies • Protectionism attitude - loss of capital flight • Government policy supporting importation of meat – discourages local producers to expand	**FARM PRODUCTION** • Better life for livestock farmers	**FARM PRODUCTION** • Urbanization (communities encroaching on swine growing areas) • Environmental compliance (LGUs, ECCs, DENR, EMB) • Changes in land use and zoning guidelines • Insurgency problems • Entry of emerging and new diseases (AEC) • Possible recurrence of FMD • Vulnerability of livestock production due to climate change • Proposal on foreign ownership of public land (BOI policy)

cont'd ▶

STRENGTHS (Advantages)	WEAKNESSES (Constraints)	OPPORTUNITIES	THREATS
	• Excessive entry of imported pork • Lax port and airport inspection procedures for • imported meat		• Lower cost of production and the government support to our competitors in other countries
PROCESSING • Availability of Philippine National Standards (for meat cuts and Good Animal Husbandry Practices (GAHP) • Established meat processing industry • Availability of meat supply (both locally produced and imported pork)	**PROCESSING** • Slaughter facilities need improvement • Standardized labeling requirements for frozen meat products • Limited number of modernized post-production facilities (i.e., Triple-A slaughterhouses and cold storage) • Dis-connect between local producers and processors – supply of specific cuts for processing	**PROCESSING** • Potential partnership between local producers and meat processors	**PROCESSING** • Entry of imported pork is a big threat (Heavy dependence on imported meat for processing)
MARKETING AND LOGISTICS • Large domestic market • Growing populace and majority are young • Eating habits (fast food, restaurants, etc.) • High utilization of pork by-products (due to low purchasing power of the masses)- food security • Acceptance of the processed meat by the Filipinos	**MARKETING AND LOGISTICS** • High cost of logistics for swine (inter-island transport) • Port congestion • Inefficient marketing system for small-scale producers • Price disparity (farmgate vs. retail) • Poor implementation of approved guidelines and procedures on AO No. 8 • Weak implementation of the SPS regulation system (policy implementation, procedure on permit issuance, unreconciled BOC & BAI data) • Passing-through fees implemented by the LGUs • Weak logistics support on shipping/transport (farm to fork) • High dependence on middlemen • Limited number of modern livestock auction markets	**MARKETING AND LOGISTICS** • Growing domestic market • Live hog exports to Hong Kong • Carcass export of Singapore • AEC (market) • Increased demand for value adding products (producers can sell directly to consumers through food processing) • Changing eating habits and living standards (condominium living) of Filipinos	**MARKETING AND LOGISTICS** • Increasing bargaining power of middlemen (as dictated by retailers) • Increasing volume of cheaper imported pork and pork by-products • High utilization of pork and pork by-products (imported and some are smuggled) • Unabated smuggling • Strategic location of Thailand to serve as hub for AEC ("Kitchen of the World") • Competition with imported pork

STRENGTHS (Advantages)	WEAKNESSES (Constraints)	OPPORTUNITIES	THREATS
	• Low slaughter weights (as determined by middlemen) • Weak national single window (NSW) for customs • Most of the meat markets are still backwards • Mismatch between producers and market (e.g., slaughter weight, quality)	• Growing tourism industry • High per capita consumption for pork • Growing economy (GDP) • Potential markets for chicharon and processed meats (for Filipino OFWs)	
TECHNICAL AND MANAGEMENT SKILLS • Educated entrepreneurs and farm managers • Existence of highly organized groups • Presence of academic and research institutions • Presence of competent local livestock professionals • Presence of competent agricultural universities • High number of out of school youth who can be engaged to go into livestock production/ farming	**TECHNICAL AND MANAGEMENT SKILLS** • Low access to global and local information • Expertise/brain drain • Weak industry segmentation and focus • Lack of coordination between government veterinarians and organization • Limited market research • Low funding for research (R&D)	**TECHNICAL AND MANAGEMENT SKILLS** • "Balik Probinsiya" – those who lost jobs in the city could be possible pig raisers in their provinces • Implementation of Mandanas Law	**TECHNICAL AND MANAGEMENT SKILLS** • Declining interest of the youth on hog farming

Economic Analysis

Cost and Return Analysis

Cost structure of pig production under Philippine condition varies depending on the geographic location. Commercial feeds sold in the Visayas and Mindanao are relatively more expensive compared to the same brand in Luzon. These feeds come from mainland Luzon. Other inputs like piglets are cheaper in Visayas and Mindanao. Breeders however are more expensive in these areas.

But Mindanao has abundant raw materials/feed ingredients which can be used as alternative feed ingredients. Farm and other manufacturing wastes such as banana, bagasse, molasses found in this region can lower the feed cost by as much as 20%.

Similar scenario may be said of low-cost housing especially for small hold producers. The popularity of sustainable pig farming technologies such as the deep litter system lowers housing, labor and water utility costs. In addition, total production cost can be reduced by as much as 50% if fermented feeds are given.

In terms of income for swine producers, differences are also pronounced among these three regions. Differences in farm gate prices of live animals and production efficiency of raisers contribute to this situation.

Feed Costs

Hog raising incurs costs for feeds, labor, maintenance, biologics and other operating costs. Under the Philippine setting, feed cost accounts for 65%-80% of the production costs, depending on the management system. Different types of feeds are being used based on the production cycle of the animal. These feeds include Booster or Hog Pre-Starter, Starter, Grower, and Finisher feeds. For sows, feeds come in the form of gestating and lactating feeds; and for boars and gilts, breeder feeds are given. See **Table 9** for the total feeds consumed by each type of pigs.

TABLE 9. FEED CONSUMPTION (BASED ON A FINISHING AGE OF 20-24 WEEKS OR 5-6 MONTHS FROM BIRTH AT 650 ADG[9])

Type of Animal	# of Days	Consumption/day	Total feed consumption (kg)
PIGLET			
Suckling Piglets (Hog Pre-starter)			
0.5 - 1 month	17	0.1	1.7
Weaners (Hog Pre-starter)			
1 - 2 months	5	0.15	0.75
	7	0.2	1.4
	7	0.3	2.1
	7	0.43	3.01
	4	0.55	2.2
	30	**0.33**	**9.46**
TOTAL PIGLET FEED			**11.16**
FINISHER			
2 - 3 months (Hog starter)			
	5	0.7	3.5
	7	0.8	5.6
	7	0.9	6.3
	7	1	7
	4	1.1	4.4
	30	**0.9**	**26.8**
3 - 4 months (Hog Grower)			
	3	1.1	3.3
	7	1.2	8.4
	7	1.4	9.8
	7	1.5	10.5
	6	1.6	9.6
	30	**0.9**	**41.6**

cont'd ▶

Type of Animal	# of Days	Consumption/day	Total feed consumption (kg)
4 - 5 months (Hog Grower)			
	1	1.6	1.6
	7	1.8	12.6
	7	2	14
	7	2.1	14.7
	7	2.2	15.4
	1	2.3	2.3
	30	**2**	**60.6**
5 - 6 months (Hog Finisher)			
	6	2.4	14.4
	7	2.5	17.5
	7	2.6	18.2
	7	2.7	18.9
	3	2.8	8.4
	30	**2.6**	**77.4**
TOTAL	**167**		**217.56**

Table 10 shows that a farmer would spend **PhP5,524.26** per finisher until 90 kg liveweight from birth. On the other hand, if a farmer would buy the piglet, he would have to spend PhP4,869.40 for the feeds alone plus the piglet cost.

It also shows that grower feeds account for approximately 49% of total feed cost and consumption. Some pork producers would use grower feeds from 3 months of age until disposal to avoid shifting of feeds which usually causes diarrhea on grower animals. The one- peso difference on feed cost/kg translates to an almost PhP400.00 savings, if there will be no diarrhea. Diarrhea due to feed changes can incur a higher cost for medication.

9 Based on ITCPH feeding guide

TABLE 10. APPROXIMATE FEED COST (BASED ON AN ADG OF 650 GRAMS[10])

Age in months	Type of Ration	Days of feeding	Kg feed consumed	Cost/kg feed	Total Cost
0.5 - 1 month	Booster/Pre-starter	17	1.7	40	68.00
1 - 2 months	Pre-starter	30	9.46	31	293.26
2 - 3 months	Starter	30	26.8	28	750.40
3 - 4 months	Grower	30	41.6	25	1,040.00
4 - 5 months	Grower	30	60.6	25	1,515.00
5 - 6 months	Grower/Finisher	30	77.4	24	1,857.00
TOTAL		**167**	**217.56**	**173**	**5,524.26**

From **Table 11**, a gilt until it farrows up to its next breeding would eat **606 kgs** of feeds, with an approximate cost of **PhP13,254.00**. Lactating feeds usually has a higher price compared to gestating feeds. For the succeeding year, sows would eat **413 kg feed/ cycle** which would cost the producer **PhP9,201.00**.

TABLE 11. APPROXIMATE FEED CONSUMPTION AND COSTS OF BREEDERS BASED ON PRODUCTION CYCLE[11]

Breeder/Stage of Production	# of Days	Feed Consumed/ day (kg)	Total feed consumption (kg)	Cost per kg of feed (PhP)	Total Feed Cost (PhP)
Boars	**30**	**2.5**	**75**	**21**	**1,575.00**
Gilts					
5.5 - 6 months old	15	2.4	36	21	756.00
6 -7 mo. old	30	2.4	72	21	1,512.00
7 - 8 mo. old	20	2.5	50	21	1,050.00
Flushing	10	3.5	35	21	735.00
	75	**2.7**	**193**	**21**	**4,053.00**
Sows					
Pregnancy period					
0 - 83th day	85	2	170	21	3,570.00
84 - 110th day	26	2.5	65	21	1,365.00
111-113th day	3	2	6	21	126.00
114th day	1	0	0	21	-
	115	**2.17**	**241**	**21**	**5,061.00**

cont'd ▶

10 Based on average feed costs per kilogram produced by companies or cooperatives

11 Based on ITCPH feeding guide. Feed costs per kilogram is based on the average feed costs of commercial feeds (company produced or cooperative produced).

Breeder/Stage of Production	# of Days	Feed Consumed/ day (kg)	Total feed consumption (kg)	Cost per kg of feed (PhP)	Total Feed Cost (PhP)
Lactation period					
1st day	1	1	1	25	25.00
2nd day	1	2	2	25	50.00
3rd day	1	3	3	25	75.00
4 - 7th da	4	4	16	25	400.00
8 - 29th day	22	5	110	25	2,750.00
Weaning	1	0	0	25	-
	30	**3**	**132**	**25**	**3,300.00**
Dry Period					
Flushing 10 4 40 21 840.00	10	4	40	21	840.00
Total feed consumed	**230**	**2.07**	**606**	**22**	**13,254.00**
Total Feed Consumed/cycle	**155**	3.06	413	29.33	**9,201.00**
Feed cost/piglet produced					**920.10**
Feed cost/finisher produced					**1,022.33**

Theoretically, a sow would farrow 2.35 times a year. However, if the sow would farrow 2 times per year only, there will be "lost days" incurred where the sow is eating but is neither pregnant nor lactating. Some practitioners would also call this "non-productive days". Lost days is computed as follows:

= 365 days in year/2.0 (litter index (LI) or the number of farrowings/year)

= 182.5 days/cycle

= 182.5 – 155

= 27.5 lost days/cycle

Feed consumption and its costs for these "lost days" can then be computed as follows:

= 27.5 lost days/cycle x 2 kgs/day

= 55 kgs additional feeds

= 55 kgs x Php21.00

= PhP1,155 additional feed cost/cycle

Therefore, based on the computation, the actual feed consumed per cycle would be 468 kgs (413 kgs + 55 kgs) which is equivalent to a total feed cost of PhP10,356 (PhP9,201 + PhP1,155). The feeds consumed during this period should be accounted for. The longer the "lost days", the more unproductive the sow, resulting to higher feed costs.

In order to understand feed profit or profitability of raising pigs, refer to **Table 12** for the comparison of the cost and return of the four (4) types of enterprises in hog production.

Retailing proves to be a promising enterprise because of the high cost of pork, with net income ranging from PhP1,400 – 4,400. Sow-weaner operation is also profitable, at an average of Php1,200-2,200/head. Likewise, finishing operation has a net income of PhP1,500/head (90 kg LW and price of PhP110.00/kg).

TABLE 12. NET INCOME DERIVED FROM DIFFERENT TYPES OF PIG ENTERPRISE[12]

Particulars	Sow-weaner Operation	Finishing Operation	Trading (Viajero)	Retailing
Sales	3,000-4,000	9,900	9,360-14,400	14,400-15,840
Cost of production	1,738.81	8,384.22	9,900	9,360-14,400
Post-production cost	0	0	1000	600
Net income	1,261.19-2,261.19	1,515.78	(1,540)-3,500	1,440-4,440

Viajeros can earn a negative PhP1,500 to a high margin of PhP3,500, depending on additional post-production/marketing costs and price is Php130-Php200/kg (sabit-ulo).

Profits from pig production vary among the different types of enterprise (**Table 13**). Farrow- to-Finish Operation has the highest net return (PhP1,515.78) compared to the other types of operation. Finisher operation and paiwi system produced the same net return (PhP1,181.57) which is comparable to finisher production.

12 Based on current prices in Batangas.feeds (company produced or cooperative produced).

TABLE 13. COMPARATIVE PROJECTED COST AND RETURN ANALYSIS FOR DIFFERENT TYPES OF PIG ENTERPRISE

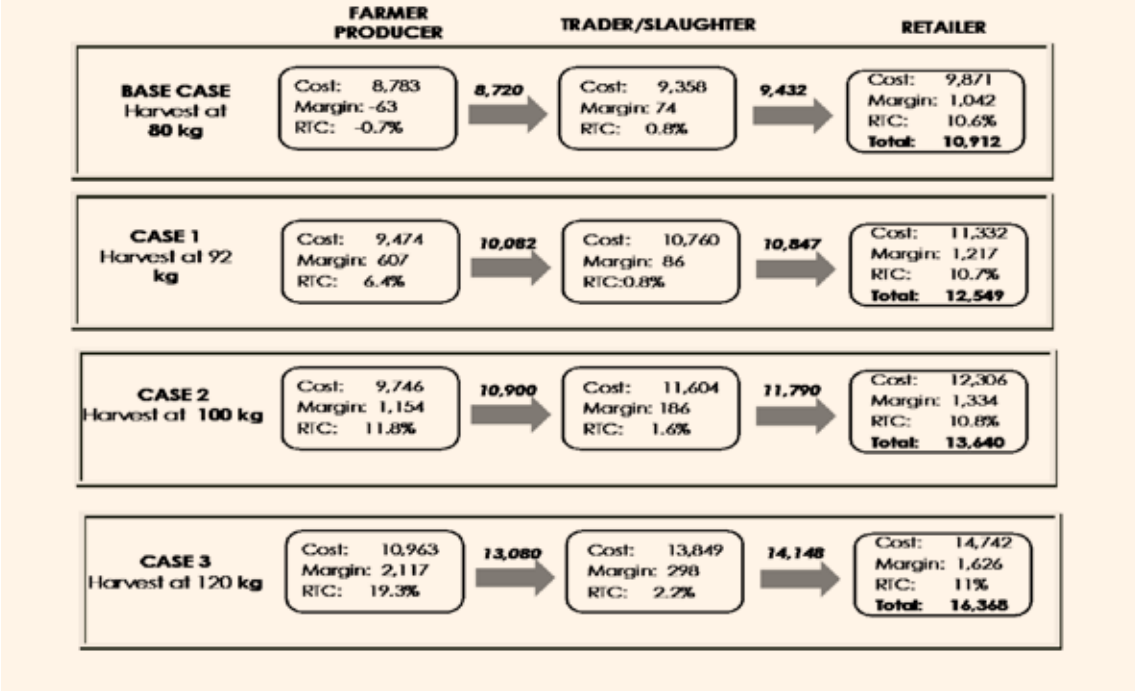
Particulars	Sow Weaner Operation	Farrow-to-Finish operation	Finisher Operation	*Paiwi* System
RETURN				
Weaners – PhP2,500/head	2,500.00			
Finishers – PhP110/kg LW		9,900.00	9,900.00	9,900.00
Breeders	-			
Culled gilts	-			
Culled sows	-			
Total	**2,500.00**	**9,900.00**	**9,900.00**	**9,900.00**
COST				
Cash cost				
Feeds	920.10	6,546.59	5,163.00	-
Cost of animal	-	-	2,500.00	-
Biologics and medicines (3% of feed cost)	27.60	196.40	154.89	-
Salaries and wages (Computed at PhP350/day, 4 hours/day)	17.50	17.50	87.50	87.20
Water and electricity – PhP100/month	600.00	1,000.00	400.00	400.00
Breeding cost	100.00	100.00	-	-
Repair and maintenance (3% of feed cost)	27.60	196.40	154.89	146.00
Sundries (5% of feed cost)	46.01	327.33	258.15	-
Sub-total	1,738.81	8,384.22	8,718.43	633.20
Non-cash cost-depreciation				
Building	-	-	-	-
Equipment	-	-	-	-
Sub-total	-	-	-	-
TOTAL COST	1,738.81	8,384.22	8,718.43	8,718.43
TOTAL COST PER YEAR				
TOTAL COST/SOW LEVEL				
COST/WEANER PRODUCED				
COST/FINISHER PRODUCED				
COST/KG LIVEWEIGHT	96.60	93.16	96.87	96.87
NET RETURN PER YEAR				
NET RETURN SOW LEVEL				
NET RETURN	761.19	1,515.78	1,181.57	1,181.57
RETURN ON INVESTMENT				
PAYBACK PERIOD				

Value Chain Analysis (Adding Value)

MADECOR Group (2013) also studied the value chain of pigs sold at different slaughter weights (**Figure 16**), including profits derived from each operation.

It was revealed that as producers sell at heavier weights, profit also increases. The current practice of selling at 80 kg live weight proved to be non-profitable for the farmer, resulting to a -0.7% return to cost (RTC). However, if the farmer sells at 120 kilograms, RTC can go as high as 19.3%. The same trend can be seen in the case of the retailers. They can get an RTC, ranging from 10.6% to 11% as slaughter weights increase.

FIGURE 16. HOG VALUE CHAIN OF DIFFERENT SLAUGHTER WEIGHTS



Another arrangement that has been discovered to be profitable is, where a farmer is a contractor/integrator of corn to supply his pig production business, see **Figure 17**. The producer provides financing to the corn farmer and the latter in return, gives his harvest to the hog farmer. This arrangement is mutually beneficial to the corn farmer and swine producer. The former is assured of the capital for his corn production while the latter gets enough corn supply for his pig feeds. Corn is a major ingredient in the diet of pigs.

In the end, the pig producer gets a higher margin since cost of production is lower. The value chain analysis of a corn-livestock integration proved to be mutually beneficial to the corn farmer and swine raiser since they can both earn higher margin as partners.

FIGURE 17. HOG VALUE CHAIN WHERE FARMER IS CORN-HOG CONTRACTOR/INTEGRATOR

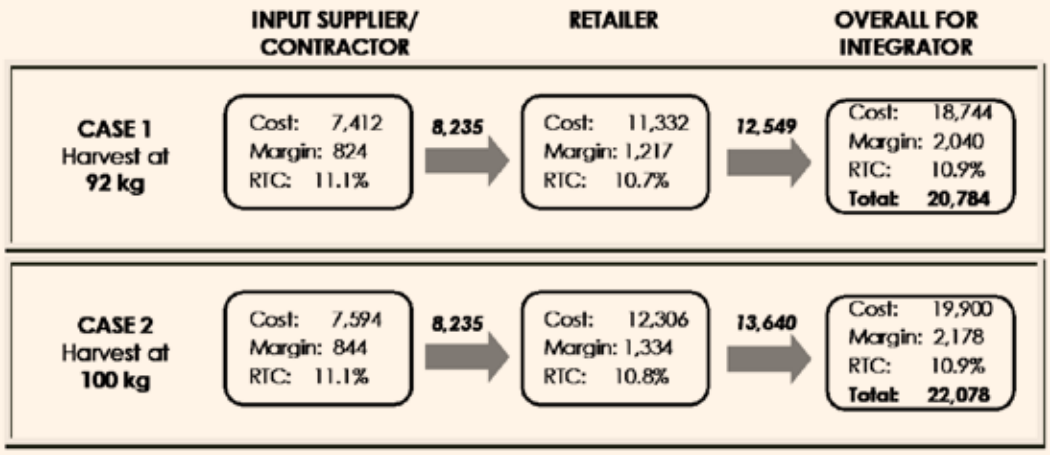


Table 14 further summarizes cost and margins under different slaughter weights and arrangements.

TABLE 14. SUMMARY OF COSTS AND MARGINS AT DIFFERENT SLAUGHTER WEIGHTS AND ARRANGEMENTS

Particulars	Hog Fattening				Contractor/Integrator			Contract Growing of Corn Supply	
	At 80 kg	At 92 kg	At 100 kg	At 120 kg	At 92 kg	At 100 kg	At 120 kg	At 92 kg	At 100 kg
Input Supplier/Contractor									
Cost	-	-	-	-	7,412	7,594	8,494	-	-
Margin	-	-	-	-	824	844	944	-	-
RTC (%)	-	-	-	-	11.1	11.1	11.1	-	-
Total	-	-	-	-	8,235	8,437	9,437	-	-

cont'd ▶

Particulars	Hog Fattening				Contractor/Integrator			Contract Growing of Corn Supply	
	At 80 kg	At 92 kg	At 100 kg	At 120 kg	At 92 kg	At 100 kg	At 120 kg	At 92 kg	At 100 kg
Farmer Producer									
Cost	8,783	9,474	9,746	10,963	-	-	-	8,151	8,369
Margin	-63	607	1,154	2,117	-	-	-	1,931	2,531
RTC (%)	-0.7	6.4	11.8	19.3	-	-	-	23.7	30.2
Total	8,720	10,082	10,900	13,080	-	-	-	10,082	10,900
Trader/Slaughter									
Cost	9,358	10,750	11,604	13,849	-	-	-	-	-
Margin	74	86	186	298	-	-	-	-	-
RTC (%)	0.8	0.8	1.6	2.2	-	-	-	-	-
Total	9,432	10,847	11,790	14,148	-	-	-	-	-
Retailer									
Cost	9,871	11,332	12,306	14,742	11,332	12,306	14,742		
Margin	1,042	1,217	1,334	1,626	1,217	1,334	1,626		
RTC (%)	10.6	10.7	10.8	11.0	10.7	10.8	11.0		
Total	10,912	12,549	13,640	16,368	12,549	13,640	16,368		
Overall for Integrator									
Cost	-	-	-	-	18,744	19,900	23,236	-	-
Margin	-	-	-	-	2,040	2,178	2,570	-	-
RTC (%)	-	-	-	-	10.9	10.9	11.1	-	-
Total	-	-	-	-	20,784	22,078	25,805	-	-

Support and Related Industries

Breeds

In 2018, the National Livestock Program of the Department of Agriculture thru the Agricultural Training Institute launched the AI SA BARANGAY Project. It is a small-scale enterprise-based project designed to provide small hold farmers, access to good quality pigs with better genetics. The project includes provision of two terminal/purebred boars and the basic equipment of an artificial insemination laboratory. To qualify, the recipient must have 200 sows within its area of coverage and comply with the principle of this project, "passing the gift".

Moreover, there are also commercial stud farms which provide "semen-on-demand" services. Davsaic AI Center located in Plaridel, Bulacan provides AI services to their clients who order extended semen thru its Facebook account and website. ATI-ITCPH also sells extended boar semen to raisers in Lipa City and its neighboring municipalities. Price of extended semen ranges from PhP200-PhP5,000. On the other hand, local government AI Centers usually provide fresh semen for free.

Use of superior boars for breeding/AI services is also key to having a profitable and productive pig production business. ATI-ITCPH operates the Boar Performance Testing Center in cooperation with the Philippine Swine Industry Research and Development Foundation, Inc. (PSIRDFI). Thru this program, ATI-ITCPH provides quality, genetically superior and DNA-tested boars in the market.

Banking and Finance

Local banks like Land Bank of the Philippines (LBP) and Development Bank of the Philippines (DBP) provide loan support to hog producers. The former has the Swine Lending Program aimed at giving financing support to producers to ensure local supply of this commodity. The latter, on the other hand, has the Swine Repopulation, Rehabilitation and Recovery (Swine R3) Credit Program to assist hog producers in its recovery and repopulation efforts. These loans are directed towards food security in the country.

Other private banks such as Bank of the Philippine Islands (BPI) also offer loans to commercial hog producers under its Sustainable Development Finance Program.

Cooperatives and other informal lending institutions are also a source of loans, particularly for the small hold producers.

Slaughterhouse and Cold Storage Facilities

The National Meat Inspection Service (NMIS) has accredited 90 Double A and Triple A slaughterhouses all over the country (NMIS, 2021). Out of 90, there are only eight (8) Triple A slaughterhouses (Appendix 3). Moreover, most of these slaughterhouses lack cold storage facilities to ensure quality of slaughtered carcasses.

Cold storage warehouses are available but only cater to large farms. Small hold farmers should be supported with this kind of facility so that they can also be a source of good quality meat to ensure food safety for the consumers. And they comprise 71% of hog producers in the country.

Competitive Analysis

The competitiveness analysis of hog production includes a) industry performance in terms of production, trade, and supply-demand; and b) technical parameters.

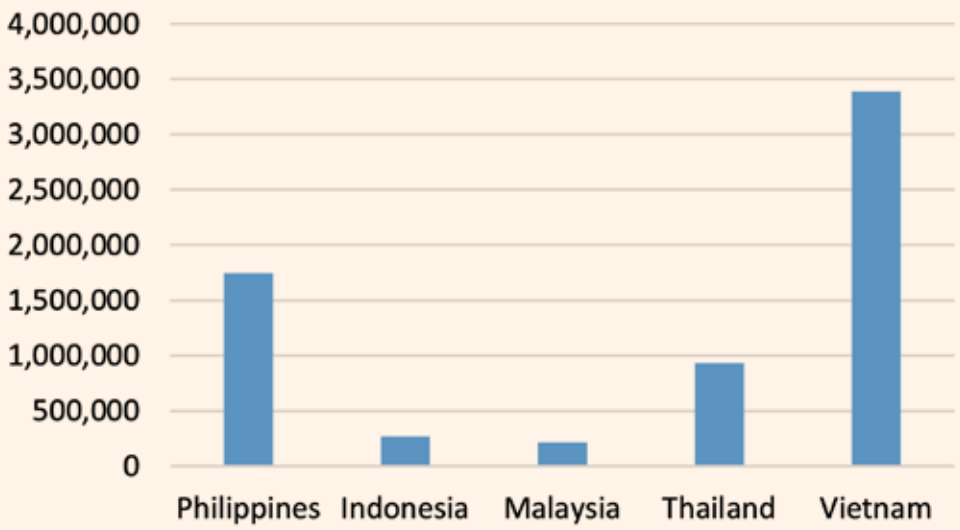
Performance

Production

Figure 18 shows the comparison of annual hog production in the Philippines and its neighboring ASEAN countries, namely Indonesia, Malaysia, Thailand and Vietnam.

The Philippines is the second top producer of hogs among the five (5) ASEAN countries. Its average annual pork production from 2010-2019 is 1,749,682 tons. For the past 10 years, growth of pork production was slowly increasing at an average of 1.35% annually. The highest growth was in 2015 at 5.03%, where it produced 1,775,712 tons of pork. However, production decreased to 1,840,824 in 2019 from 1,877,151 tons in 2018, resulting to a -1.94% growth rate.

FIGURE 18. COMPARISON OF AVERAGE ANNUAL PORK PRODUCTION BY COUNTRY (IN TONS), 2010-2019



Source: FAOSTAT

Comparative Analysis. Pork production of the Philippines is comparable to other ASEAN countries. It ranked second to Vietnam, although the difference is high. Vietnam is its biggest competitor which is surprising. Its neighboring countries (Thailand, Indonesia and Malaysia) produce enough, (maybe) for local consumption only. This scenario shows that the local hog industry is at par with its neighboring countries. With proper support especially from the government, it could produce more, not only to meet local demands but also for export purposes. The industry needs all the assistance, improved facilities and proper implementation of policies and regulations affecting it.

In 2020, the Philippines ranked 9 among the Top 10 pork producing countries in the world, see **Table 15**. China topped the list with a production of 38,000,000 tons, followed by the European Union (24,000,000 tons) and the United States (12,778,000 tons). Based on the forecast for 2021, the Philippines would be going up to the 7th place of the top 10 pork producing countries.

TABLE 15. COMPARISON OF PRODUCTION OF THE TOP PORK PRODUCING COUNTRIES, 2019-2021

COUNTRY	PORK PRODUCTION (IN THOUSAND METRIC TONS)		
	2019	2020 (Oct)	2021 (forecast)
1. China	42,550	38,000	41,500
2. European Union	23,956	24,000	24,150
3. United States	12,543	12,778	12,938
4. Brazil	3,975	4,125	4,275
5. Canada	2,000	2,110	2,110
6. Mexico	1,408	1,460	1,520
7. South Korea	1,364	1,396	1,315
8. Japan	1,279	1,285	1,295
9. Philippines	1,585	1,275	1,350
10. Hong Kong	74	61	75

Source: USDA Foreign Agriculture Service (Global Market Analysis)

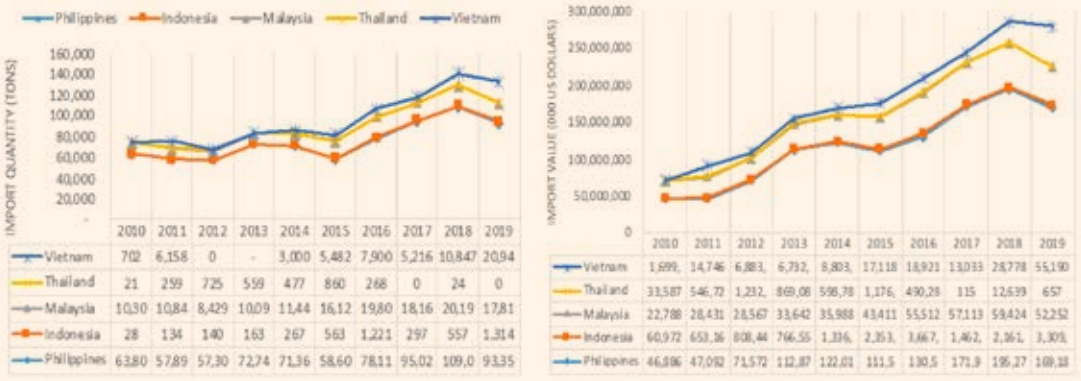
Trade

Importation

Philippines. Pork imports of the Philippines (**Figure 19**) had an erratic trend. Its volume of importation averaged 12.63% for the past 10 years. The highest importation was 109,090 metric tons in 2018, with a value of more than US$195M. Majority of the pork imports we used in meat processing (e.g., hotdogs, meatloaf, sisig, bopis, among others). The imported meat came from Germany, Spain, France, Canada and the United States.

Comparative Analysis. Among the five (5) countries, the Philippines is the number one importer of pork, despite being one of the top hog-producing countries in the world. However, it is important to note that imported meat were usually used as raw materials for processed meat products. With this scenario, the industry could look into the possibility of how local producers could address the need for this type of meat. It could prove beneficial to help the local raisers, particularly the small hold producers since there is a good market available now.

FIGURE 19. VOLUME AND VALUE OF PORK IMPORTATION BY COUNTRY, 2010-2019



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Vietnam	702	6,158	0	-	3,000	5,482	7,900	5,216	10,847	20,94
Thailand	21	259	725	559	477	860	268	0	24	0
Malaysia	10,30	10,84	8,429	10,09	11,44	16,12	19,80	18,16	20,19	17,81
Indonesia	28	134	140	163	267	563	1,221	297	557	1,314
Philippines	63,80	57,89	57,30	72,74	71,36	58,60	78,11	95,02	109,0	93,35

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Vietnam	1,699,	14,746	6,883,	6,732,	8,803,	17,118	18,921	13,033	28,778	55,190
Thailand	33,587	546,72	1,232,	869,08	598,78	1,176,	490,28	115	12,639	657
Malaysia	22,788	28,431	28,567	33,642	35,988	43,411	55,512	57,113	59,424	52,252
Indonesia	60,972	653,16	808,44	766,55	1,336,	2,353,	3,667,	1,462,	2,361,	3,305,
Philippines	46,886	47,092	71,572	112,87	122,01	111,5	130,5	171,9	195,27	169,18

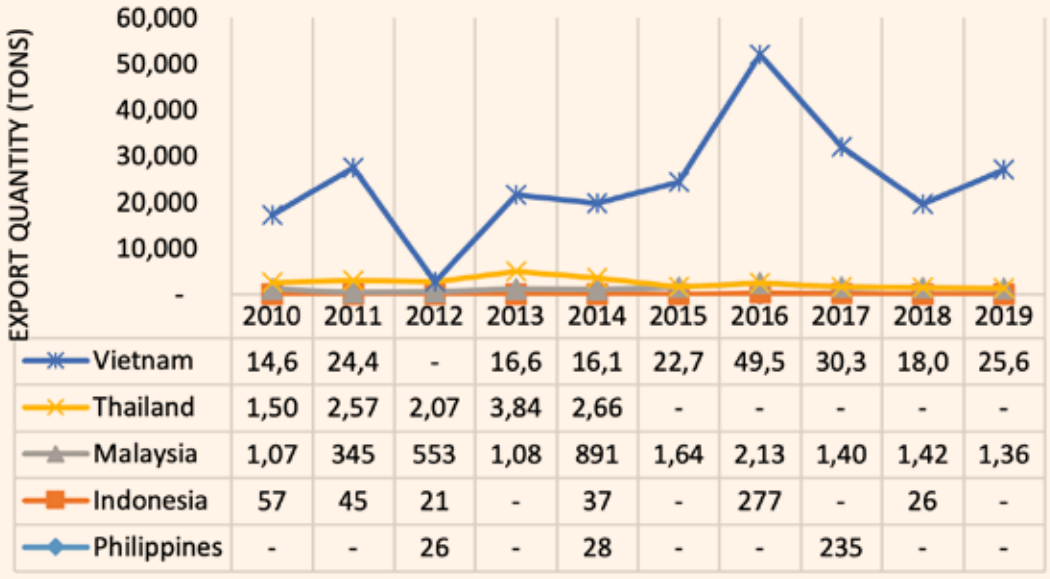
Source: UN Trademap

Exportation

Philippines. For a period of 10 years, the Philippines was only able to export pork for three (3) years, in 2012, 2014 and 2017, refer to **Figure 20**. Compared to the other countries, Philippines has the least exports in pork production. Its highest recorded pork export was 235 tons in 2017, with a value of US$99,669 (**Figure 21**).

Comparative Analysis. Philippines is not yet a player in terms of pork export. It was surpassed by Vietnam which has a niche market already for its 'Mong Cai' pig. Indonesia has a geographic advantage over the Philippines since it is closer to Singapore. Vietnam was the top pork exporter among the five (5) ASEAN countries and the Philippines needs a lot of catching up to do.

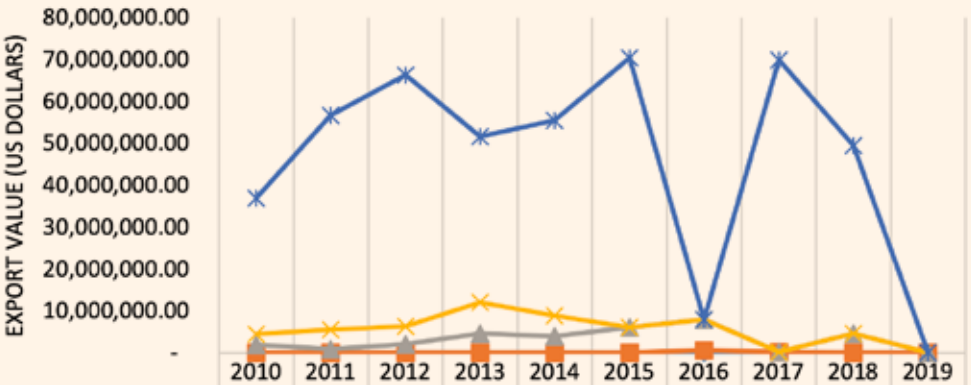
FIGURE 20. PORK EXPORTATION BY COUNTRY (IN TONS), 2010-2019



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Vietnam	14,6	24,4	-	16,6	16,1	22,7	49,5	30,3	18,0	25,6
Thailand	1,50	2,57	2,07	3,84	2,66	-	-	-	-	-
Malaysia	1,07	345	553	1,08	891	1,64	2,13	1,40	1,42	1,36
Indonesia	57	45	21	-	37	-	277	-	26	-
Philippines	-	-	26	-	28	-	-	235	-	-

Source: UN Trademap

FIGURE 21. PORK EXPORTATION BY COUNTRY (IN US DOLLARS), 2010-2019



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Vietnam	32,3	51,1	60,0	39,5	46,6	64,2	-	69,8	44,8	-
Thailand	2,53	4,64	4,22	7,43	4,87	-	-	-	-	-
Malaysia	1,91	837,	2,05	4,53	3,90	6,06	7,32	-	4,61	-
Indonesia	34,2	27,0	11,4	780.	16,9	-	591,	9,89	9,75	-
Philippines	-	-	1,17	-	10,6	-	-	99,6	-	-

Source: UN Trademap

Tariffs

Table 16 lists the tariff rates for hogs/pork imposed by the five (5) ASEAN countries under the ASEAN Common Effective Preferential Tariff (CEPT) and the Most Favored Nation (MFN) schemes. All these countries imposed zero tariff for pork under the CEPT. For fresh, chilled or frozen pork carcass and cuts, highest MFN rate was levied by Malaysia (139%), followed by Indonesia (50%). Thailand placed both a 30% tariff rate for all types of carcasses, whether fresh, chilled or frozen, and cut or whole, including fresh or chilled hams, shoulders and cuts thereof of swine, with bone in. The Philippines had 30% tariff for fresh, chilled or frozen pork carcass and cuts considered as in-quota while 40% was levied for the out-quotas. Lowest MFN rate was enforced by Vietnam; 25% for fresh, chilled or frozen pork carcasses and cuts and 15% for frozen carcasses and half-carcasses of swine; fresh or chilled hams, shoulders and cuts thereof of swine (with bone in). Another reason why Vietnam can export a lot pork and pork by-products to other countries.

TABLE 16. TARIFF RATES FOR HOG/PORK BY COUNTRY, 2019

Tariff Type	Philippines	Indonesia	Malaysia	Thailand	Vietnam
MFN rate	For In-Quota, 30% for fresh, chilled or frozen pork carcass and cuts; For OutQuota, 40% for fresh, chilled or frozen pork carcass and cut	50% for fresh, chilled or frozen pork carcass and cuts	139% for fresh, chilled or frozen pork carcass and cuts	30% for fresh, chilled or frozen pork carcasses and cuts; 30% for frozen carcasses and halfcarcasses of swine; fresh or chilled hams, shoulders and cuts thereof of swine, with bone in	25% for fresh, chilled or frozen pork carcasses and cuts; 15% for frozen carcasses and halfcarcasses of swine; fresh or chilled hams, shoulders and cuts thereof of swine, with bone in
CEPT	0	0	0	0	0

Source: World Trade Organization Tariff Download Facility; Tariff Commission

Commodity Balances

Table 17 shows the quantity of hog/pork produced, exported, and imported by the Philippines, Indonesia, Malaysia, Thailand and Vietnam in 2013.

Vietnam had the highest pork production with 3,217,900 tons which is higher than its domestic supply of 3,208,609 tons. It is not surprising that Vietnam was able to export 10,133 tons. However, the country had to import 841 tons, the smallest importation among the five (5) countries. The shortage in the supply can be attributed to the high per capita consumption of pork in the country.

The Philippines was next to Vietnam in terms of hog production. Its output of 1,681,128 tons constituted 93% of the domestic supply of pork in the country. In terms of importation, the Philippines was the top importer among the different countries. It imported 133,069 tons of pig meat which was equivalent to around 8% of its domestic supply.

Thailand was third in the production of hogs with an output of 891,300 tons. Its production was higher than its demand for pork. Thus, importation was low (1,380 tons) and it was able to export 21,572 tons, the highest among the five (5) ASEAN countries.

Indonesia was able to supply almost 100% of its domestic supply. Its shortage was supplemented by importing 3,427 tons in 2013. In the same year, Indonesia exported only 84 tons of pork.

Malaysia, on the other hand, imported 21,874 tons of pork to cover the shortage of its supply. Its import as percentage of production (10.06%) was the highest among the different countries, but it ranked second as exporter.

TABLE 17. PORK COMMODITY BALANCES BY COUNTRY, 2013

Parameters	Philippines	Indonesia	Malaysia	Thailand	Vietnam
Domestic Supply Quantity, tons	1,810,923	745,843	225,977	871,108	3,208,609
Production, tons	1,681,128	742,500	217,422	891,300	3,217,900
Import quantity, tons	133,069	3,427	21,874	1,380	841
Import as % of Production	7.91	0.46	10.06	0.15	0.03
Export quantity, tons	3,274	84	13,320	21,572	10,133
Per capita (kg/capita/year)	18.40	2.98	7.66	13.00	35.00

Source: FAOSTAT

Technical Parameters

Comparative technical performance of hogs in the ASEAN countries is shown in **Table 18**. Hog industry performance was assessed using the following technical parameters: 1) pigs sold/sow/year; 2) feed conversion ratio; 3) average daily gain; 4) farrowing rate; 5) mortality; 6) litter size at birth; 7) average weight sold; 8) marketable weight, and; 8) carcass recovery. Gonzales, et. al. (2012) made the comparison according to farm size. Unlike in other four (4) countries, farms in Thailand are classified as either integrators or non-integrators.

TABLE 18. RESULTS OF TECHNICAL PERFORMANCE OF DIFFERENT FARM LEVELS BY COUNTRY, 2009

PARAMETERS	PHILIPPINES			INDONESIA			MALAYSIA			VIETNAM			THAILAND	
	S	M	L	S	M	L	S	M	L	S	M	L	I	NI
Feed conversion ratio (kg)	3.3	3	2.8	3.5	3.3	3	3.4	3.09	2.94	3	2.7	2.4	2.6	2.8
Average daily gain (g)	500	530	550	<500	<500	600	554	615	646	550	600	650	650	550
Pig sold/sow/ year (heads)	13-14	15-16	17-18	12-14	15-16	15-16	16	16	16	16	19	22	24	20
Farrowing rate (%)	75	78	82	NA	NA	NA	80	80	80	78	82	86	NA	NA
Mortality (%)	3-5	4-6	5-7	10	10	10	20	20	20	9	9	9	2	11
Litter size at birth (heads)	8-9	9.5	10.5	<10	10	>10	10	10	10	9	10	11	12-13	11
Average weight sold (kg)	80	85	92	80	100	100	100	100	100	65	90	95	100	100
Marketable weight	80	85	90-100	80	100	100	100	100	100	65	90	95	100	100
Carcass Recovery	75	78	80	78	79	79	78	78	78	70	75	78	80	80

Source: Gonzales et. al, 2012

Small-scale and Non-Integrator Farms

Generally, the technical parameters of the non-integrator farms in Thailand - mostly small or medium-sized farms that are focused on fattening operations, were the highest compared to the performance of the small farms in the other four (4) countries - Philippines, Indonesia, Malaysia and Vietnam. Among these four (4) countries, hogs in Vietnam were the most efficient feed converters, with a feed conversion ratio (FCR) of 3 kilograms. Philippines, Malaysia and Indonesia followed with 3.3, 3.4 and 3.5 kilograms, respectively.

In terms of average daily gain (ADG), Malaysia's small hold farmers recorded the highest ADG of 554 grams. Vietnam and Thailand came in closely with an ADG of 550 grams for small scale production.

Malaysia's small-scale pig producers performed very well in terms of farrowing rate, achieving 80%. This implies that their hogs have higher fertility and their production management was better. The Philippines has the lowest farrowing rate at 75%.

Pig sold/sow/year was the highest in Malaysia and Vietnam with an average of 16 heads. Highest number of litter size at birth was also observed in Malaysia, averaging 10 heads per litter. The Philippines performed very well in terms of mortality rate, with the lowest record of 3 to 5% only, compared to the other countries (9% - 20%).

Carcass recovery was highest in Malaysia and Indonesia, 78%. Vietnam had the lowest carcass recovery of 70% since its market weight was also low at 65 kilos. Malaysia sold their hogs at relatively heavier weights, averaging 100 kilograms.

Aside from Indonesia, the small farms in the Philippines did not perform well except for mortality rate where it had the lowest result. Although the results were not far behind from the others, its backyard producers need to still improve on its production and management systems. Vietnam's small-scale farms generally performed better than the Filipino farmers.

Medium-scale Farms

If Malaysia's small farms surpassed the rest of the ASEAN countries, medium-scale farms in Vietnam performed very well in most of the technical parameters evaluated, see Table 18. These Vietnamese producers recorded the best FCR (2.7), pig sold/sow/year (19) and farrowing rate (82%). While the rest of the ASEAN countries averaged 15 to 16 pigs sold/sow/year, Vietnam properly managed their pigs to get 19 pigs sold/sow/year. This meant higher revenues for medium-scale hog producers.

Hog mortality in medium-scale farms in the Philippines was the lowest (4-6%), considerably low compared to the averages of Indonesia, Malaysia and Vietnam. This implied that local medium-scale hog producers used good genetics and implemented proper nutrition and farm management.

Malaysia still had the edge in terms of average daily gain which was 615 grams, quite far ahead from the rest. Carcass yield was almost the same among the countries. It was observed that average weight of hogs marketed by the medium-scale hog farmers was 100 kilograms. This marketable weight was 20 kilograms higher compared to the average of the smallhold farmers.

Large-scale Farms

Integrators in Thailand (i.e., large farms with integrated operations from production to marketing, to the operation of own breeder farms and feed mills) outperformed the large commercial farms of the other four (4) countries. They performed very well in terms of ADG, pig sold/sow/year, mortality rate, litter size at birth and carcass yield. Thailand recorded a remarkable 24 pigs sold/sow/year and 2% mortality rate.

Vietnam also recorded the same ADG of 650 grams as Thailand. Their commercial producers recorded the lowest FCR of 2.4 kilograms and the highest farrowing rate of 86%. The Philippines performed well again in terms of mortality at only 5-7%, way below the other countries. It was also observed that large commercial companies were beginning to sell their hogs at a heavier weight of 100 kilograms resulting to higher carcass yield.

Technical Performance of Hogs in the Philippines

Hog performance in the Philippines improved from 2009 to 2018 as shown in the results of the Swine Production Performance Monitoring Project of the Philippine Swine Industry Research and Development Foundation, Inc. (PSIRDFI) and Livestock Research Division of the DOST-PCAARRD. Please refer to **Table 19**.

TABLE 19. COMPARISON OF TECHNICAL PARAMETERS OF HOG PRODUCTION IN THE PHILIPPINES (2009 VS. 2018)

PARAMETERS	2009^	2018^^	% Change
Average daily gain (g)	550	571	0.36
Pig sold/sow/year (heads)	17-18	19.05	8.95
Farrowing rate (%)	82	80.44	-1.90
Mortality (%)	5-7	9.18	57.37
Litter size at birth (heads)	10.5	10.45	-0.48
Average weight sold (kg)	92	92.13	0.14

Source: ^Gonzales et.al, 2012
^^PSIRDFI and PCAARRD, 2018

Average daily gain (ADG) and pig sold/sow/year increased in 2018 compared to the 2009 level. However, emphasis should be focused on proper production management to achieve better results in farrowing rate, mortality and litter size at birth. Genetics and nutrition are out of the question since efforts have been placed on their improvement for a long time already. Changing the mindset of the producers, especially the small hold raisers on selling at a heavier weight (100-110 kilograms) should be encouraged because it can be more profitable than selling at 80 kilograms.

Tariffs

The Philippines is imposing a 30% tariff for fresh, chilled or frozen pork imports from its Most Favored Nations (MFN), see **Table 20**. A five percent tariff is being imposed under the ASEAN Trade in Goods Agreement (ATIGA) scheme since the late 2015. For processed pork products, the country is charging a 40% MFN tariff and a 5% tariff under the CEPT scheme (Trade Commission, 2020).

TABLE 20. TARIFF RATES FOR SWINE, JANUARY 2020

TARIFF TYPE	Tariff Details
MFN Tariff Rate	For In-Quota, 30% for fresh, chilled or frozen pork carcass and cuts For Out-Quota, 40% for fresh, chilled or frozen pork carcass and cuts
ATIGA	For In-Quota and Out-Quota, 5% for fresh, chilled or frozen pork carcass and cuts

SOURCE: Tariff Commission

Self-Sufficiency Ratio and Import Dependency Ratio

Table 21 shows the self-sufficiency ratio (SSR) and import dependency ratio (IDR) of pork in the Philippines. From 2014-2019, the average annual SSR was 88.21%, while IDR averaged 11.58%. In the said period, these ratios were fluctuating, indicating that supply of pork in the country is really affected by external factors like disease incidence, fluctuations in the price of live pigs, etc. Although in 2017, IDR increased dramatically and continued in 2018. However, in 2019, it again went down since there was a substantial decrease in the importation of pork cuts, offals, and bellies (PSA, 2019). The highest recorded SSR was in 2015 when the country was 89.78% self-sufficient in pork.

TABLE 21. SELF-SUFFICIENCY RATIO (SSR) AND IMPORT DEPENDENCY RATIO (IDR) OF PORK IN THE PHILIPPINES, 2014-2019

PARTICULAR	2014	2015	2016	2017	2018	2019
Self-sufficiency ratio (SSR), %	89.39	89.78	89.36	87.52	86.09	87.10
Import dependency ratio (IDR), %	10.62	10.22	10.64	12.49	13.91	12.90

SOURCE: PSA Agricultural Indicators System - Food Availability and Sufficiency, October 2020

MARKET TRENDS & PROSPECTS

Key Demand Drivers

For the Philippine hog industry, the three (3) main demand or market drivers are: population growth, including lifestyle changes; global demand and disease outbreaks (Yan, G. 2020). These factors affect the demand for pig meat locally.

Filipinos are generally pork eaters. According to Yan (2020), the country ranked tenth in the world's largest consumer of pork. In 2020, the Philippine per capita consumption of pork was 14.90 kilograms (Statista Research Department, 2021). Its population as of 01 May 2020 was 109,035,343 (PSA, 2021) and is growing at a rate 1.63 percent. Further, the Filipinos have a high preference for processed pork products and have developed that "eating out" habit through the years. The Philippines is one of the important markets for pork, and demand for meat is positively affected by population and income (Ompoy and Prantilla, 2013).

Global demand for pork could also be seen as a force to reckon with. With the effects of disease incidence, particularly African Swine Fever not only in the country but in other pig exporting countries, the Philippine hog industry can have a bright future in the coming years, not only locally but also globally.

The effects of disease epidemic in the last two (2) years were strongly felt by the local consumers. Because of the low supply of pigs in the country, prices of live hogs and pig meat increased significantly and affected the buying capacity of the Filipinos. Majority of the Filipino pork eaters could not afford to buy their favorite meat. Of course, the situation was aggravated by the effect of the COVID 19 pandemic. Supermarket shelves for fresh and even processed pork products were sometimes empty (even up to now).

With this scenario, the local hog industry needs to recover immediately from the effects of ASF to feed these people and become globally competitive.

Market Prospects

Local

The Philippine hog industry is set to grow (significantly) in the coming years with the recovery program being implemented by the Department of Agriculture – National Livestock Program (DA-NLP). DA-NLP's Integrated National Swine Production Initiatives for Recovery and Expansion (INSPIRE) Program is geared towards the repopulation and recovery of the hog inventory that dwindled due to ASF outbreak. Recovery entails public-private partnership for the program to become successful.

With the increasing population and a constant demand for pig meat, opportunities still abound (Strak, John, 2017). Majority of the more than 100 million Filipinos love to eat pork. Although per capita consumption of pork has continuously decreased since 2019 (Table 6), the decline can be compensated by the increase in population and changing preference and eating habits of Filipinos.

However, the effects of the COVID-19 pandemic should be taken into consideration because a lot of Filipinos lost their jobs and has affected their buying capacity.

International

The Organisation for Economic Co-operation and Development (2021) reiterated that global consumption of meat proteins over the coming years would increase due to population growth and income. Specifically, OECD projected that pig meat consumption all over the world would account for 33 percent of the total increase in meat consumption over the next 10 years. However, the increase would be felt starting next year.

CONSTRAINTS AND OPPORTUNITIES

Supply Chain Issues and Gaps

Input Supply

- High cost of inputs (feeds and raw materials, biologics and medicines)
- Heavy dependence on imported raw materials (soya and wheat)
- Limited government support – subsidy on feeds, waste management facilities
- Shortage of breeder animals due to ASF

Farm Production

- Low inventory due to ASF
- Inadequate program for disease monitoring and control
- Lack of proper biosecurity/quarantine protocols
- Lack of well-equipped diagnostic facilities (esp. for food safety)
- Lack of first border inspection facilities
- Lax port/airport inspection procedures
- Absence of fines for violations
- Production inefficiencies
- High income tax – protectionism attitude
- Limited financial support and incentives from the government
- Effect of land use act – unfavorable rules for expansion

Marketing and Logistics

- Price disparity (farm gate vs retail)
- Inefficient marketing system for small-scale producers – dependence on middlemen
- No policies/control to manage the operation of the middlemen
- Expensive yet poor logistics support (farm to fork)
- Limited number of modern livestock auction markets
- Lack of regulation and monitoring for disease prevention and control in livestock auction markets or stockyards
- Weak implementation of regulations (e.g., Sanitary and Phytosanitary Measures for the protection of animal, plant and human health, AO No. 8)

Processing

- Limited modernized post-production facilities (slaughterhouses and cold storage)
- Standardized labeling requirements for frozen meat products
- Dis-connect between local producers and processors – supply of meat requirement

Despite all these constraints, there are still opportunities that can help boost the local hog industry. A better life for farmers, a development goal that could be a driving force for the producers and government to work together. Their cooperation can revitalize the industry and become productive again.

The Philippines has enough supply of raw materials needed to produce high-energy feeds. The country can even import raw materials, if necessary.

The growing market for processed pork products provides an opportunity for local hog producers and processors to establish a partnership that could benefit both parties. Further, potential export markets are also present once the industry has bounced back and is competitive in the international market.

TARGET SETTING

Vision

A productive, sustainable and globally competitive hog industry by the year 2026.

Mission

In response to the core challenge, the Hog Commodity Industry Road Map has the following missions:

1. Modernize and restructure the production, post-production and marketing systems of the hog industry to provide safe nutritious, affordable and accessible products to consumers;
2. Raise small hold producers from poverty and increase their resilience to climate change; and
3. Provide opportunities for all players/segments in the value chain to modernize and be globally competitive.

NOTE: *All the key result areas (KRAs), action programs, policies and investment requirements in this Road Map were based on the outputs of the consultation meetings conducted among hog industry players and key government institutions.*

According to PSA's 2020 Census of Population and Housing, the total population of the Philippines was 109,035,343, as of 01 May 2020. At least 1.4 million Filipinos will be added to this by the end of 2021 (POPCOM, 2021).

Table 22 indicates that about 22M hogs are needed to satisfy the 1.5M kilograms pork requirements of the Filipinos. The country needs around 25M and 29.2M heads of hogs for 2022 and 2026, respectively. The present per capita consumption of pork of 14.9 kilograms is expected to further increase. This necessitates the need to increase local production immediately to meet the growing local demand.

TABLE 22. HOG REQUIREMENTS OF THE FILIPINOS

Parameters	Baseline	Forecast
	2019	2026
Per Capita Consumption of Pork (kg/year)	14.9	16.4
Annual Income (US $)	3000	5200
Hog Requirement (million heads)	22	29.2

* based on the OECD Forecast (i.e., 5% growth)

Given this scenario, the Philippine hog industry needs a lot of catching up to do due to the tremendous impact of the African Swine Fever (ASF) epidemic in the previous years and the increasing demand locally. All sectors, particularly the government should focus resources on how it can assist the potentially viable hog industry of Philippine agriculture.

KEY RESULT AREAS (KRAS) AND ACTION PROGRAMS FOR THE PHILIPPINE HOG INDUSTRY

KRA 1: Increased Hog Inventory

STRATEGY: Recovery, Rehabilitation and Repopulation of the Hog Industry

The ASF outbreak greatly impacted local hog population since a lot of farms closed, both commercial and backyard farms, at that. The need to "recover" areas previously affected by ASF is paramount to increase the swine population's inventory and eventually stabilize the prices of pork in the longer term.

Exit and reclassification of an ASF outbreak zone are the initial steps for recovery, rehabilitation, and eventual repopulation. These are undertaken at the local level, initially at the barangay level and progressing to the whole city or municipality itself. Likewise, the "sentinel program" is a science-based approach to detect the presence of a particular disease, in this case, ASF. Moreover, ASF-free Zones (Green Zones) needs to further accelerate the increase in inventory of swine.

The proper and strict implementation of the Integrated National Swine Production Initiatives for Recovery and Expansion (INSPIRE) Program would be key to the recovery and repopulation of the local hog industry.

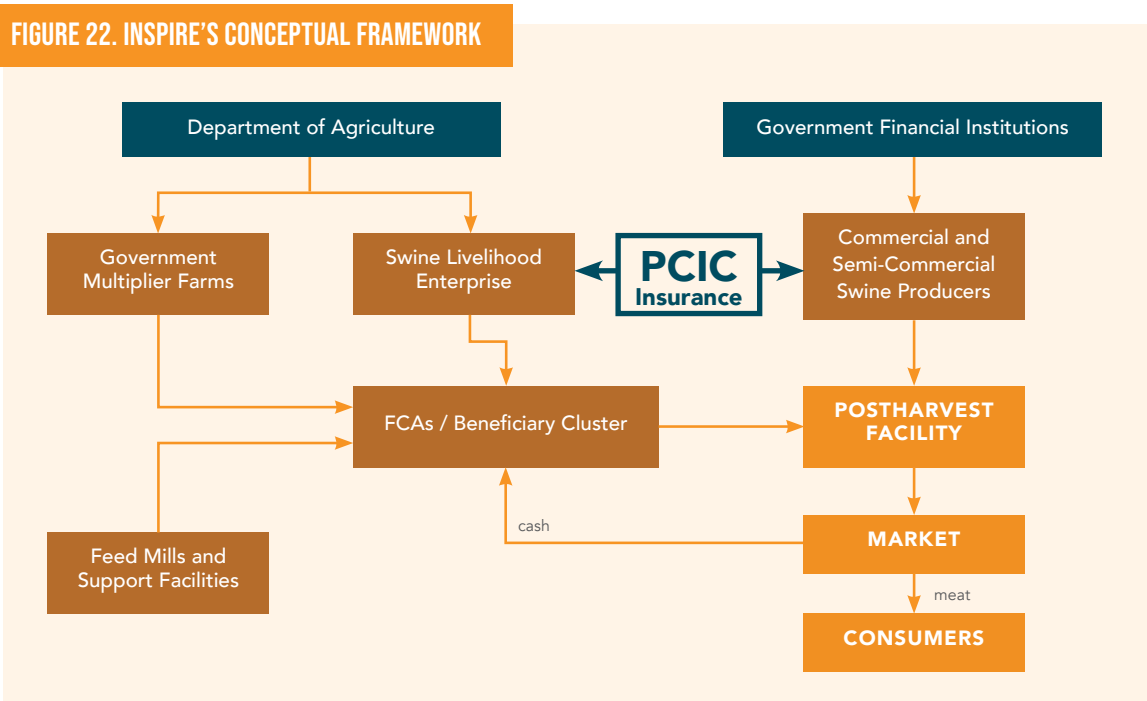
The INSPIRE Program would jumpstart and revive the industry and assist specifically the smallhold farms in ASF-cleared areas. These farms would be grouped and modernized while employing strict biosecurity measures. Producers and local government officials and technicians would be properly oriented and trained on the INSPIRE Program for proper

implementation. Support mechanisms such as loans with flexible terms and livestock insurance would be provided. Lastly, public-private partnership would be encouraged and established to make the program effective and sustainable.

Specifically, it aims to implement calibrated repopulation/restocking activities thereby restoring livelihoods of small hold swine raisers in areas affected by ASF; capacitate government breeding and multiplier farms and facilities in producing quality and genetically superior breeder stocks and finishers; extend financial support to semi-commercial and commercial farms, particularly in ASF-free zones thru government financial institutions to encourage them to expand and modernize breeder production and facilities; and provide technical assistance and quarantine support, subsequently strengthening individual and area-wide biosecurity capabilities, thereby increasing disease resiliency of pork producers.

Being the "rebooting tool" for the local hog industry, INSPIRE's conceptual framework (**Figure 22**) emphasizes clustering of small hold pig producers. This strategy would facilitate easier and effective provision of technical support services and other interventions.

FIGURE 22. INSPIRE'S CONCEPTUAL FRAMEWORK



The Bantay ASF sa Barangay Program (BABay ASF Program) is a collaborative program of the DA-NLP, the DILG, Academe and other relevant government agencies, and the private sector that is being implemented nationwide. Technical and support services will be provided by DA, Academe and other relevant government agencies and the private sector, together with other swine industry experts to empower the LGUs who will actively participate as frontliners in the battle against ASF. This program has five (5) components, namely: Intensified Risk Assessment, Surveillance and Monitoring; Strengthening Biosecurity Implementation; Capability Building and Awareness Campaign; Strengthening and Institutionalization of LGU Engagement; and Recovery and Repopulation.

Relative to the implementation of these programs, local government units (LGUs) should adopt a harmonized ordinance for the prevention and control of ASF and other diseases.

Furthermore, it is important to give incentives to local hog producers to encourage them to increase/expand farm inventory. Such incentives include income tax holiday post-ASF and provision of funds for the indemnification of affected farms, provided that such farms are implementing Level 2 Biosecurity Measures as a minimum requirement.

KRA 2: Improved Agricultural Data System (from farm to table)

STRATEGY: Creation of National Agricultural Data System

"Digital Agriculture" should be put in place and properly implemented. This database would include all information necessary for the production, processing, and marketing of hogs and other agricultural commodities.

Agricultural data collection should be further improved by concentrating on "really" applicable and useful data. Consultations should be made to determine what information needs to be collected and relevant to the industry (e.g., technical results – covering more farms all over the country). The private sector on the other hand, should provide the correct information during collection.

There is a need to establish a registry of market players like traders, meat inspectors, butchers, among others for ease of communication and coordination whenever there is a need for the government to have a dialogue with them. It would be easier for the government to identify and trace the hog raisers and traders who might be affected or are prone to be affected by the disease if it occurs in an area. With this, the government can immediately formulate strategies to prevent spread of disease to other areas. Also, the government can easily and immediately provide the necessary assistance (e.g., veterinary drugs and supplies) if there is a reliable and complete registry.

It was suggested that wet markets must be strengthened and protected from the entry of frozen meat. In case there will be such violations, someone from the LGU must be held accountable. Therefore, a directory of accountable person per LGU must be prepared for easy access and identification if there is a need to file for dereliction of duty.

Hog stakeholders also expressed that there is a need for the strict enforcement of the registration and monitoring of handlers/traders since they are the most probable vectors of animal diseases. Development of more information, education and communication (IEC) materials on A.O. 8 series of 2004 and other regulations affecting the industry is necessary to inform the producers and the public, in general that such regulations exist for their welfare and safety.

KRA 3: Increased Farm Productivity

STRATEGIES: Modernization of Farms and Genetic Improvement

Productivity of the producers, particularly the backyard raisers is still a primary concern for the Philippine hog industry to meet local demands and be able to export meat to other countries.

Efforts would be centered to improve seven (7) different technical parameters in hog production which would be the bases to assess the improvement of the productivity of the local hog producers. These technical parameters include pig sold/sow/year (heads), feed conversion ratio (kg), average daily gain (g), mortality (%), sow index, sow feed/sow/year (kg) and the pig meat/sow/year (kg). **Table 23** indicates the technical targets of the hog industry for 2020 and 2027.

TABLE 23. TECHNICAL TARGETS FOR THE PHILIPPINE HOG INDUSTRY

Technical Parameters	Baseline (2020)	2026
Pig sold/sow/year, heads	18.29	30
FCR, kg	3.19	2.27
ADG, g (from birth)	561	850
Mortality (%) Total Herd Mortality (based on population)	9.10 3.3	5 2.5
Sow Index	2.27	2.4
Sow feed/sow/year (kg)	1,052.26	1,048.52
Pig meat/sow/year (kg)	1,757.80*	3,544.50**

* Computed at 110 kgs L W at marketing and 85% dressing percentage
** Computed at 139 kgs L W at marketing and 85% dressing percentage

To attain the abovementioned targets, there is a need to modernize the hog farms in the country. Tunnel ventilation, farrowing crates, automated feeder, silos and watering systems, and biogas for waste management are some of the advanced facilities and/or technologies being used in big commercial hog farms. However, improvement should not

only be made in the buildings and facilities, but also in the management and operation of the farm. An 'all-in all-out' production system and use of artificial insemination (AI) in animal breeding are some of the contemporary techniques that can be replicated. More hog production farms, both commercial and smallhold must be modernized to optimize hog production in the country.

Genetic improvement should also be given emphasis to increase farm productivity. Research and development (R&D) programs that aim to improve farm productivity and efficiency must continue. More R&D on feeds and breed development must be carried out since these are significant factors to enhance animal performance. Research could also be done on non-conventional technologies (e.g., housing design, waste treatment and management, etc.) that could be appropriate to smallhold raisers, and produce good technical and financial results. A study on the comparison of the profitability of different market weights could also be done to serve as proof that higher market weights are more profitable. This could be a way of changing the mind set of producers, that is, to sell at a heavier weight. Government, private companies and agricultural state universities and colleges (SUCs) must collaborate in doing the R&D.

Another action program identified is the intensification of artificial insemination (AI) through establishment of AI station per province. AI is more efficient and cost-effective in producing superior lines compared to natural mating. Semen that will be available in the AI stations will come from the accredited farms of the Swine Breeder Farm Accreditation Program (SBFAP) of the Bureau of Animal Industry (BAI). It is ideal that all commercial and backyard farms would obtain their breeders and semen from SBFAP-accredited farms to ensure quality of produce.

Latest technologies in swine artificial insemination are also available in private breeding companies and there are also an increasing number of AI centers owned by enterprising individuals. All the private-owned AI facilities must be modernized as their share in achieving KRA 3. At present, the Accredited Swine Breeder Association of the Philippines (ASBAP) has a project to publish all the companies involved in breeding and genetics (e-commerce), so that it will be easily accessed by farmers who are looking for genetically superior breeders.

There is also a need to mainstream the swine genomics application in animal production and health. At present, BAI houses the Swine Genetic Analytical Service Laboratory (SGASL), a major output of the "Private-Public Partnership (PPP) in the Application of Animal Genomics to Increase the Productivity of the Philippine Swine Industry". DOST-PCAARRD, DA-BAI, PCC and the ASBAP collaborated in the conceptualization and implementation of the project. SGASL will offer the following services: 1) Screening of genetic defects (PSS, acid meat, scrotal hernia); 2) Identification of productivity gene (prolificacy, growth rate, meat quality); and 3) Identification of disease resistance genes (diarrhea, pneumonia and PRRS). Funds for its operations and maintenance must be included in the annual budget of BAI to sustain the project. Moreover, the Philippine Swine Industry Research and Development Foundation, Inc. (PSIRDFI) can also be tapped to be part of the PPP to provide financial assistance for the initial phase of the project.

Institutionalization, strengthening and modernization of ITCPH's Boar Performance Testing Station (BPTS) should be done. BPTS is seen as a potential center for evaluation of boar performance in the entire country. This support program of the government must be strengthened to ensure the stable supply of quality breeders in the country.

It would be advantageous to monitor the performance of hogs in the country. Thus, the monitoring system being done yearly by PCAARRD and PSIRDFI must be strengthened, encouraging more farms to participate in the study.

The big concern of local hog producers is the National Land Use Act which discourages farm owners to expand operation. A meaningful consultative forum/meeting should be undertaken among national and LGU officials, hog producers and other stakeholders to discuss and come up with a more feasible plan and regulations related to this, including its proper and strict implementation.

KRA 4: Reduced Cost of Inputs

STRATEGIES:

- Research and Development
- Hog-Corn Integration
- Tariff Reduction/Adjustment
- Use of Alternative Power Source
- Cost Reduction Schemes
- Revision of Regulation on Wastewater Treatment

One of the weaknesses of the hog industry identified earlier is the high cost of farm inputs like feeds, electricity, biologics and medicines, etc. One of the targets of the hog industry is to lower the cost of production from its current level of PhP90/kg to PhP80/kg in 2022 and PhP70/kg in 2026 (**Table 24**).

TABLE 24. FINANCIAL TARGETS OF THE PHILIPPINE HOG INDUSTRY

Financial Parameters	Baseline (2015)	2022	2026
Farmgate Cost of Production, PhP/kg	90.00	80.00	70.00

Demand for corn for consumption and agricultural production is continuously increasing. This has caused feed prices to increase since corn is a major feed component. Approximately 75- 80% of the cost of production is spent on feeds (Argañosa, 1999) and corn constitutes around 35% of the total cost of hog feed ration (Mendoza and Rosegrant, 1995).

Research and Development. There is a need for research on other feed resources (i.e., cassava, malunggay, among others) to lower cost of production. Various research institutions had already conducted research on feed ingredients that could lower the cost without compromising the nutrients given to the animals.

For instance, a research on the development of copra meal with reduced fiber and improved protein (i.e., target crude protein is 42%) was already conducted. This project funded by PCAARRD, looked at the possibility of replacing around 50% of soybean meal utilized in feed ration. The government must promote the adoption and commercialization of this technology, i.e., protein-enriched copra meal and other research that have the potential to reduce input costs in hog production.

Further, the government continues its efforts to discover alternative feeds. BAI, through the Livestock Research Development Division, incorporated in its 5-year Strategic Plan the studies on the nutritional contents of different feed resources and how these feeds would improve the productivity of hogs. The use of wheat as a replacement for corn could also be considered but in the end, the producers would always favor the technology that entails cheaper costs.

Hog-Corn Integration. Hog producers and corn farmers could establish a partnership that is mutually beneficial. The former can enter into an agreement with the latter where he would utilize corn for pig feed production. This practice ensures the corn producer a market for his harvest. On the other hand, the hog farmer saves on costs incurred from importing corn.

Tariff Reduction/Adjustment. Major inputs like breeders, biologics, medicines, etc. are not locally produced. Tariffs on these products could be evaluated and adjusted to reduce costs of producing pigs. Also, a move to reclassify hog industry from agro-industrial to agricultural type of business must be undertaken.

Use of Alternative Power Sources. Reducing electricity/power cost is another way of lowering the cost of production (COP). One of the reasons why it is expensive to conduct business in the Philippines is the high cost of power. The Philippines was one of the ten (10) Asian countries with most expensive power rates (Anonuevo, 2012) because it is heavily dependent on coal and oil which are mostly sourced abroad.

One of the interventions being requested from the government is to support/incentivize the installation of biogas in smallhold farms. Efficiency of using other alternative sources of power (i.e., solar panel, windmill, among others) can be studied, to reduce dependence on fossil fuel which is continuously depleting and affecting the environment.

Cost Reduction Schemes. Transport cost, particularly inter-island shipment is part of COP. Inter-island shipments in the Philippines are generally expensive compared to the cost of freight coming from other countries (e.g., Thailand).

An option to avoid inter-island shipment of hog/pork commodities is the establishment of more post-production facilities (e.g., livestock auction markets, slaughterhouses, cold storages, and transport facilities) in the provinces with high supply of hogs/pork. Please refer to KRA 5. When there is an increased number of established slaughterhouses, hog raisers will be encouraged to slaughter their pigs in these facilities. This will allow them to sell the graded carcasses directly to meat vendors and processors. Thus, the participation of middlemen in the supply chain will be lessened, providing better profit to the hog farmers. Decreasing the selling of live hogs will eventually eliminate the traders in the system.

Construction of more farm-to-market roads would make transporting of goods more efficient and would also cut the cost of production. Hog/pork producers must also be encouraged to transport pork (e.g., pork-in-a-box) rather than live hogs. This is becoming a trend as there are shipments of pork from production areas in Davao, Cagayan de Oro and South Cotabato to consumption areas in Metro Manila and Cebu. Pork transport will prevent transport losses, reduce the risk of disease spread and will eliminate labor and feed costs incurred in transporting live animals.

Cost-cutting for water bills could be achieved thru the establishment of water catchment facilities in smallhold farms. The government should provide support in this project or could formulate an arrangement that would allow the farmer to provide a reasonable counterpart in the establishment.

Climate-resilient farm management systems to reduce water usage in farms (e.g., dry cleaning program, water-impounding system) can also be promoted.

Revision of the Regulation on Wastewater Treatment. The government's regulation on wastewater treatment also affects cost of production of pigs. Additional investments are placed to follow the standards set by the government, particularly on the level of Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), Phosphorus, Nitrogen, etc. Therefore, there is a need to lower the standards vis-à-vis Asian standards for a more "relaxed" and acceptable regulation on wastewater effluent.

By reducing the costs of feeds, electricity, water and transport, more people will be encouraged to invest in the hog/pork business.

KRA 5: Modernized and Restructured Post-Production and Marketing System

STRATEGIES:

- Establishment and Improvement of Facilities
- Skills Enhancement Trainings
- Provision of Support Mechanisms to Producers

The hog industry will not be globally competitive unless the production and post-production facilities will be upgraded.

Establishment and Improvement of Facilities. Upgrading of diagnostic and feed laboratories of the Bureau of Animal Industry (BAI) in Manila must be done, including those in the regions. The BAI laboratory must have state-of-the-art equipment and facility for a better and "more" advanced animal disease diagnostics and feed testing.

The industry stakeholders also push for the modernization/upgrading of abattoirs to meet international standards. This move is important not only for the producers to become globally competitive, but is also good for public health, safety and environmental protection.

There are substantial numbers of abattoirs spread all over the country, but many are not accredited and operating at less than the rated capacity, making it financially nonviable. As of September 2021, there are only 89 NMIS-accredited slaughterhouses. Out of the 89 accredited slaughterhouses, only seven (7) are classified as Triple A or those having the proper facilities and operational procedures for export production (Appendix 3).

The private sector must be encouraged to invest in the upgrading of the slaughterhouses and accreditation by the NMIS. This requires technical assistance from the agency so that slaughterhouse operators will be encouraged to apply for accreditation. Compliance will be easier for them.

The upgrading of abattoirs will include the building of chilling and fabrication rooms. This will be complemented with refrigerated transport and cold storage facilities to modernize

pork handling and marketing system. In the end, the consumers would be assured of safe and clean pork in their homes.

While there are commercial companies that can afford to put-up modern production and processing facilities and have access to state-of-the-art technologies, still a lot of producers (especially backyard raisers) have no ability to pay for the facilities and services. The government should assist them by providing shared facilities, such as the 'AAA' dressing plant in Bamban, Tarlac and the 'AAA' slaughterhouse in Tanauan City, Batangas as service facilities. There is a need to increase these types of service facilities and should be placed strategically. The needs and interest of the local stakeholders or target beneficiaries should be considered in the placement of shared facilities. A pilot study on the operation of the Triple A slaughterhouse in Batangas should be proposed and implemented to evaluate its viability.

There is a need for the establishment of meat laboratories and the improvement of existing ones. These are critical in detecting antibiotic residues, toxins and metals possibly present in meat. Meat laboratories are required especially if the target is to produce meat for export markets.

Further, the establishment of a well-managed livestock auction market in strategic areas can solve the presence of the middlemen. The management of such facility should be placed under the private sector to ensure proper operation and management.

Once post-production and marketing facilities and laboratories are established in strategic locations and improved, use of such should be shared by producers, especially among smallhold farmers.

Foot and Mouth Disease (FMD), among other epidemic/epizootic diseases can be controlled easily if diagnosis is early. Laboratories must comply with international standards so that results produced here will be acknowledged in other countries.

Skills Enhancement Trainings. Improvement of the facilities must also be complemented with capability trainings of personnel conducting laboratory works.

Technicians stationed in post-production facilities should also be trained.

Provision of Support Mechanisms to Producers. ASF impacted the industry tremendously. Support mechanisms of the government to those affected farms were not in place. A lot of producers were discouraged to venture into the business again. To safeguard them in the future, support mechanisms should be institutionalized.

Private sector should assist in establishing models and providing credit facilities for smallhold farmers. They can help in putting-up value-adding enterprises such as meat shops, meat stalls, eateries, among others where smallhold farmers can sell their produce on a regular basis.

Integrated production, processing and marketing will be encouraged. Profit gain in this kind of business is higher since intervention of traders is reduced, if not eliminated. While it is true that the hog industry is fragmented in general, there are fully integrated enterprise existing in the country. For instance, Monterey slaughters and cuts their pigs in its slaughterhouses, and sells different pork cuts in their own retail outlets found all over the Philippines.

There are also cooperatives which arrange contract growing of pigs with their members, slaughter and fabricate hogs in their own slaughterhouse and markets meat in retail stores owned by the cooperative also. Sorosoro Ibaba Development Cooperative (SIDC) and the South Cotabato Swine Producers Association (SOCOSPA) are examples of this kind of hog business set-up.

Direct selling of pork cuts in the subdivisions and other institutions by the smallhold hog farmers will also be encouraged and supported. This will provide a sure market for their products, stabilizing and increasing income of hog farmers in the end. Moreover, this could encourage more people to engage in hog production. However, this would be allowed upon the approval of NMIS and should follow the proper protocol to ensure delivery of quality meat to consumers.

To further assist hog producers, the government should determine and establish a reasonable floor farm gate price relative to cost to produce. If farm gate price is lower, the government will buy back excess supply from the producers. In addition to this, transport subsidy for the shipment of hogs must also be provided.

KRA 6: Increased Access of Smallhold Farmers to Information and Extension Services

STRATEGIES:

- Skills Enhancement Trainings of Smallhold Farmers
- Provision of Access to Information and Extension Services
- Empowerment of LGUs and its Personnel

Skills Enhancement Trainings of Smallhold Farmers. According to the PSA Report (2021), majority of hog producers in the Philippines are backyard or smallhold raisers (70.6%). While there is a gradual "commercialization" of this group, backyard raisers are still projected to be the major producer-segment of the industry. The road map does not aim to eliminate the backyard raisers, but to empower them by increasing their access to information (i.e., technical, market, services, etc.) and extension services.

This can be achieved by supporting the conduct of technical workshops and fora. Occasionally, both the private sector and government (i.e., national and LGUs) are sponsoring such activities at the national and local levels. There is a need to increase these types of interventions, especially the village-based activities in order to reach out to and accommodate more smallhold farmers. There are also farm schools and learning sites in the country which aim to provide practical training for adults (e.g., animal husbandry, pasture development and management, processing, marketing, etc.). The government helps with the Technical Education and Skills Development Authority (TESDA) accreditation of these training sites and farm schools.

Provision of Access to Information and Extension Services. The role of the government is also crucial in terms of providing technical assistance, information and market linkages to the smallhold farmers. The DA has the International Training Center on Pig Husbandry (ITCPH) located at Marawoy, Lipa City. ITCPH is the only training center in Asia and the Pacific specializing on pig husbandry providing training and extension services to agricultural extension workers and pork producers from the Philippines and

other Asian countries. On the other hand, the DA-Agribusiness and Marketing Assistance Service (AMAS) has the authority in the agribusiness and marketing aspects of agricultural production.

One action program identified in KRA 3 is the intensification of the adoption of artificial insemination (AI) as a breeding method. The establishment of AI station per province should be done to achieve this. Likewise, an AI technician and/or LGU extension worker must be assigned per municipality. They will be the primary providers of extension services to smallhold farmers in their respective towns. Therefore, they should be equipped with complete and appropriate trainings (i.e., along the value chain) for them to properly provide technical assistance and/or advice on the production, processing, and marketing aspects of pig enterprise.

Empowerment of LGUs and its Personnel. To provide appropriate and immediate technical assistance to backyard pig producers, the LGUs must provide staff support. Each LGU must consider hiring a veterinarian in each municipality and AI technicians as support personnel. Appropriate and advanced training must be given to them to make them technically competent.

KRA 7: Adopted Food Safety Regulations and Standards

STRATEGIES:

- Application of PNS and Regulations in the Supply Chain
- Provision of Standards
- Empowerment of LGUs and its Personnel (same in KRA 6)

Application of PNS and Regulations in the Supply Chain. It is the responsibility of hog and pork suppliers to produce safe meat for the protection of the consumers. Thus, it is a requirement for them to apply good hygienic practices and food safety management procedures (i.e., in accordance with Good Animal Husbandry Practices (GAHP) and Hazard Analysis and Critical Control Point (HACCP) principles) in the farm and post-production operations.

On the other hand, it is the responsibility of the government to fully implement the Republic Act No. 10611, better known as Food Safety Act of 2013. The law aims to strengthen the food safety regulatory system in the country. One way to strengthen the implementation of this Act is the provision of standard inspection area and facilities in ports/airports (i.e., placement of reefer vans in ports for the mandated quarantine inspection at all ports of first entry under RA 10611). BAI must also be strict in the implementation of the Sanitary and Phytosanitary measures and other regulations to prevent the entry of imported products that might affect animal and human health.

The Philippine National Standards (PNS) that will support the implementation of food safety regulations and standards (e.g., PNS-BAFS 48: "Veterinary drug residues in food: maximum residue limits"; PNS-BAFS 60: "Code of Good Animal Husbandry Practices) must also be developed and adopted.

Provision of Standards. It is the duty of NMIS to monitor meat from slaughterhouse to the markets. Thus, confiscating meat and meat products that were below standards is their task. There is a need to intensify the enforcement of Republic Act 9296: An Act Strengthening the Meat Inspection System in the Country, Ordaining for this Purpose a

"Meat Inspection Code of the Philippines" and for Other Purposes. Hot meat should be apprehended and be buried to prevent it from re-entering the market. Administrative Order. No. 5 series of 2012: "Rules and Regulations on Hygienic Handling of Newly Slaughtered Meat in Meat Markets" and Administrative Order. No. 6 series of 2012: "Rules and Regulations on Hygienic Handling of Chilled, Frozen and Thawed Meat in Meat Markets" should be fully implemented. Reasonable fines should be identified and imposed to violators.

Several standards and rules are already in place in the Philippines. But the industry needs its strict implementation to safeguard the production aspect of the industry, as well as the safety and health of the consumers.

There is also a need to establish a reliable National Pork Traceability System for hogs (i.e., from farm to table) to ensure that hogs, pork, and processed pork products are properly identified during receiving, processing, storage, and marketing. Traceability is reliability since it provides a means of identifying the products for recall. Other programs and projects that will complement the traceability system must also be done or strictly enforced, i.e., functional, and responsive ICT systems, national farm accreditation and/or identification system (i.e., GAHP and Animal Welfare), among others. These will strengthen the competitiveness of the local hog industry in the foreign markets.

KRA 8: Improved Animal Health Status

STRATEGIES:

- Provision of Facilities
- Formulation and Enforcement of Regulations for Food Safety and Disease Prevention
- Disease Eradication

Improving the health and welfare of hogs is of utmost importance to all the industry's stakeholders (from farm to table). One of the factors that dictates the industry's ability to compete in a highly competitive ASEAN market is the reputation of being a producer of healthy and safe meat, while taking into consideration the welfare of the animals. Hogs' health and welfare affect not only the cost of production but also food safety (Agriculture and Horticulture Development Board, 2011).

Provision of Facilities. To prevent entry of diseases from imported meat, first border inspection facilities must be built in major ports of the country, as mentioned in KRA 7.

A well-equipped National Animal Diagnostic Facility (for genotyping) and Database Center must also be established.

Disease Eradication. BAI continuously investigates, studies and reports causes of dangerous communicable diseases and its prevention. Thus, the Philippines was able to continue being Foot and Mouth Disease (FMD) free. This was achieved thru continuous surveillance and monitoring, and imposing biosecurity and border controls.

However, for the past years, there are still other diseases that occur from time to time. There is a need to eradicate notifiable diseases like classical swine fever (CSF), pseudorabies virus (PRV), and porcine epidemic diarrhea (PED), among others since these diseases will continue to hamper the growth of the hog industry. At present, the control and eradication of CSF, PED and PRV are the priorities of the industry.

The eradication of CSF and control of other diseases like PRV and PED by 2023 should be given priority. A PhP100M funding is suggested for the eradication of CSF.

Hog diseases that are endemic per region must be identified and placed in a database. This would be the basis for the prioritization of the government in crafting disease eradication programs for the hog industry. These quarantine laws must be strictly and properly implemented.

Formulation and Enforcement of Regulations for Food Safety and Disease Prevention. Also, to ensure food safety for consumers, the regulation of the prescription of drugs for animals should be strictly implemented. It is suggested that a veterinarian should be assigned or hired in the municipalities where there is no such position. The staff will be in-charged of providing not only technical assistance but also regulate the use of veterinary drugs/medicines among hog raisers, specifically the backyard raisers.

There is also a need to enforce and monitor other regulatory policies like the Administrative Order 8 series of 2004: "Amending the Administrative Order No. 3, Series of 1997, Regarding Revised Guidelines on the Registration and Licensing of Livestock, Poultry and By-Products Handlers and Livestock Transport Carriers" that targets to register and license all the handlers of livestock, poultry and its by-products, and to accredit the transport carriers in the Philippines. The regulation monitors the movement of animals thus, in the event of disease occurrence, strict implementation of this regulation will enable the government to easily track and contain the disease.

As for the private sector, the strict implementation of the veterinary drug order is their best contribution in improving animal health status and safety of consumers in the country. It would also be of great help if they strictly cooperate with the government by allowing entry of employees to farms for inspection. If not possible due to the current situation, other means of reporting like the use of video conferencing, picture sharing and other means could be used.

The formulation and implementation of a National Biosecurity Program should be carried out since it is also deemed necessary for the achievement of KRA 7.

Table 25 shows the proposed Action Plan identified by the hog stakeholders through a series of consultations.

TABLE 25. PROPOSED ACTION PLAN

KEY RESULT AREA 1. INCREASED HOG INVENTORY

STRATEGY	PROGRAM/ACTIVITIES	RESPONSIBLE ENTITY	BUDGET (P'million)	TIMELINE	METRICS
RECOVERY, REHABILITATION AND REPOPULATION OF THE HOG INDUSTRY	1. Implement INSPIRE (Integrated National Swine Production Initiatives for Recovery and Expansion) Program	BAI, ITCPH, LGUs, Private Sector	25,440 (gov't) 27,500 (private – LBP, DBP)	2022-2023	- 4,030 clusters organized and assisted (whole program)
			1,212	2022-2023	- 318 swine nucleus & multiplier farms established - Increased production
	2. Implement Bantay ASF sa Barangay Program	BAI, ITCPH, LGUs, Private Sector		2022	- Controlled disease incidence - ASF cleared areas - All provinces are informed (incl. ASF free areas
	3. Adopt harmonized ordinance on ASF prevention and control at the Provincial and City/ Municipal levels	DA, DILG, LGU - Mandanas Ruling for LGUs (NOTE: Review salary grade/ posting of veterinarians at LGUs)		2022	1 harmonized provincial ordinance – ASF related 1 harmonized city/municipal ordinance - ASF related
	4. Income Tax Holiday for producers starting/re-starting operation after ASF	DA, DTI-BOI, law makers			ITH endorsed and approved
	5. Provide funds for indemnification of affected farms (with Level 2 biosecurity – min. requirement)	DA, BAI, Private Sector	12,456.25	2022	15,000/breeder 3,000/piglet 8,000/ finisher

KEY RESULT AREA 2. IMPROVED AGRICULTURAL DATA SYSTEM (FROM FARM TO TABLE)

STRATEGY	PROGRAM/ ACTIVITIES	RESPONSIBLE ENTITY	BUDGET (P'million)	TIMELINE	METRICS
CREATION OF NATIONAL AGRICULTURAL DATA SYSTEM (Phlippine Animal Industry Management Information System or PhilAIMIS)	1. Draft a bill on the creation of National Agricultural Data System – for submission to Congress	DA bureaucracy, Private sector		1st half of 2022	1 bill proposed and submitted for approval
	2. Re-define classification of hog producers	DA, PSA, Private sector		2022	Accurate classification of hog producers
	3. Revisit data collection procedure	DA, PSA, Private sector		2022	Data collection procedure reviewed and harmonized
	4. Establish PhilAIMIS	DA, DBM	492	2023-2026	PhilAIMIS established and operational
	5. Production of IEC materials – awareness campaign	DA, ATI	10.08	2022-2026	IEC materials produced
	6. Hire/Assign staff (1 Senior, 1 Junior) to man the whole data system (input, supply, output, etc.)	AFIS, LGUs		2022	Staff in place

KEY RESULT AREA 3. INCREASED FARM PRODUCTIVITY

STRATEGY	PROGRAM/ ACTIVITIES	RESPONSIBLE ENTITY	BUDGET (P'million)	TIMELINE	METRICS
MODERNIZATION OF FARMS	1. Improve farms using advanced facilities/ technologies (tunnel ventilation, automated feeders, etc.)	Private farms	1,080	2022-2026	Improved production of commercial and smallhold farms
GENETIC IMPROVEMENT	1. Conduct more R&D on breed development, appropriate technologies, etc.	BAR, SUCs, other research institutions	303	2022-2026	Research results pilot tested and applied
	2. Establish AI station per province with permanent technicians	ITCPH, LGUs	111.4	2022-2026	80 AI stations established in the country
	3. Mainstream the swine genomics application in production and health	BAI, ITCPH	247.53	2022-2026	Swine genomics applied
	4. Institutionalize, strengthen, and modernize the Boar Performance Testing Station (BPTS) located at ITCPH	ITCPH	15	2022-2026	BPTS catering to the whole country for boar testing
	5. Strengthen the Swine Production Performance Monitoring Project of PCAARRD	Private Farms, PSIRDFI, PCAARRD		2022-2026	Increased number of participating farms
FARM EXPANSION	6. Implement fair National Land Use Act	National government and LGUs, Private sector		2022-2023	National Land Use Act implemented

KEY RESULT AREA 4. REDUCED COST OF INPUT

STRATEGY	PROGRAM/ ACTIVITIES	RESPONSIBLE ENTITY	BUDGET (P'million)	TIMELINE	METRICS
RESEARCH AND DEVELOPMENT	1. Conduct more R&D on feed resources	BAR, SUCs, other research institutions	Refer to KRA 3, Genetic Improvement #1	2022-2026	Research results pilot tested and applied
HOG-CORN INTEGRATION PROGRAM	1. Establish Hog-corn integrated farms (pilot program)	DA-NLP, LGUs, ITCPH, Private Sector	12 per cluster (from corn program)	2022-2024	3 Pilot areas – corn- hog area in the country; 200 has. corn area; Luzon, Visayas, Mindanao
TARIFF REDUCTION/ ADJUSTMENT	1. Reduce tariffs of all imported major inputs (e.g. breeders, biologics, medicines, soya) – not locally-produced	DA, BOC, Private sector		2022	Lower taxes (half of existing tariffs)
	2. Reclassification of hog industry from agro- industrial to agricultural industry	DA, BIR, Private sector		2022	Tax reduced
USE OF COST-EFFICIENT TECHNOLOGIES	1. Incentivize use of alternative power sources (solar panels, windmills, etc.) Alternative Power Source	DA, DBM, Private sector		2022-2026	Installed solar panels in farms; incentives – 25 cents/kwh used
	2. Build water catchment facilities in smallhold farms	DA, LGUs, Private sector		2023-2025	Water catchment facilities built
	3. Promote climate-resilient farm management systems	DA, BAR, ITCPH		2023	
REGULATION ON WASTEWATER TREATMENT	1. Formulate a position paper for a more "relaxed" regulation on wastewater effluent	DA, DENR		2022	Lower standards on BOD, TSS, Phosphorus, Nitrogen, etc. (vis-à- vis Asian standards)

KEY RESULT AREA 5. MODERNIZED AND RESTRUCTURED POST-PRODUCTION AND MARKETING SYSTEM

STRATEGY	PROGRAM/ ACTIVITIES	RESPONSIBLE ENTITY	BUDGET (P'million)	TIMELINE	METRICS
ESTABLISHMENT/ IMPROVEMENT OF FACILITIES	1. Upgrade the diagnostic laboratories and feed laboratories in BAI and in the regions	BAI, LGUs	1,624.72 (gov't)	2022-2026	Laboratories BAI and regions improved and well-equipped
	2. Establish and modernize/ upgrade abattoirs (with storage and meat cutting facilities) in different regions (partnership with the private sector)	DA, Private sector	1,228 (private) 900 (gov't)	2022-2026 2023-2025	Shortened supply gap between producers and consumers and institutional buyers Reduced carcass wastage
	3. Establish livestock auction market in strategic areas – management under private sector	BAI, Private sector		2022-2026	Reduced supply chain process
	4. Pilot-test Triple A slaughterhouse in Tanauan, Batangas	DA, LGU, Private sector		2022	Slaughterhouse pilot- tested
	5. Establish/ improve meat laboratories	BAI, Private sector	300 (gov't, establishment)	2022-2026	Meat laboratories established/ improved
	6. Cluster post-harvest facilities/ services	BAI, LGUs, Private sector	4,328.44	2022-2026	Use of facilities shared by producers/ consumers
SKILLS ENHANCEMENT TRAININGS	1. Provide technical trainings to government laboratory personnel on autogenous vaccines and modern diagnostic procedures	BAI, SUCs		2022-2026	Trained personnel (laboratory and post-production aspects)
	2. Train technicians of post- production facilities	BAI, SUCs		2022-2026	

cont'd ▶

STRATEGY	PROGRAM/ ACTIVITIES	RESPONSIBLE ENTITY	BUDGET (P'million)	TIMELINE	METRICS
PROVISION OF SUPPORT MECHANISMS TO PRODUCERS	1. Establish models and credit facilities for value-adding enterprises (i.e., meat shops, meat stalls, eateries, among others) for small hold farmers	DA, Private sector (Linkage with Kadiwa stores)		2022-2026	Partnership among commercial and smallhold producers formed
	2. Establish floor Farm Gate price relative to cost to produce, if lower, government will buy back excess supply	DA, DTI, Private sector		2022 2022-2026	Regulated farm gate price
	3. Transport subsidy specific to shipment of hogs	DA, Private sector	500	2022	Subsidy provided

KEY RESULT AREA 6. INCREASED ACCESS OF SMALLHOLD FARMERS TO INFORMATION AND EXTENSION SERVICES

STRATEGY	PROGRAM/ACTIVITIES	RESPONSIBLE ENTITY	TIMELINE	METRICS
SKILLS ENHANCEMENT TRAININGS OF SMALLHOLD FARMERS	1. Train farmers on the technical and management aspects of hog raising	ITCPH, LGUs, Private sector	2022-2026	Farmers trained
	2. Conduct of technical workshops and fora	ITCPH, LGUs, Private sector	2022-2026	Workshops conducted
	3. Support accreditation of learning sites/farm schools	ATI, ITCPH, SUCs, Private sector		Learning sites/farm schools accredited
PROVIDE ACCESS TO INFORMATION AND EXTENSION SERVICES	1. Provide market linkages, information and technical assistance to the small hold farmers	ATI, ITCPH, AMAS, LGUs		Assistance to farmers provided
EMPOWERMENT OF LGUS AND ITS PERSONNEL	1. Hire (at least) veterinarian per municipality	LGUs	2023	1 Veterinarian per municipality hired
	2. Assign AI technician per town	LGUs	2023	1 AI technician per municipality hired
	3. Provide appropriate and advanced trainings (i.e., along the value chain) to LGU extension workers	ATI, ITCPH, SUCs, LGUs	2022	Trainings conducted

KEY RESULT AREA 7. ADOPTED FOOD SAFETY REGULATIONS AND STANDARDS

STRATEGY	PROGRAM/ACTIVITIES	RESPONSIBLE ENTITY	BUDGET (P'million)	TIMELINE	METRICS
APPLICATION OF PNS AND REGULATIONS IN THE SUPPLY CHAIN	1. Develop and adapt Philippine National Standards (PNS) on food safety	DA-BAFPS			
	2. Fully implement A.O. 5 and 6 (Food Safety and Handling) - Create awareness among LGUs	DA-BAFPS, BAI			twice a year, orientation
	3. Intensify the enforcement of Republic Act 9296 or the Meat Inspection Code	BAI			
	4. Strict implementation of SPS measures	BAI			
	5. Fully implement the Food Safety Act (e.g., Quarantine First Policy)	BAI			
PROVIDE SUPPORT FACILITIES	1. Build standard inspection area in ports, (i.e., provision of reefer vans)	BAI	11.7	2022-2024	9 inspection areas built
SAFE MEAT FOR ALL	1. Establish a reliable National Pork Traceability System (i.e., from farm to table)	BAI, ITCPH, AFIS	147.51	2022-2026	Functional National Traceability System

KEY RESULT AREA 8. IMPROVED ANIMAL HEALTH STATUS

STRATEGY	PROGRAM/ACTIVITIES	RESPONSIBLE ENTITY	BUDGET (P'million)	TIMELINE	METRICS
PROVISION OF FACILITIES	1. Build first border facilities in Subic, MICT, Cebu, Davao, Batangas, Cagayan de Oro	BAI	500/ facility, 3 billion total	2022-2026	6 First border facilities built
	2. Establish a well-equipped National Animal Diagnostic Facility (for genotyping) and Database Center	BAI	1,352.25	2022-2026	Diagnostic Facility established
FORMULATION AND ENFORCEMENT OF REGULATIONS FOR FOOD SAFETY AND DISEASE PREVENTION	1. Regulate prescription of drugs for animals	BAI, LGUs			
	2. Enforce and monitor the regulatory policies (e.g., A.O. 8 series of 2004)	BAI			
	3. Formulate and implement National Biosecurity Program	BAI			
	4. Strengthen AMR Program	BAI, Private sector		2022	
	5. Develop a National Guideline to eliminate swill feeding	BAI, Private sector		2022	Guideline on Swill Feeding developed
DISEASE ERADICATION	Eradicate CSF and control other economically- important diseases (PRV, PED)	BAI, Private sector	100	2022-2026	Diseases eradicated

The government, private sector and all the stakeholders of the Philippine hog industry should work hand in hand to achieve the programs stipulated in this Road Map, 2022 – 2026. It should be a collective, mutually beneficial, and cooperative action towards the recovery and further improvement of the local hog industry.

The next two (2) years will focus on the recovery of the hog population in the country and further improvement/enhancement of what has been done before. And the remaining years will highlight programs that will support the growth of the repopulated hog industry for it to become sustainable, resilient, and globally competitive.

INVESTMENT REQUIREMENTS

The private producers must provide investment for: 1) modernization of farms; 2) upgrading/modernization of the abattoirs; 3) provision of refrigerated transport; 4) provision of cold storage in the public market; and 5) provision of the refrigerated display cabinet in the public markets. This will require an investment of PhP6.64 billion for the whole project from the private sector, excluding the projected loans to be provided by LBP & DBP under the INSPIRE Program.

On the other hand, the government will be requested to invest on the following projects: 1) Establishment of the AI station per province; 2) Institutionalization, strengthening and modernization of the Boar Performance Testing Station (BPTS) located in the ITCPH; 3) Mainstreaming the swine genomics application in production and health; 4) Conducting more R&D on feed resources, other appropriate technologies, market weights, etc.; 5) Strengthening the laboratory capabilities; 6) Establishment of meat laboratories or upgrading of the existing ones; 7) Establishment of Triple-A abattoirs for common use; 8) Provision of standard inspection area in ports (i.e. provision of reefer vans); 9) Establishment of reliable National Pork Traceability System; 10) Hog disease programs, and; 11) Production of information, education and communication (IEC) materials.

These programs would cost the government PhP48.18 billion from 2022-2026 (**Table 26**).

TABLE 26. INVESTMENT REQUIREMENTS FOR THE HOG PROGRAM

ACTION PROGRAMS	2022		2023		2024		2025		2026	
	Quantity	P'Million	Quantity	P'Million	Quantity	P'Million	Quantity	P'Million	Quantity	P'Million
PRIVATE INVESTMENTS										
KRA 1: Increased Hog Inventory Intensification and modernization of production and facilities – thru loans from LBP & DBP under INSPIRE Program	67	9,167	66	9,167	66	9,166				
KRA 3: Increased Farm Productivity Modernization of farms	10	200	10	200	10	200	10	240	10	240
KRA 5: Modernized and Restructured Post- Production and Marketing System										
- Modernization/upgrading of abattoirs	3	186	3	186	3	186	5	373	4	297
- Provision of refrigerated transports	50	85	50	85	48	81.6				
- Provision of cold storage in public markets	50	1,250	50	1,250	48	1,200				
- Provision of refrigerated display cabinets in public market	3141	125.64	3140	125.64	3140	125.56				
SUB-TOTAL		**1,846.64**		**1,846.64**		**1,793.16**		**613.00**		**537.00**
TOTAL FOR PRIVATE INVESTMENTS	**6,636.44**									

Note: Primate investments do not include the loans to be provided by LBO & DBP under the INSPIRE Program.

cont'd ▶

ACTION PROGRAMS	2022		2023		2024		2025		2026	
	Quantity	P'Million	Quantity	P'Million	Quantity	P'Million	Quantity	P'Million	Quantity	P'Million
GOVERNMENT INVESTMENTS										
KRA 1: Increased Hog Inventory										
- Swine Livelihood Enterprise - Calibrated Repopulation under INSPIRE Program (no. of clusters of farmer beneficiaries)	2,015	12,720	2,015	12,720						
- Establishment of Swine Nucleus and Multiplier farms under INSPIRE Program	18	187	300	1,025						
- Provision of hog insurance premiums	8.5M fatteners 1.5M breeders	2,491.25	8.5M fatteners 1.5M breeders	2,491.25	8.5M fatteners 1.5M breeders	2,491.25	8.5M fatteners 1.5M breeders	2,491.25	8.5M fatteners 1.5M breeders	2,491.25
KRA 2 & 6: Improved Agricultural Data System/Increased Access to Information and Extension Services Production of IEC Material		1.6		1.6		1.6		2.64		2.64
- Creation of Philippine Animal Industry Management Information System (PhilAIMIS)				384		36		36		36
KRA 3: Increased Farm Productivity										
- Establishment of AI station per province	16	22.28	16	22.28	16	22.28	16	22.28	16	22.28
- Mainstreaming the swine genomics application in production and health		39.29		39.29		39.29		64.83		64.83
- Institutionalization, strengthening and modernization of the Boar Performance Testing Station at ITCPH		2		2		1		5		5
KRAs 3 & 4: Increased Farm Productivity/Reduced Cost of Inputs Conduct of more R&D on feed resources, breed development, appropriate technologies, etc.		63		60		60		60		60

ACTION PROGRAMS	2022		2023		2024		2025		2026	
	Quantity	P'Million	Quantity	P'Million	Quantity	P'Million	Quantity	P'Million	Quantity	P'Million
KRA 4: Reduced Cost of Inputs Establishment of Hog-Corn Integrated Farms (pilot programs) - budget from Corn Program	1	12	1	12	1	12	1	12	1	12
KRA 5: Modernized and Restructured Post- Production and Marketing System										
- Upgrading of diagnostic and feed laboratories (BAI and Regional laboratories)		307.28		307.27		307.27		351.45		351.45
- Establishment of meat laboratories	3	75	3	75	2	50	2	50	2	50
- Establishment of Triple A abbatoirs for common use			1	300	1	300	1	300		
- Provide transport subsidy specific to shipment of hogs		100		100		100		100		100
KRA 7: Adopted Food Safety Regulations and Standards										
- Provision of standard inspection area in ports	3	3.9	3	3.9	3	3.9				
- Establishment of reliable National Pork Traceability System		36		36		34.15		20.68		20.68
KRA 8: Improved Animal Health Status										
- Build first border facilities	1	500	2	1,000	1	500	1	500	1	500
- Formulation and implementation of hog disease programs		203.80		203.80		203.80		370.40		370.45
SUB-TOTAL	**16,764.40**		**18,783.39**		**4,162.54**		**4,386.53**		**4,086.58**	
TOTAL FOR GOVERNMENT INVESTMENTS	**48,183.44**									

RECOMMENDATIONS FOR POLICIES, STRATEGIES AND PROGRAMS

The HOG STAKEHOLDERS reiterated their suggestions to increase, enhance, expand, and improve governmental support and participation in the whole supply chain. BELOW ARE THEIR WISH LIST OF GOVERNMENT'S SUPPORT AND POLICIES:

1. Make credit easily accessible for the hog farmers
2. Strengthen the livestock insurance system (i.e. Philippine Crop Insurance Commission, among others)
3. Establish indemnification program for farms stricken by disease
4. Review land use policy and zoning regulations
5. Provide irrigation, dryers/milling stations for grains used as animal feeds
6. Construct market infrastructure and develop area-based processing facilities
7. Endorse the new Investment Priorities Plan (IPP) of Bureau of Investments (BOI the inclusion of piggery projects to receive Non-Pioneer Status Incentives. This will encourage the local producers to invest in new modern tunnel ventilated housing, to be at par with the world's best practices and climate change. Study possibilities of reducing tariff on feed ingredients.
8. Increase tariff rate for offal and skin to 30%, similar to that of the pork prime cuts (this is one of the suggestions during the consultation with the hog stakeholders).
9. Study the possibility of reducing electricity/power cost through subsidy.

10. Study the legal basis of imposing passing through fees and the possibility of removing them in the system.
11. Study the possibility of having a special inter-island shipping rate for registered hog producers.
12. Encourage and support the possibility of direct selling of pork cuts in the subdivisions by the smallhold hog farmers.
13. Make a clear policy on live hog shipment and study the possibility of providing exclusive transport facility for live animals.
14. Sustain support in the operationalization of the Swine Genetic Analytical Service Laboratory (SGASL), now housed in the BAI.
15. Source genetics from artificial insemination for those farms with 200 sows and below.
16. Create a law that would require all breeder importers (i.e., importing live animals and semen) to be members of the Accredited Swine Breeders Association of the Philippines (ASBAP).
17. Promote programs on waste management and utilization (e.g., Biogas Program, composting/organic fertilizer production).
18. Provide technical support to producers on the proper design (i.e., small scale and cost-effective) and operations of waste treatment facilities.
19. Integrate the Corn Program with the Livestock Program.
20. Strengthen the regulatory system on food safety, quarantine and inspection system to prevent smuggling.
21. Strengthen the regulatory, monitoring and police action on the implementation of Administrative Orders 5 (Rules and Regulations on Hygienic Handling of Newly-Slaughtered Meat in Meat Markets) and 6 (Rules and Regulations on Hygienic Handling of Chilled, Frozen and Thawed Meat in Meat Markets) series of 2012.

22. Intensify enforcement of the Animal Welfare Act to achieve global competitiveness since this is now required by multinational customers of chicken in the Philippines (e.g., McDonalds and KFC). There should be a plan to improve animal housing, transport and slaughter that would meet the minimum requirements of the global animal welfare regulations.

23. Establish a national hog farms' accreditation and registration system that will also support disease control and eradication initiatives and product traceability. Farm registration must facilitate implementation of R&D projects in terms of accessing necessary samples from private hog farms.

24. Review and modify, if necessary, the PSA's categorization of the hog farms (i.e., backyard vs. commercial farms).

25. Establishment of an agricultural trade data system.

26. Aside from the suggested government support, the hog producers would like to be benefited as to how the hog producers in other countries are assisted by their respective government. The governments of Thailand, Vietnam, the US, EU member states and Canada have set up broad policy directions to support their livestock industries and guarantee private sector activity (Please see **Appendix 6**).

Implementation and Monitoring

Implementation

The implementation of the Hog Industry Roadmap will be guided by a Hog Steering Committee. It will comprise of 13 members: Seven (7) from the private sector who are representatives from NFHFI, Propork, PCSP, PSPA, PAFMI, UNIBAT and PSIRDFI (one of whom will be Chair) and six (6) from the government (DA, BAI, NMIS, PCAF, ATI-ITCPH and DOST-PCAARRD) (**Figure 23**).

The Hog Steering Committee will be organized as soon as possible so that the roadmap implementation can proceed in earnest detail and achieve its mandate. The committee will make sure that the industry roadmap is disseminated to the provincial levels with the support of the LGUs, industry associations and other stakeholders.

The Hog Steering Committee will meet at least quarterly. The secretariat will be headed by a coordinating officer. Several Project Implementing Teams will be formed. Each Team will be responsible for (a) input supply and farm production; (b) postharvest; and (c) logistics and marketing. The Steering Committee will evaluate the function of the Project Teams as and when necessary.

Funding. To sustain the implementation of the Hog Roadmap, the DA should release the fund as indicated in the roadmap.

Creation of Technical Working Groups (TWGs)

Two (2) Technical Working Groups shall be created – one for provincial level and another for regional level. The Regional TWG shall act as the secretariat to consolidate specific policies and directives from the Provincial TWG. The consolidated policies and directives will be submitted to the Hog Steering Committee.

The Provincial TWG shall be formed and act as the secretariat of the different Project Implementing Teams; consolidate specific policies and directives from the Hog Steering Committee that will be implemented in the province.

The composition, roles, and responsibilities of the TWGs are as follows:

Technical Working Group – Regional

Composition:

TWG-Regional will be composed of the head of provincial action teams and provincial veterinarian, as determined by the Hog Steering Committee. It should be co-chaired by the public and private sector representatives of the region.

Roles and Responsibilities:

- Monitor, facilitate and connect with the national agencies on hog investments
- For backyard raisers: help organize municipal/provincial clusters
- Facilitate formation of provincial TWGs if and when necessary

Technical Working Group – Provincial

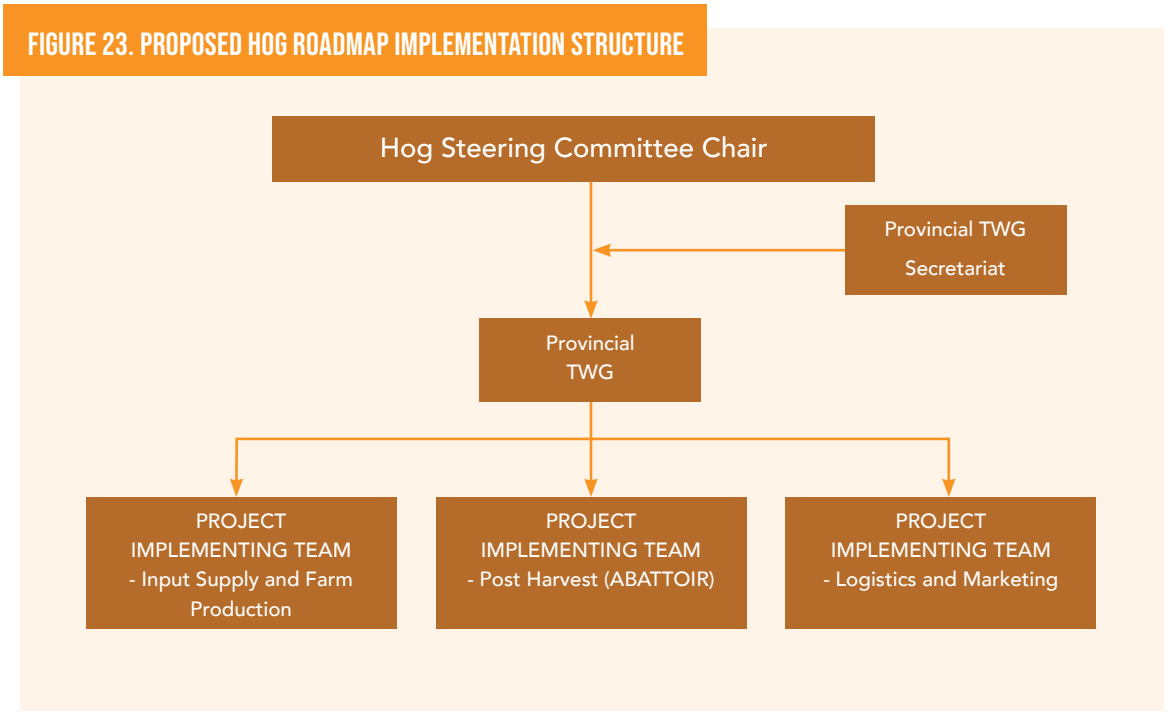
Composition:

TWG-Provincial will be composed of representatives from backyard raisers, cooperatives, processors, traders, exporters, and public sector in the province. It will be co-chaired by the public and private sector representatives of the provinces.

Roles and Responsibilities:

- Seek LGU support for the hog enterprises
- Facilitate financing from LBP and DBP
- Coordinate with DA-RFU for counterpart support
- Help package projects for ODA and investors
- Assign point person for every key activity
- Monitor progress of various activities

FIGURE 23. PROPOSED HOG ROADMAP IMPLEMENTATION STRUCTURE



Monitoring

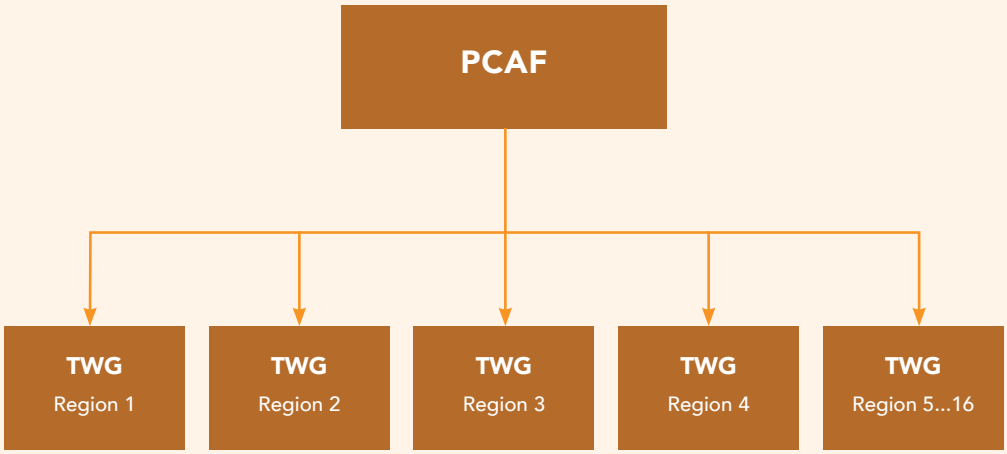
Initially the Philippine Council for Agriculture and Fisheries shall handle the monitoring system. Once the Hog Steering Committee (**Figure 24**) is formalized, it shall agree on a monitoring system at the provincial and regional level.

The monitoring system shall include at the minimum the following parameters:

1. Production
2. Amount of public and private investments in the province
3. Potential job creation
4. Imports substitution

The monitoring group will have a high level of independence and may hire external experts.

FIGURE 24. HOG INDUSTRY ROAD MAP PROPOSED MONITORING STRUCTURE



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APPENDICES

APPENDIX 1. LIST OF REGISTERED FEEDMILLERS IN THE PHILIPPINES

Feed Manufacturer	Plant Site/Contact Address	Brand and Product Lines	Classification[2]
National Capital Region			
Agri-Specialist, Inc.	Celery Rd., FTI Complex, Taguig, Metro Manila	Sunshine Feeds: Chicken, Pig, Gamecock	M
Bantrade Pellet Feeds Mfg. Corp.	20 Dona Juana de Rodriguez Ave., Potrero, Malabon, Metro Manila	Bantrade: Poultry, Pigeon, Gamecock, Pig	S
Bayna Commercial	2064 La Mesa St., Ugong, Valenzuela, Metro Manila	Top Most Feeds: Pig, Broiler	S
Biofeeds Corp.	Stall 332-333, Celery Rd., FTI Complex, Taguig, Metro Manila	Biofeeds: Pig, Chicken, Gamecock	S
Champion Feed Mills	74 M. H. del Pilar, SFDM, Quezon City, Metro Manila	Champion Feeds: Cattle, Swine, Horse, Chicken	M
Chiu-Nichi Agro-Resource Phils., Inc.	3078 F. Bautista cor. Cuadra Sts., Ugong, Valenzuela, Metro Manila	Hog Concentrate	S
Far East Agricultural Supply, Inc.	ACA Cmpd.,Malanday, Valenzuela, Metro Manila	Life Feeds: Pig, Chicken	M
Farmrich Agricultural Center	536 EDSA, Caloocan City	Farmrich: Horse, Gamecock	S
Feedmix Specialist Milling, Inc.	272 M. H. del Pilar St., Maysilo, Malabon, Metro Manila	Feedmix: Pig, Chicken, Gamecock	S
Feedrite Product, Inc.	35 Marvex Drive, Balintawak, Quezon City, Metro Manila	Victory, Matamis Deer: Horse	S
Foremost Farms, Inc.	Bo. Santolan, Pasig, Metro Manila	Foremost & Rich: Pig, Chicken	L
General Milling Corp.	Rodriguez Ave., Bo. Ugong, Pasig, Metro Manila	General Feeds: Pig, Poultry	L
Glowdell Manufacturing, Inc.	345-C April St., Congressional Village, Quezon City, Metro Manila	Glowdell Feeds: Gamecock	S
Golden Sun & Feed Grains Ent.	9 Isidro Francisco St., Valenzuela, Metro Manila	Golden Sun Feeds: Horse	S
Gold Master Feeds Milling	10 Gregorio St.,Canu-may, Valenzuela, Metro Manila	Goldmaster Feeds: Pig, Chicken, Gamecock	S
Goldwin Commercial	388 San Diego St., Santolan, Malabon, MetroManila	Goldwin: Pig, Chicken, Gamecock	S
Good Season Poultry Supply	91 Santos St., Santolan, Malabon, Metro Manila	Good Season: Gamecock	S
Hi-Grade Feeds Corp.	31 Reparo Rd., Baesa, Caloocan City	Hi-Grade Feeds: Pig, Poultry, Hors	M
Integrated Poultry Supply	27 E. Fairview Ave., Brgy. Fairview, Quezon City	Integrated: Gamecock	S

Feed Manufacturer	Plant Site/Contact Address	Brand and Product Lines	Classification[2]
Jobengco Trading	509 M. de los Santos St., Binondo, Manila	Sabungero Feeds: Gamecock	S
Kohliz Exotic Fauna	No. 3 Aldan Ave., Brgy. Manuyo, Las Pinas, Metro Manila	Liztra Staple: Fish	S
Liberty Flour Mills, Inc.	528 Blumentritt Ext'n., Mandaluyong,	Ranchero: Pig, Poultry	S
Liberty Agr'l. & Poultry Supply	3 Esquivel St., SFDM, Quezon City	Liberty Feeds: Gamecock	S
Masagana Meal Supply	677 Tandang Sora Ave., Bo. Banlat, Quezon City	Masagana Feeds: Chicken, Pig, Gamecock	S
Pharmaceutical Mfg. Corp.	5 Cayetano St., Karuhatan, Valenzuela, Metro Manila	Pharma Feeds: Chick, Pig	S
Phil. Feeds Milling Co., Inc.	Paso de Blas, Valenzuela, Metro Manila	All Best: Pig, Chicken, Horse, Gamecock	S
Phil. Super Feed Corp.	1087 North Bay Blvd., Navotas, Metro Manila	Super Feeds: Pig, Chicken	S
Premium Feeds Mfg. Corp.	308 Mabolo St., Santolan, Malabon, Metro Manila	Premium Feeds: Chicken, Pig	S
Progressive Poultry Supply	1013 EDSA, Quezon City	Gamecock	S
Royal Feeds & Mercantile Corp.	Aurora Blvd., Maysilo, Malabon, Metro Manila	Royal/Corona Feeds: Rabbit, Poultry, Gamecock, Pig, Pigeon	S
Sagana Commercial	126 7th St., 7th Ave., Grace Park, Caloocan City	Prosperity Feeds: Chicken, Pig	S
S & T Food Products, Inc.	262 M.H. del Pilar St., Maysilo, Malabon, Metro Manila	German Dog Food	S
San Miguel Foods, Inc.	658 A. Bonifacio St., Balintawak, Quezon City	B-meg Feeds: Pig, Pigeon, Poultry	L
Sarimanok Feeds Co.	86 Mayflower St., Mandaluyong, Metro Manila	Sarimanok Feeds: Poultry, Gamecock, Pig	M
Selecta Feeds, Inc.	Nova Prima St., Pook Selecta, Novaliches, QC	Selecta Feeds: Chicken, Pig, Dairy, Dog	M
SKP Feeds Milling Co., Inc.	Sitio Bisalao, Mapulang Lupa, Valenzuela, Metro Manila	Unicorn Feeds: Chicken, Pig, Gamecock	S
Super Vita Feeds Mfg.	Cervantes St., Km. 17 West Services Rd., So. Super Hi-way, Paranaque, Metro Manila	Super Vita Feeds: Poultry, Pig	S
Swifts Foods, Inc. (formerly RFM Corp.)	Pioneer St., Mandaluyong, Metro Manila	Blue Ribbon Feeds	L

cont'd ▶

Feed Manufacturer	Plant Site/Contact Address	Brand and Product Lines	Classification[2]
Thick & Thin Agri Products, Inc.	6007 A. Mariano St., Mapulang Lupa, Valenzuela, Metro Manila	Atlas Feeds: Chicken, Pig	S
Triumph Trade Center	No. 19 Malasimbo St., Masambong, QC	Halo Feeds: Horse	S
United Poultry Supply	1665 Ma. Clara St., Grace Park, Caloocan City	Nutrena Feeds: Chicken, Duck, Pigeon, Rabbit, Gamecock, Pig	S
Universal Robina Corp.	Bagong Ilog, Pasig, Metro Manila	Starfeed 555: Chicken, Duck, Pigeon,	L
Vigofeeds Milling Corp.	32 Ma. Clara St.,Malabon,Metro Manila	Vigo Feeds: Poultry, Pig	S
Virginia, Incorporated	379 McArthur Highway, Malinta, Valenzuela, Metro Manila	Superior Feeds: Horse	S
Wellington Flour Mill	Shaw Blvd., Pasig, Metro Manila	Duck, Swine	S
Region I			
ABC Feedmill	Carmen West, Rosales, Pangasinan	ABC Feeds: Pig	S
Agoo Farmers Supply	Sta. Barbara, Agoo, La Union	Special Feeds: Pig, Chicken	S
Bolong Agri-Management Corp. (BAMCOR)	Taboc, San Juan, La Union	B-meg Feeds	S
Central Pangasinan Agr'l. Dev't.	Talospatang, Malasiqui, Pangasinan		S
Don Mariano Marcos Memorial State University Pig Extension & Research Farm	Baroro, Bacnotan, La Union	B-meg Feeds	S
Goldon Agritech, Inc.	Carmen, Rosales, Pangasinan	Speed Gro: Pig, Chicken	S
Pangasinan Livestock Multi- Purpose Cooperative, Inc.	Mabilao, San Fabian, Pangasinan	Pig Mash	S
Pangasinan Purefeeds Feedmill, Inc.	Bugayong, Binalonan, Pangasinan	Purefeeds: Pig, Chicken	S
Universal Feedmix Center	Agoo, La Union	Prime Choice: Pig, Chicken	S
Region II			
Cagayan Valley Dev't. Coop., Inc.	Nappaccu Pequeno, Reina Mercedes, Isabela	B-meg Feeds	S
Camada Ent.(RFM Corp.)	Bo. Bagay, Tuguegarao, Cagayan	Blue Ribbon Feeds	S

Feed Manufacturer	Plant Site/Contact Address	Brand and Product Lines	Classification[2]
E.R. Feedmill	La Torre, South Bayombong, NuevaVizcaya	Vi-Pro: Pig, Chicken	S
Feedcor Cagayan Valley, Inc.	Mabini, Santiago, Isabela		S
Solano Agro-Ind'l. Dev't. Corp.	No. 12 Bonifacio St., Osmena, Solano, Nueva Vizcaya	SADECOR Feeds: Pig, Chicken	S
Three Brothers Feeds	Banggot, Bambang, Nueva Vizcaya	Three Brothers Feeds: Pig, Chicken	S
Valley Agro-Ind'l. Corp.	Capirpiriwan, Cordon, Isabela	Valley Feeds: Pig, Chicken	S
Region III			
A.A. Poultry and Agr'l. Supply	de la Paz Norte, San Fernando, Pampanga	Holm Feeds: Pig, Chicken	S
Agrifarms Business Ventures Corp.	Apo St.,San Fernando CoMetro Manila'l Complex, del Pilar, San Fernando, Pampanga	Avecor Feeds: Pig, Chicken	S
Agriline Products	Sta. Maria, Moncada, Tarlac	Agriline Conditioners	S
Agro Master Inc.	Bo. Bagbaguin, Sta. Maria, Bulacan	AMI Feeds:Gamecock, Pig, Chicken,Cattle	S
Agro-Trade Integrated Ventures Corp.	Bo. Bagbagin, Sta. Maria, Bulacan	Hagibis: Gamecock	S
A-mix Feeds	M.H. del Pilar St., Tarlac, Tarlac	A-mix Feeds: Pig, Chicken	S
B.G. Enterprise	San Jose, Baliuag, Bulacan	Top Pro: Pig, Chicken	S
Biena Feeds	San Francisco, Bulacan, Bulacan	Biena Feeds: Pig	S
Biotop Philippines Agri., Inc.	5040 Kalayaan St., Bagong Bayan Subd., Angeles City	Formosan Feeds: Pig, Chicken	S
B.M. Feeds	Sitio Mangga, Sta. Cruz, Lubao, Pampanga	BM Feeds: Pig, Chicken	S
Bulacan Poultry & Livestock Raiser's Association, Inc.	382 McArthur Hi-way, Tuktukan, Guiguinto, Bulacan	BULPRA: Pig, Chicken	S
Consolidated Nutri-Specialist Corp.	Camias, San Miguel, Bulacan		S
Copernicus Agro-Ventures, Inc.	San Francisco St., Pob. Pulilan, Bulacan	Piggy Bloom: Gamecock	S
Diamond Feed Mill	Mosesgeld St., Magsaysay District, Cabanatuan City	Diamond Feeds: Pig, Chicken	S
Emmeri Feeds Manufacturing	Sta. Cruz, Magalang, Pampanga	Progyvit-Plus: Pig	S

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Feed Manufacturer	Plant Site/Contact Address	Brand and Product Lines	Classification[2]
Feedtech Philippines, Inc.	Magsaysay District, Cabanatuan City		S
First Biotech Feedmilling	Gonzales St., San Juan, Apalit, Pampanga	Biotech Feeds: Pig, Chicken	S
Formix, Incorporated	Bo. Bagbaguin, Sta. Maria, Bulacan	Formix Feeds: Chicken, Pig, Gamecock	S
H.M. Uson Feed Supply	Pio Cruzcosa, Calumpit, Bulacan	Amanak Feeds: Pig, Chicken, Gamecock	S
Interworld Farms, Inc.	Bo. Malamig, Bustos, Bulacan	Interworld Feeds: Pig, Chicken; Pagasa: Duck	S
I. O. Basic Poultry Supply	Bo. Pulang Cacutod, Angeles City	Ace Feeds: Pig, Chicken	M
GNG Farms Corp.	Sitio Tubigan, Bo. Gaya-Gaya, San Jose del Monte, Bulacan	Supergrain Feeds: Pig, Chicken	S
Gold Label Feed Mill	de la Paz Norte Rd., Sindalan, San Fernando, Pampanga	Gold Label Feeds: Pig, Chicken	S
J & C Farmhouse	McArthur Highway Lolomboy, Bocaue, Bulacan	Bagwis: Gamecock	S
Jhosel's Agro-Marketin	Sta. Barbara, Baliuag, Bulacan		S
Karm Industries	Lot 10 Blk 6, Narra St., Hensonville, Angeles City	Raiser's Feed: Chicken, Pig	S
Kilusang Bayan Sa Producer Ng Luzon	San Leonardo, Nueva Ecija	Energized Co-op Feeds: Pig, Chicken	S
Masagana Feeds, Inc.	Turo, Bocaue, Bulacan	SM Forte: Pig, Chicken	S
Math-Agro Corporation	Burol 1st, Balagtas, Bulacan	Minerva Feeds: Chicken, Pig	M
Mayon Poultry Supply	Bo. Pio Cruzcosa, San Marcos, Calumpit, Bulacan	Star Feeds: Pig, Chicken, Gamecock	S
M.C.D. Livestock & Feeds Int'l., Inc.	Bo. Sto. Cristo, Pulilan, Bulacan	Equity Feeds: Horse	S
Minalin Poultry & Livestock Coop.	Sta. Rita, Minalin, Pampanga	Mipolco Feeds: Pig, Chicken	L
Multivite Feeds	580 Turo, Bocaue, Bulacan	Multivite Feeds: Pig, Chicken	S
Nutrimix Feeds Corporation	Dulong Bayan, San Jose del Monte, Bulacan	Nutrimix Feeds: Chicken, Pig, Quail,Dairy Cattle	S
Pilpride Enterprises	Luis Reyes St., Concep-cion, Baliuag, Bulacan	Pilpride Feeds: Pig, Horse	S
Pat-Gu Resources Corporation	Bagong Bayan, Bulacan, Bulacan	Suprema Feeds: Chicken Pig	S

Feed Manufacturer	Plant Site/Contact Address	Brand and Product Lines	Classification[2]
Philippine Techno Feeds, Inc.	Sto. Cristo, Pulilan, Bulacan	Techno Feeds: Pig	S
Poultry Ingredients & Livestock Trading Corp.	Bagbaguin, Sta. Maria, Bulacan	CM Feeds: Chicken, Pig	S
Purina Philippines, Inc.	Bo. Dampol 1st, Pulilan, Bulacan	Purina Feeds: Pig, Duck, Chicken	M
Queen Feedmilling Corporation	Santo Domingo I, Capas, Tarlac	Queen Feeds: Pig, Chicken, Cattle	S
Rick's Poultry Supply	79 Pob. Villarica, Sta. Maria, Bulacan		S
R'Ale General Merchandise	Mababang Parang, Sta. Maria, Bulacan	R'Ale	S
Reyna Feeds	Tiaong, Guiguinto, Bulacan	Reyna Feeds: Pig, Chicken	S
San Agustin Multi-Purpose Coop.,Inc.	Dampulan, Jaen, Nueva Ecija	SAPRIMCO Feeds: Pig	S
San Ildefonso Agro Corp.	Matimbubong, San Ildefonso, Bulacan	Excelmix Feeds: Pig	S
San Marcos Feed Mills	Brgy. Longos, Calumpit, Bulacan	El Bueno Feeds: Chicken, Pig, Gamecock	S
Sta. Maria Feedmill	Dulong Bayan, Sta. Maria, Bulacan	Pig, Chicken, Quail, Cattle	S
Sta. Monica Livestock Raisers' Association, Inc.	San Matias, Sto. Tomas, Pampanga	Sta. Monica Feeds: Pig, Chicken	S
St. Mary's Trading	Bagbaguin, Sta. Maria, Bulacan	Supermix Feeds: Quail, Pig, Chicken	S
Sarimanok Feeds Co., Inc.	No. 33 Turo, Bocaue, Bulacan	Sarimanok: Pig, Chicken, Quail	S
Tri Star Feed Mill	San Jose, Patag, Sta. Maria, Bulacan	Tri-Star Mix: Pig	S
Tryco Pharma Corporation	San Roque, San Rafael, Bulacan/117 M. Ponce St., Caloocan City	Gamecock	S
Vima Feeds of Lubao, Pampanga, Inc.	Sta. Cruz, Lubao, Pampanga	Vima Feeds: Pig, Chicken	S
Vitarich Corporation	Bo. Abangan, Marilao, Bulacan	Vitarich Feeds: Pig, Dog, Poultry, Gamecock	L
Waesdec Association, Inc. Romeo Santos, Jr	San Pablo, Magalang, Pampanga	Enervipro Feeds: Pig, Chicken	S
YKK Feed Mill	Brgy. Mabini, Moncada, Tarlac	Jasper Feeds: Pig, Chicken	S

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Feed Manufacturer	Plant Site/Contact Address	Brand and Product Lines	Classification[2]
Region IV			
A&G Feeds	Silangang Mayao, Lucena City	A & G Feeds: Pig, Chicken	S
Agoncillo-Lemery Marketing & Feedmills Corp. (ALMARCO)	Bo. Bangin, Agoncillo, Batangas	Almarco Feeds: Pig, Chicken	S
Algro Pacific Marketing	Pob. San Pascual, Batangas	Algro Feeds: Pig, Chicken	S
Arcya Feeds Corporation	1669 Brgy. Dila, Sta. Rosa, Laguna	Lusog & Hubbard Feeds: Pig, Chicken	M
Angeles Feeds	Lamot 2, Calauan, Laguna	Viking & Hercules Feeds: Pig	S
Armor Milling Corporation	Antipolo del Sur, Lipa City	Armor Feeds: Pig, Quail, Chicken	S
Banahaw Feedmill Corp.	Silamgang Mayao, Lucena City	Banahaw Feeds: Cattle, Pig, Chicken,	S
Banner Dev't. Corp.	Sabang, Lipa City	Banner Feeds: Pig, Chicken	L
Blue Diamond Feed Mills, Inc.	Carandang St., Sto. Rosario, Batangas	Blue Diamond Feeds: Pig, Chicken	L
Bughaw Agri -Services, Inc.	Sabang, Lipa City	Unlad Feeds: Pig, Chicken, Gamecock	S
Busilac Feedmills, Inc.	Taysan, San Jose, Batangas	Busilac Feeds: Pig, Chicken	M
CAFFMACO	San Vicente, Silang, Cavite	CAFFMACO: Pig, Bird, Poultry, Cattle, Goat, Dog,	M
Cattleya Agro Dev't. Corp.	Brgy. Sampaguita, Lipa City	Cattleya Feeds: Pig	S
Cavite Feeds Milling Corp.	Aguinaldo Highway, Biga, Silang, Cavite	Sustamina Feeds: Pig, Chicken	S
CDR Agro-Industrial Enterprises	10 de Julio St., Lipa City	Lucky 4A Feeds: Quail Gamecock, Pig, Chicken,	S
C.S.L. Agro Industrial Corp.	Bagong Pook, Lipa City	Primera Feeds: Pig, Chicken	S
Dalisay Farm Corporation	Ibayo, Dasmarinas, Cavite	Dalisay Feeds: Pig, Chicken	S
Dardith Poultry and Livestock Products	Talaba, Atimonan, Quezon	Emerald Feeds: Pig, Chicken	S
Dragon Year Integrated Agri-Business Corporation	San Agustin, Alaminos, Quezon	Golden Dragon Feeds: Pig, Chicken	S
Everyday Brand Mfg. Corp.	Bo. Tangob, Padre Garcia, Batangas	Pig, Chicken	S

Feed Manufacturer	Plant Site/Contact Address	Brand and Product Lines	Classification[2]
First Golden Mix Agro-Ventures, In c.	Banaba South, Batangas City		S
Franc Feedmill	del Pilar St., Calapan,Oriental Mindoro		S
GJ Silang Feeds, Inc.	36 P. Montoya St., San Vicente Silang, Cavite	Pig, Chicken	S
Golden Bell Agro Enterprises	Pinagkawitan, Lipa City		S
Golden Grains Concentrate	Binan Public Market, Binan, Laguna	Gamecock Feeds	S
Goldstar Feeds, Inc.	Brgy. San Carlos, Rosario, Batangas		S
Growbest Agro-Industrial Corp.	Calansayan, San Jose, Batangas	Growbest Feeds: Quail, Pig, Chicken	S
Growil Feeds	Brgy. Sapaan, Atimonan, Quezon	Pyramid Feeds: Pig, Chicken	S
Gro-Power Agro-Ind'l. Corp.	Brgy. San Jose, Lipa City, Batangas	Power Feeds: Pig, Chicken	S
Harrizon Farm Products Corp.	Brgy. San Francisco, Calihan, San Pablo City	Golden Star: Pig, Chicken	S
Harvest Agro-Development Corp.	Mike Lina St., Lipa City	Harvest Feeds: Pig, Chicken	M
J & V La Suerte Integrated Corp.	Brgy., Cotta, Lucena City		S
Jet Best Multilines Corp.	Marawoy, Lipa City	Buena Suerte: Pig, Gamecock	S
King's Ranch	Sitio Tugtugin, Brgy. Batasan, San Jose, Mindoro Occidental	Tamaraw Feeds: Pig, Chicken	S
King Super Feeds Corp.	Colago Ave., San Pablo City, Laguna	Hari Feeds: Pig, Chicken	M
Labarzon Mega Ventures, Inc.	Maharlika Highway, Talisay, Tiaong, Quezon		S
Laqueba Agribusiness and Feedmill Corporation	Malabanan Norte, Candelaria, Quezon	Mega Feeds: Pig, Chicken	S
Lipa Agricultural Dev't. Corp.	Sabang, Lipa City	LADECO: Pig, Chicken	S
Lipa Ibaan Batangas Agr'l. Corp.	Brgy. Pangao, Ibaan Batangas		S
Limcoma Marketing Coop.	Sabang, Lipa City	Limcoma: Pig, Chicken	M
Lucky Star Feed Mills	P. Burgos St., Pob. Ibaan, Batangas	LS Feeds: Pig	S

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Feed Manufacturer	Plant Site/Contact Address	Brand and Product Lines	Classification[2]
Mago Agro Industry	Matala, Ibaan, Batangas	3 King Feeds: Pig, Chicken	S
Maharlika Agri-Ind'l. Resources Corp.	Banay-banay, Lipa City		S
Malabanban North Industrial Livelihood Agri-business	Brgy. Malabanban, Candelaria, Quezon	Manila Feeds: Pig, Chicken	S
Manzano Energy Feeds	10 P. Valdeavilla Alley, Lucena City	Energy Feeds: Pig	S
Mindoro's First Feeds & Dev't. Corp.	Malinao, Naujan, Oriental Mindoro	Pig, Chicken	S
New Golden Mix Feed Corp.	Banay-banay 1st, San Jose, Batangas	Golden Mix Feed: Pig, Chicken	M
New Island Feeds & Livestock Dev't. Corp.	San Aquilino, Roxas, Oriental Mindoro	Nildeco Feeds: Pig	S
P & H Farmers	14 Sambat, Tanuan, Batangas	Hy Pro-Mix: Pig, Chicken	S
Padre Garcia Dev't. Coop., Inc.	Pansol, Padre Garcia, Batangas	Padeco Feeds: Pig, Chicken	S
Permanent Magic Feeds	Bagumbayan, Tanuan, Batangas	Pig Feeds	S
Primera Agro Dev't. Corp.	Brgy. San Carlos, Lipa City	Pagro Feeds: Pig, Chicken, Cattle	M
Quezon Morning Sun Company, Inc.	888 Bustamante St., Candelaria, Quezon	Sikat Feeds: Pig, Chicken	S
Rizal Poultry & Livestock Ass'n., Inc.	Gen. Luna St., Malanday, San Mateo, Rizal	Riza Feeds: Pig, Broiler	M
San Luis Dev't. Coop., Inc.	Bo. Aliliw, Lucban, Quezon	Ugnayan Feeds: Pig	S
Siniloan Feeds Corp.	A. Serrano St., Bo. Buhay, Siniloan, Laguna	Fresh Feeds: Pig, Broiler	S
Soro-soro Ibaba Dev't. Corp., Inc.	Sorosoro Kalsada, Batangas City	SIDCI Feeds: Pig, Cattle	S
Sunflower Agro-Ind'l. Corp.	Bo. Banay-Banay, Lipa City	Pig, Chicken Feeds	M
Taysan Feedmills, Inc.	Mabayabas, Taysan, Batangas	Vitafull Feeds: Pig	S
Tower Feeds Corp.	Pinagkawitan, Lipa City	Pig, Chicken	L
Vitagro Agro-Ind'l. & Feeds Corp.	Lodlod, Lipa City	Pig, Chicken	S
V.M. Mojares & Associates Agri-Dev't.	Brgy. Kayumanggi, Lipa City		S

Feed Manufacturer	Plant Site/Contact Address	Brand and Product Lines	Classification[2]
Region V			
AFSPA Marketing Corp.	Tinago, Ligao, Albay	AFSPA Feeds: Pig, Chicken	S
Allan Marketing	del Rosario, Naga City	Chicken	S
Arrow Poultry Supply	Taculod, Canaman, Camarines Sur	Quality Feeds: Chicken, Pig, Gamecock	S
SBec-N-Rich Feed Mill	Dita, Legaspi City	Nrich Feeds: Chicken, Pig	
Bicol Express Agr'l. Dev't. Corp.	Parili, Pili, Camarines Sur	Express Feeds: Pig, Chick, Cattle	S
Catanduanes CoMetro Manila Unity Socio-Economic Dev't. Ass'n.	Bigaa, Virac, Catanduanes	CCSEDA Feeds:Chicken, Pig	S
Degrey Feedmill	Cadlan, Pili, Camarines Sur	Fastgro Feeds: Chicken, Pig, Gamecock	S
Fertiland Agri-Ventures, Inc.	Baras, Canaman, Camarines Sur		S
Ibalon Feedmill Corporation	San Agustin, Iriga City, Camarines Sur	Ibalon Feeds: Pig, Chicken	S
Lorete Feedmill Corporation	920 RoxasAve.,Quiman-tong, Darraga, Albay	B-plus Feeds: Chicken, Pig	S
Pioneer Premium Feedmill	Caroyroyan, Pili, Camarines Sur	Pioneer Feeds: Chicken, Pig	S
Ricel Feeds Mill	San Miguel, Iriga City	Sultan Feeds	S
San Miguel Foods, Inc. (Zepeda Satellite Plant)	Burabod, Tigaon, Camarines Sur	B-meg Feeds	S
San Lorenzo Feeds Mill	del Rosario, Naga City	San Lorenzo Feeds: Chicken, Pig	S
Sto. Domingo People's Cooperative, Inc.	Diversion Rd., Sta. Misericordia, Sto. Domingo, Albay	SADOFECO Feeds: Pig	S
Supra Feeds Corporation	McKinley St., Ligao, Albay	Suprra Feeds: Pig, Chicken	S
Tara Feeds Mill	Tara, Sipocot, Camarines Sur	Isarog Feeds: Pig, Chicken	S
W-bel Feed	San Rafael, Guinobatan, Albay	Leader Feeds: Pig, Chicken	S
W.B. Golden Feedmill	San Rafael, Cararayan, Naga City	W.B. Golden Mix: Pig, Chicken, Gamecock	S

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Feed Manufacturer	Plant Site/Contact Address	Brand and Product Lines	Classification[2]
Region VI			
First Farmers Food Corp.	Dos Hermanos, Talisay, Negros Occ.	First Farmers Feed: Pig, Chicken	S
Region VII			
Alpha Feed Mills, Inc.	412 Basak, Mandaue City	Alpha Feeds: Chicken, Pigeon, Gamecock,Pig	S
Best Feeds	cor. CPG Ace & Dau Road, Tagbilaran City	Best Feeds: Pig, Chicken	S
Cebu Agribusiness, Inc.	S.E. Jayme St., Paknaan, Mandaue City	Agrico: Chicken, Pig	S
Cebu B-meg Feed Plant	Looc, Mandaue	B-meg Feeds: Chicken, Duck, Gamecock,Pig	L
Cebu Popular Agrivet Supply	80 B. Arenas St., Cebu City	Popular Feeds: Gamecock	S
Chanlim General Merchandising	Tugas, Madredejos, Cebu	Chicken, Pig	S
General Milling Corporation	Lapu-lapu City	General Feeds: Chicken, Pig	L
Hayco Marketing	Mabolo, Cebu City	Hytac Feeds: Gamecock	S
Island Feeds Mill	Highway Maguikay, Mandaue City	Island Feeds: Chicken, Pig, Gamecock	S
Omni Agriventures, Inc	Calle Burgos, Dao District, Tagbilaran City	Omni Feeds	S
Producers Farm Products Trading	S.E. Jayme St., Paknaan, Mandaue City	Pig	S
Peter's Agrivet Supply	A. del Rosario St., Mandaue City	Gamecock	S
Swifts Food, Inc.	Bo. Looc, Mandaue City	Blue Ribbon Feeds	M
Tennesse Feedmill, Inc.	Tungkil, Minglanilla, Cebu	Greenhills Feeds: Chicken, Gamecock	S
Universal Feedmill Corp.	Highway Basak, Mandaue City	UFM Feeds: Chicken, Pig	S
Upland Specialty Feeds	Tabok, Mandaue City	Cebu Upland: Gamecock	S
Region VIII			
Visca Pilot Feedmill	DASVM Auxillary Bldg., Baybay, Leyte	Visca Feeds: Pig, Chicken	S

Feed Manufacturer	Plant Site/Contact Address	Brand and Product Lines	Classification[2]
Region IX			
Farmers Soya Feedmill	Don Tiburcio St., Sta. Cruz, Tetuan, Zamboanga	Farmer's Soya Feeds: Chicken, Pigeon	S
Jhoan Agrivet Supplies	Camachille, Zamboanga City		S
Monte Maria Poultry Farm,Inc.	Km 5 Mampang, Zamboanga City	Monte Maria Feeds: Chicken	S
Silvina Farm Products	257 Logoy Grand,Talon-talon, Zamboanga City	Silvina Feeds: Chicken, Pig	S
Waltac Breeder Farm	Baliwasan, Zamboanga City	Bio Active Feeds: Pig, Chicken	S
Region X			
Integrated Livestock & Poultry Raiser's Coop., Inc.	Balulang, Cagayan de Oro City	Ilipco: Chicken, Pig	S
Vitarich Corporation	Umalag, Tablon, Cagayan de Oro City	Vitarich Feeds: Chicken, Pig, Pigeon	L
Region XI			
Anboco Enterprises	Cagampang St., Gen. Santos City	Chicken	S
Biocrest Feedmill	Apopong, Gen. Santos City	Biocrest Feeds: Chicken, Pig	S
Cal's Enterprises	Km. 23, Bunawan, Davao City	Farm Master	S
Davao Dragon Fortune Corp.	Aurora Ext'n.,Digos, Davao del Sur	Pig Feeds	S
Davao Green Field Ent.	Villa Abrille St., Davao City	Vita Alfa Feeds: Chicken, Pig	S
G.Y. Enterprises	156 R. Magsaysay Ave. Davao City	Gamecock Feeds	S
Iluminada Farms, Inc.	Bago Gallera, Talomo, Davao City	Iluminada Feeds: Chicken	S
Integrated Feedmills Corp.	Km. 12 Cataluna Requeno, Davao City	Best Feeds	S
Julu Enterprises, Inc.	Dumoy, Toril, Davao City	Julu Feeds: Chicken, Gamecock	S
Monte Maria Poultry Farms, Inc.	Cataluna Grande, Davao City	Monte Maria Feeds: Chicken	S
P.G. Ang & Sons, Inc.	National Highway,Gen. Santos City	Everich Feeds: Chicken	S
Vitarich Corporation	Km. 15 Panacan, Davao City	Vitarich Feeds: Chicken, Pig	S
Region XII			
Pilmico Foods Corporation	Kiwalan, Iligan City		L

APPENDIX 2. LIST OF ACCREDITED LOCAL BREEDER FARMS (AS OF AUGUST 31, 2021)

	Name of Farm	Farm Address	Expiry Date
1	3J Sireline Nucleus Farm	Brgy. San Pedro, Tiaong, Quezon	June 30, 2022
2	BROOKSIDE BREEDING AND GENETICS CORPORATION	Sitio Pascuala, Brgy. Sto. Rosario, Capas, Tarlac	January 16, 2021
3	CP DALAGUETE	Brgy. Lanao, Dalaguete, Cebu	June 2, 2023
4	CP FLORIDA	Brgy. Sto Rosario, Floridablanca, Pampanga	March 11, 2023
5	CREEKVIEW STOCK BREEDING FARM CORP.	Sitio Rose, Brgy. San Jose, Sta. Cruz, Laguna	January 8, 2022
6	DAVAO CRESTA FARM INC. c/o TOPIGS	272 6th B Street Ecoland Davao City	April 25, 2021
7	DAVAO SUSANA C/O TOPIGS	Brgy. Sirawan, Toril, Davao City	April 25, 2021
8	EUROPHIL SWINE GENETICS, INC.	Sto. Niño, Ibaan, Batangas	June 10, 2023
9	EXCELSIOR FARMS, INC.	Brgy. Sacsac, Pinamungahan, Cebu	February 28, 2022
10	HYPIG GENETICS, INC. – ATIS FARM	San Rafael, Bamban, Tarlac	July 19, 2021
11	JAMARLI, INC (JALTAS HOGS)	Hda. Pacita, Ma-Ao, Bago City, Negros Occidental	June 30, 2022
12	MARCELA FARMS, INC	Brgy. Lourdes Cortes, Bohol	January 22, 2023
13	MM HOG FARM BREEDING FACILITY PROJECT	Brgy. Songco, Lantapan, Bukidnon	January 29, 2022
14	PROGRESSIVE FARMS, INC.	Bo. Palian, Tupi, South Cotabato	December 13, 2021
15	Q-PIGS LIVESTOCK CORP.	Purok Capareda, Acmonan, Tupi, South Cotabato	June 30, 2022
16	QUICKGROW GENETICS PHILS., INC.	Sitio Sili, Brgy. Ungib, San Quintin, Pangasinan	September 18, 2021
17	SWINE NUCLEUS/ MULTIPLIER FARM (PILMICO)	Brgy. Sto. Rosario, Capas, Tarlac	March 25, 2023
18	V4 FARMS	Brgy. Saguwa Banua, Valladolid, Negros Occidental	March 4 2022
19	VENVI AGRO-INDUSTRIAL VENTURES, CORP.	Brgy. 21 San Agustin, San Nicolas, Ilocos Norte	June 30, 2022
20	WELLISSA FARM (KANE'S BREEDING FARM)	Brgy. Mojon, Bantayan Island, Cebu	June 30, 2022

APPENDIX 3. LIST OF ACCREDITED SLAUGHTERHOUSES (AS OF OCTOBER 29, 2021)

REGION	COMPANY NAME	COMPANY ADDRESS	EXPIRY DATE	REMARKS
CAR	Gismundo's Slaughtering Services	Bajajeng, Taloy Norte, Tuba, Benguet	30-Apr-22	valid
CAR	Han-Goo Slaughterhouse	D C-82 A Brgy. Bahong La Trinidad Benguet	17-Jul-22	valid
CAR	Pudtol Municipal Abattoir	Brgy. Imelda, Pudtol, Apayao	07-Dec-21	valid
I	Mangaldan Municipal Slaughterhouse	Brgy. Bari, Mangaldan, Pangasinan	06-Jul-22	valid
I	Naguilian Municipal Slaughterhouse	Brgy. Cabaritan Sur, Naguilan, La Union	17-May-22	valid
I	Pozorrubio Municipal Slaughterhouse	Brgy. Cablong, Pozorrubio, Pangasinan	28-Apr-23	valid
I	Rosario Municipal Slaughterhouse	Brgy. Carunoan West, Rosario, La Union	18-May-22	valid
I	San Carlos City Slaughterhouse	San Pedro Street, San Carlos City Pangasinan	27-Dec-22	valid
I	Urdaneta City Slaughterhouse	Brgy. Anonas West, Urdaneta City, Pangasinan	20-Apr-22	valid
I	V envi-Agro Industrial V entures Corp.	Brgy. 3 San Ildefonso, San Nicolas, Ilocos Norte	13-Apr-22	valid
I	Alaminos City Slaughterhouse	Sabaro, Poblacion Alaminos City Pangasinan	20-Oct-22	valid
I	NTA-Kadiwa: ni Ani at Kita (formerly NTA-Agripinoy Tobacco Farmers Food Processing &Trading Center)	Brgy. Nanguneg Narvacan Ilocos Sur	18-Nov-21	valid
I	Mira Hills Slaughterhouse	Brgy. Sinabaan, Bantay, Ilocos Sur	30-Nov-21	valid
I	Malasiqui Municipal Slaughterhouse	Brgy. Cabatling, Malasiqui, Pangasinan	22-Dec-21	valid
II	Santiago City Modern Abattoir	Purok Paraiso, Batal, Santiago City	22-Apr-22	valid
III	Rombe Philippines Inc.	km 47, Dampol 1st, Pulilan Bulacan	19-Apr-22	valid
III	Balagtas Municipal Slaughterhouse	Wawa, Balagtas, Bulacan	06-Apr-22	valid
III	Beacon Marketing	Block 8 Purok 5-C Balic-Balic Sta. Rita, Olongapo City	13-Apr-23	valid
III	Best Harvest Meat Importers Corp.	Sta. Rita, Guiguinto Bulacan	07-Dec-21	valid
III	Cabanatuan Eaca Agroventures Inc.	Purok 6 Rodrigurz Street, Brgy. Aduas Sur, Cabanatuan City	24-May-22	valid
III	JNS Agri-Business and Development Corp.	No. 125 Purok 1, Brgy. Sipat Plaridel, Bulacan	21-Apr-22	valid

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REGION	COMPANY NAME	COMPANY ADDRESS	EXPIRY DATE	REMARKS
III	Marilao Slaughterhouse	Sta. Rosa 1, Marilao, Bulacan	14-Apr-22	valid
III	Masinloc Municipal Slaughterhouse	Bgry. Sta. Rita, Masinloc, Zambales	16-Jan-22	valid
III	Meycauayan Market Corporation (Slaughterhouse)	Brgy. Zamora, Meycauayan City, Bulacan	09-Aug-22	valid
III	Philippine Abattoir Development Corp.	New Public Market, Del Pilar, City of San Fernando Pampanga	27-May-22	valid
III	Pilmico Animal Nutrition Corporation	Brgy. Lourdes, Bamban, Tarlac	04-Sep-22	valid
III	Pro Fresh Poultry Dressing Co.	Sitio Pakulis, Brgy. Gaya-gaya San Jose del Monte Bulacan	14-Nov-21	valid
III	RDF Feed Livestock & Foods Inc.	Edsan Farm, Paralaya, Manibaug, Porac, Pampanga	27-Nov-21	valid
III	RSRH Livestock Corporation	#256 M. Villarica Rd., Sta. Rosa I, Marilao Bulacan	25-Apr-22	valid
III	SN SMN Meat Products Corp.	Quezon Road, Brgy. San Isidro, San Simon, Pampanga	27-Dec-21	valid
III	Mother Earth Products, Inc.	Maunawa Street, Brgy. Duquit Mabalacat Pampanga	06-Apr-22	valid
III	Clarefelle Corporation	97 Navarette Street, Panghulo, Obando, Bulacan	01-Apr-22	valid
IV-A	Banaba Abattoir Complex Inc.	Banaba, Padre Garcia, Batangas	06-May-22	valid
IV-A	Bauan Slaughterhouse	San Francisco Street, Poblacion IV, Bauan, Batangas	11-Aug-22	valid
IV-A	Esguerra Farm & Stud Inc.	Indian Street, Dagatan Lipa City Batangas	18-Apr-22	valid
IV-A	Delnor Agri-Food Inc.	Brgy. Lapu-lapu Ibaan Batangas	13-Dec-22	valid
IV-A	Emmanuel Multi-Purpose Cooperative	Brgy. 1 Cuenca Batangas	02-May-22	valid
IV-A	First Manhattan Integrated Management Corp.	A. Tanco Drive, Brgy. Marawon Lipa City, Batangas	07-Jun-22	valid
IV-A	GMA Slaughterhouse Facility and Services Inc.	FVR Poblacion 5 General Mariano Alvarez Cavite	05-Oct-22	valid
IV-A	Gumaca Slaughterhouse Inc.	LGU Gumaca JP Rizal Street, Brgy. Pipisik Gumaca Quezon	30-Jun-22	valid
IV-A	Irene Montemayor Slaughterhouse	Sitio Paenaan, Brgy. Pinugay Baras Rizal	12-Aug-22	valid
IV-A	Jaro Development Corporation	Buhay na Tubig, Imus Cavite	10-Jun-22	valid

REGION	COMPANY NAME	COMPANY ADDRESS	EXPIRY DATE	REMARKS
IV-A	Rocky Farms, Inc.	No. 8 Cercumferential Road, Brgy. Dalig, Antipolo City	05-May-22	valid
IV-A	Rosario Municipal Slaughterhouse	Bagong Pook Rosario Batanga	24-Nov-21	valid
IV-A	Sam's Slaughterhouse	Laurel, San Pascual Batangas	06-Jul-22	valid
IV-A	Super Magalang Slaughterhouse Corp.	Brgy. Sabang Ibaan Batangas	03-Aug-22	valid
IV-A	City of Sto. Tomas Slaughterhouse	Brgy. San Roque, Santo Tomas, Batangas	12-Feb-22	valid
IV-A	Maria Asuncion Albano Slaughterhouse	Sitio Kapatagan, Brgy. Pinugay San Jose Antipolo City Rizal	20-Aug-22	valid
IV-A	Trece Martirez City Slaughterhouse	Brgy. de Ocampo Trece Martires City, Cavite	05-Apr-22	valid
IV-A	Universal Robina Corporation	Sitio Bayugoyo Buliran Road San Isidro Antipolo City	10-Jun-22	valid
IV-A	VST Livestock Corporation	Km.13 Marcos Highway, Mayamot, Antipolo City	14-Jun-22	valid
IV-A	Philippine Slaughterhouse Management & Operations Inc.	Brgy. Sinalihan, Sta.Rosa Laguna	16-Dec-21	valid
IV-A	Rublou Meat Products & Slaughterhouse	131 A. Bonifacio Street., Cainta Rizal	27-Dec-21	valid
IV-B	Calapan City Slaughterhouse	Brgy. San Vicente West, Calapan City Oriental Mindoro	16-Jun-22	valid
IV-B	Bongabong Municipal Slaughterhouse	Brgy. Sagana Bongabong, Oriental Mindoro	28-Nov-22	valid
IV-B	Roxas Municipal Slaughterhouse	Sitio Man-ag Brgy. 4 Roxas Palawan	11-Apr-23	valid
NCR	JM Slaughterhouse	271 E. Custodio Streety Santolan, Malabon City	21-Oct-22	valid
NCR	J & E Slasughterhouse	62 Don Basilio, Bautista Boulevard, Dampalit, Malabon City	25-Oct-22	valid
NCR	Animal Product Development Center NCR	A Fernando Street Marulas Valenzuela City	22-Apr-22	valid
NCR	Jerril's Slaughterhouse	2384 Antipolo Street, Guadalupe Nuevo, Makati City	27-Apr-22	valid
NCR	Las Pinas City Slaughterhouse	12 Santos Drive, Santos Subdivision Zapote Las Piñas City	04-Oct-22	valid
NCR	Rublou Slaughterhouse Muntinlupa	119 San Guillermo Street, Bayanan, Muntinlupa City	07-Sep-22	valid

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REGION	COMPANY NAME	COMPANY ADDRESS	EXPIRY DATE	REMARKS
NCR	Novaliches Meat Dealers & Ventures Association Inc.	Baco Street, Brgy. Capri Nagkaisang Nayon Quezon City	31-Dec-21	valid
NCR	Kalookan Slaughterhouse	3772 Sinilyasi Street corner Lapu-lapu Avenue, Dagat-dagatan Caloocan City	31-Dec-21	valid
NCR	Presnedi Slaughterhouse	212 San Guillermo Street, Putatan, Muntinlupa City	07-Aug-22	valid
NCR	Batimana Slaughtrerhouse	77Batimana Compound, Marulas Valenzuela City	21-Jul-22	valid
V	Iriga City Slaughterhouse	Sta. Cruz Sur, Iriga City	03-Aug-22	valid
V	Legazpi City Abattoir	San Roque, Legazpi City	24-May-22	valid
V	Ligao City Slaughterhouse	Sitio Gamot, Tinago Ligao City	15-Apr-22	valid
V	Naga City Abattoir	Zone 2 Brgy. Del Rosario Naga City	15-Dec-21	valid
V	Sorsogon City Slaughterhouse	Sitio Madan-an, Brgy. San Juan Roro, East District Sorsogon City	15-Apr-22	valid
VI	Faith Farms AA Slaughterhouse & Prcessing/ Packing	Brgy. Cansilay, Marcia, Negros Occidental	27-Aug-22	valid
VI	Ibajay Municipal Slaughterhouse	ASU Campus, Brgy. Colong-colong Ibajay Aklan	15-Apr-22	valid
VI	Sagay City Abattoir & Meat Processing Plant	Hacienda Ricky, Brgy. Paraiso, Sagay City, Negros Occidental	27-Jun-22	valid
VII	Sunpride Foods, Inc.	S.E. Jayme Street, Paknaan Mandaue City	27-Apr-22	valid
VII	Talisay City Livestock and Poultry Center	Lower Mohon, Talisay City, Cebu	15-May-22	valid
VII	Virginia Farms Inc. Slaughterhouse and Meat Plant	Sitio Tabay Daan Tawo Brgy. Poblacion Asturias Cebu	01-Apr-22	valid
VII	Carigara Municipal Slaughterhouse	Real Street, Brgy. East Vigoria, Carigara, Leyte	14-Jan-22	valid
X	Clarin Slaughterhouse	Mialen, Clarin Misamis Occidental	27-Aug-22	valid
X	Mega Integrated Agro-Livestocks Farm Corporation	Zone 2 Cugman, Cagayan de Oro City	08-Sep-22	valid
X	Umalag Farms, Incorporated	Palabucan, Libona, Bukidnon	30-Oct-22	valid

REGION	COMPANY NAME	COMPANY ADDRESS	EXPIRY DATE	REMARKS
X	Manolo Fortich Municipal Slaugtherhouse	Pol-ton Manolo Fortich Bukidnon	18-Aug-22	valid
XI	Bankerohan Livestock Dealers Cooperative	Brgy. Maa Talomo District Davao City	18-Nov-21	valid
XI	Contora Halal Slaughterhouse	Purok Macopa, Datu Abdul Dadia, Panabo City, Davao del Norte	04-May-22	valid
XI	JK Mercado & Sons Agri. Ent., Inc.	Pag-asa Farms, Kapalong, Davao del Norte Purok 4	23-Jul-22	valid
XI	Luchay Agri-V entures	Brgy. San nicolas, Panabo City, Davao del Norte	09-Aug-22	valid
XI	Lupon Municipal Slaughterhouse	Brgy. Bagumbayan Lupon Davao Oriental Purok 4	03-Jun-22	valid
XI	Nabunturan Public Slaughterhouse	Brgy. Sasa Nabunturan Davao de Oro	20-Feb-22	valid
XI	Nestfarms Inc.	Brgy. Marapangi, Toril, Davao, City	28-Sep-22	valid
XII	Matutum Meat Packing Corporation	Purok 3 Brgy. Glamang Polomolok, South Cotabato	20-Apr-22	valid
XII	MRMS Slaughterhouse	Purok 3 Labu, Brgy. Katangawan General Santos City	12-Dec-21	valid
XIII	Trento Municipal Slaughterhouse	Trento Agusan del Sur	18-Nov-21	valid
XIII	De Oro Ajecc Inc.	Purok 8 Brgy. 18 Oberero, Butuan City	23-Jul-22	valid
XIII	Cabadbaran City Slaughterhouse	Sitio Panlaisan, Brgy. La Union, Cabadbaran City	26-Aug-22	valid
XIII	Sowreap Corporation	National Highway, Victoria Tago, Surigao Del Sur	28-Jun-22	valid
XIII	VPO Rosario Agro-Industrial Development Corp.	Purok Mahayahay, Sta. Cruz Rosario Agusan del Sur	15-Apr-22	valid

APPENDIX 4. KEY PLAYERS IN THE PHILIPPINE HOG INDUSTRY

Key Players	Estimated Sow Level	DESCRIPTION
San Miguel Foods, Inc.	40,000	Monterey Foods Corporation (formerly Monterey Farms Corporation) is a subsidiary of San Miguel Corporation, and employing latest technology in feed milling, breeding, production, slaughtering, processing and retailing. Monterey has under contract more than 300 farms all over the Philippines: 30 breeding farms; 11 off-site nursery stations and more than 250 growing facilities. Monterey uses 100% artificial insemination in breeding its herd. Its sister company, BMEG supplies the feed requirements of all the contract farms.
Foremost Farms, Inc.	18,000	It was established in 1970 and has an average daily production of 50 tons of hogs. It has a feed mill with a rated capacity of over 30 tons per hour. It is owned by one of the richest Filipino-Chinese tycoons. Foremost Farms is located in Rizal Province. It has a sister company in Mindanao, Progressive Farms. Most of the pork products of Foremost is sold directly to Purefoods which uses the meat for its various canned pork products, including its famous Christmas hams.
Robina Farms	20,000	Robina Farms was established by Universal Robina Corporation's Agro-Industrial Group (AIG) in 1963. It was built to supply Filipino families with premium pork meat cuts and fresh eggs. Being the first homegrown agro-industrial producer with a fully integrated animal rearing and meat processing facility, Robina Farms has provided topnotch products for more than 50 years already. Robina Farms is one of the largest single-managed livestock farms with modern hog production facilities in the Philippines. Operating differently from other commercial farm integrators, it controls its value chain and manages centrally the entire operations from raw materials to genetics, nutrition and management to meat retailing.
Pig Improvement Company (PIC) Philippines, Inc.	13,000	PIC is the swine division of Genus plc, a British- based company with the mission to pioneer animal genetic improvement to help nourish the world. Genus plc strives to provide beef, dairy and pork producers with superior breeding stock to enable the production of affordable and nutritious animal protein for consumers. Pioneering genetic improvement in pigs over the years has made PIC as the leading and most reliable swine genetics company with operations in over 40 countries across the globe. In the Philippines, its operation include gilt multiplication, distributor/ user group and gene transfer center. PIC serves the whole Philippines in terms of providing quality breeder animals.
Family Farm Group	12,000	This multi-site farm is a commercial farm with a sow- weaner unit located at Malvar, Batangas. It practices multi-site weaning and distributes most of its weaners to Bulacan for grow-out.
Cavite Pig City	8,000 (Expanded to 12,000 sows as of 2015)	Cavite Pig City is located near General Trias, Cavite, just south of Manila. It is known for being among the top farms in the Philippines and adopts US technology to produce its pigs. The farrow-to-finish farm has 12,000 sows and weans 25 pigs per sow per year – very good compared to the Philippine average of 20. Piglets are weaned at 27-28 days with an average weaning weight of 9 to 9.5 kgs. At slaughter, its pig's average daily gain is 610 grams with a feed conversion ratio of 2.27.

Key Players	Estimated Sow Level	DESCRIPTION
Holiday Hills Stock and Breeding Farm	6,000	Its pig breeding business started in 1976, producing replacement gilts and boars. Holiday Hills Stock and Breeding Farm is considered a pioneer in the swine breeding business. However, it now focuses on commercial finisher production, supplying live hogs instead. It is located in San Pedro, Laguna.
Federal Farms	6,000	
Fil-am Foods, Inc.	4,700	Located in Tarlac
Marcela Farms	4,000	Located in Bohol
Luz Farms	1,700	Organized in 1981, Luz Farms, Inc., is committed to provide genetically superior breeding stocks at the most competitive price, with timely, responsive and personalized service.

APPENDIX 5. KEY GOVERNMENT INSTITUTIONS, MANDATES AND HOG PROGRAMS

INSTITUTIONS	PROGRAMS/SERVICES
Department of Agriculture (DA)	**National Livestock Program (NLP)** Since 2012, the following are the thrusts, priorities and plans of the NLP: • Disease prevention, control and eradication • Conservation and improvement of genetic materials • Establishment of post-harvest facilities (e.g. slaughterhouses, dressing plants, egg processing plants, liquid nitrogen plants, among others) • Explore and promote alternative nutrition technologies (e.g. feed substitutes) • Pursue possible export opportunities specifically for pork and chicken
Bureau of Animal Industry (BAI)	**Swine Breeder Farm Accreditation Program (SBFAP)**. Aims to identify, accredit and promote swine farms with genetically improved quality breeders. **Swine Genomics Project**. BAI houses the Swine Genetic Analytical Service Laboratory (SGASL) that offers screening of genetic defects (PSS, acid meat, scrotal hernia); identification of productivity gene (prolificacy, growth rate, meat quality); and identification of disease-resistant genes (diarrhea, pneumonia and PRRS). **Philippine Native Animal Development (PNAD) Program**. Targets to establish conservation/nucleus farms and multiplier farms for the native hogs among other commodities. **Foot-and-Mouth Disease Preparedness Program** **Classical Swine Fever Control and Eradication Program**. Through this program, CSF-free compartments/farms will be certified. There will also be research aimed at discovering the best CSF vaccine. **Brucellosis Prevention and Control Program**. Outbreak investigation, quarantine, disease surveillance, laboratory diagnosis, vaccination, and the stamping out/culling/disposal of animals are the components of the program. **Schistosomiasis Control and Elimination Program** **Porcine Reproductive and Respiratory Syndrome (PRRS) Control Program**. Surveillance, biosecurity, vaccination, research, and IECs are the components of the program. **Porcine Epidemic Diarrhea (PED) Control Program**. Research on the strain of prevalent PED virus and its validation with the Reference Laboratory and the development of vaccine for this prevalent strain constitute the program. **Organic Livestock Program**

INSTITUTIONS	PROGRAMS/SERVICES
National Meat Inspection Services (NMIS)	The NMIS offers the following services: Accredits slaughterhouse, meat processing plants, meat cutting plants, meat transport vehicles and equipment fabricators; evaluates cold storages; accredits meat and meat product importers/exporters, distributors, wholesalers, retailers, meat handlers and brokers; and registration of locally-manufactured and imported meat products. **Engineering Services**. Provides technical assistance, on site evaluation, preparation of ME modules, meat establishment lay-outs, equipment specifications and others. **Meat Standards Development and Consumer Protection**. Formulates meat hygiene and safety standards, guidelines and procedures for the production of meat in LRMEs and disseminates information on meat safety and quality of meat products through seminars, workshops and media partnerships. **Meat Import and Export**. Evaluates the eligibility and accreditation of foreign meat establishments intending to export to the Philippines. **Plan Operation Standards and Monitoring**. Formulates policies, guidelines and standards for the production of meat and meat products in the NMIS- accredited slaughterhouses, meat processing plants, meat cutting plants and cold storages. Below are the list of the Programs and Projects of the NMIS. 1. Meat Safety Quality Assurance Program 2. National Veterinary Drug Residue Monitoring Program 3. Meat Establishment Improvement Program (MEIP) 4. National Livestock Program (NLP)
Agricultural Training Institute- International Training Center on Pig Husbandry (ATI-ITCPH)	ITCPH has the following focused thrusts and programs: 1. **Conduct of trainings**. Regular training programs on pig husbandry and related disciplines such as artificial insemination; animal waste management and utilization; meat processing; animal feedmilling technology; swine production medicine; feednovation and entrepreneurship. Tailor-made courses, off-center courses and online learning courses are also offered. 2. **Extension and consultancy programs** include the Community Adoption Project. The ITCPH Farm showcases the three (3) levels of swine production: small hold, medium-scale and commercial type. They also have an AI Boar Center that processes semen for farm and commercial use, for training and demonstration purposes. 3. Provides **farm and business advisory** (thru phone call, text messaging, e-mails and personal conversation) to assist in farm problems, and for those who plan to put up piggery farm. 4. Other Projects and activities: – GREEN Farm (Generating Resources for an Ecologically-sound and Environment-friendly Nature Farm) – Green PIGS Farm (Productivity, Income-Generating, Sustainability) – Boar Performance Testing Center -Boar Auction Centrum

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INSTITUTIONS	PROGRAMS/SERVICES
	ITCPH is also the focal center for the National Livestock Program of the Agricultural Training Institute. As such, it has institutionalized the following flagship projects in ATI's 15 Regional Training Centers (RTCs): 1. AI SA BARANGAY 2. Livestock-based learning sites 3. Multi-level trainings for village-based animal health workers 4. Livestock Emergency Guidelines and Standards (LEGS) 5. BACK-TO-BASIC Advocacy Campaigns for Scientific and Sustainable Livestock and Poultry Production – Itik-Pinas (IP); Free-range chickens (FRC) and Sustainable Pig Farming (SPF) 6. Meat processing hubs 7. Benchmarking of Global Best Practices for AEWs
Bureau of Agricultural Research (BAR)	The BAR has the following major programs: 1. **Community-based Participatory Action Research Program**. Verifies the technical and economic feasibility of mature technologies prior to its adoption. 2. **National Technology Commercialization Program**. Ensures that the technologies will be placed and transferred to areas/communities that mostly need them. 3. **Climate Change Program**. Focused on short and long-term adaptation strategies and mitigation options that would strategically target issues connected with climate change. 4. **Biofuels Feedstock Program**. Supports the biofuel feedstock research and development which may include identifying new feedstock, developing high yielding varieties, and developing new processing technologies.
Philippine Council for Agriculture and Fisheries (PCAF)	Major activities of the PCAF are the following: 1. **Facilitation of Private-Public Sector Consultations and Dialogues in Agriculture and Fisheries** 2. **Policy and Program Coordination**. Identifies policy contradictions and gaps, overlaps of functions between institutions, weaknesses of program and policy implementation; and brings these to the attention of the competent and concerned authorities; and formulates and recommends measures to address the issues. 3. **AFMA Monitoring**
Agribusiness and Marketing Assistance Service (AMAS)	1. Develop partnership mechanisms with producers, traders, exporters, importers, investors, entrepreneurs and local government units to promote Philippine agriculture and fishery products and agribusiness investments globally (local and international); 2. Continue to strengthen market access of Philippine agribusiness and the promotion of agribusiness investments globally; 3. Analyze evolving market trends through the conduct of comprehensive and incisive market assessments and commodity/industry studies 4. Provide busin

INSTITUTIONS	PROGRAMS/SERVICES
DOST- Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD)	Through its Livestock Research Division, Research and Development programs and projects related to livestock and poultry sectors are coordinated, evaluated and monitored.
Department of Environment and Natural Resources (DENR)	Issuance of guidance for implementing policies on land use for animal production and establishment of livestock and poultry industrial processing facilities and slaughterhouses.

APPENDIX 6. ASSISTANCE PROVIDED TO THE LIVESTOCK INDUSTRY BY THE GOVERNMENTS OF OTHER COUNTRIES (E.G., THAILAND, VIETNAM, THE US, EU MEMBER STATES AND CANADA)

1. Free irrigation/irrigation service facilities fees to crop growers (corn for feeds)
2. Discounts on farm inputs and certified seeds (corn for feeds)
3. Accessible low-interest loans (non-collateral) to small producers or raisers
4. Price support (or guaranteed farmgate price) among corn growers
5. Provision for common/shared post-production facilities (i.e., slaughterhouse, cold storage; dryers, silos/warehouse for corn)
6. Income stabilization insurance to all farmers through a risk management program – ensuring a positive net income when farm prices drop below an established minimum
7. In the US, pork producers avail of other federal risk management programs like AgriStability, AgriInvest and AgriRecovery as subsidy programs that benefit hog producers.
8. In Canada, the Canadian Agricultural Loan Act guarantees 95 percent of loans made by private lenders. The government has committed to making a $1 billion of guarantees over the last five years. Farm Credit Canada provides low cost, flexible financing to hog producers.
9. The thrusts of most government support to their agricultural sector in recent years are on full risk (investment, price) insurance and easy access to credits.
10. The Thai government requires that at least 20 percent of loans given by commercial banks be allocated to agricultural activities at 12.5 percent.
11. Underwriting the activities of and investment promotion privileges are being extended to the livestock industry. These include:
    a. Exemption from the import tariff on machines, farm equipment and raw materials (except soybean meal);
    b. Fifty per cent (50%) reduction on the sales tax of imported machines;
    c. Exemptions from export and sales taxes; and
    d. Exemption from the income tax during the first five years of business.

Note: The information was provided by the National Federation of Hog Farmers, Inc. (NFHFI).

Consultative Meetings/Workshops Conducted by the Bureau of Animal Industry for the Crafting of the Hog Roadmap

- Consultative Meeting with Hog Stakeholders for the Finalization of the Hog Road Maps
  Hotel Rembrandt, Quezon City; November 27, 2014
- Consultative Workshop on the Development of Hog Road Map: Part 2
  BAI-OD Conference Room; December 11, 2014
- Consultative Workshop on the Development of Hog Road Map (with MITA and PAMPI)
  BAI-OD Conference Room; December 15, 2014
- Follow-Up Consultative Meeting on the Development of Hog Road Map (with NFHFI)
  BAI-OD Conference Room; March 9, 2015
- Hog Industry Roadmap Technical Working Group 1st Meeting
  BAI-OD Conference Room; April 26, 2016
- Hog Industry Roadmap Technical Working Group 2nd Meeting PCAF
  Apacible Conference Room 1; June 10, 2016

2021

A series of Consultative Meetings were conducted with Representatives (Officers, Owners) from Pork Producers Federation of the Philippines (ProPork), National Federation of Hog Farmers, Inc., (NFHFI) Philippine Swine Industry Research and Development Foundation, Inc. (PSIRDFI), Red Dragon Farms, Philippine College of Swine Practitioners (PCSP), Philippine Veterinary Drug Association (PVDA) and the Philippine Association of Meat Processors Incorporation (PAMPI). These groups were represented by the following:

1. ProPork – Engr. Rolando Tambago
2. NFHFI – Chester Tan and Alfred Ng
3. PSIRDFI – Dr. Arnulfo Frontuna
4. Red Dragon Farms – Dr. Robert Lo
5. PCSP – Dr. Angel Manabat
6. PVDA – Dr. Eugene Mende
7. PAMPI – Boy Tiukinhoy

Hog Industry Roadmap Technical Working Group

Private Sector

Mr. Jayson Cainglet	National Federation of Hog Farmers, Inc. (NFHFI) and SINAG
Mr. Edwin Chen	Pork Producers Association of the Philippines (Propork)
Dr. Arnulfo Frontuna	Philippine Veterinary Drug Association (PVDA)
Dr. Jose Molina	Philippine College of Veterinary Public Health (PCVPH)
Dr. Wilfredo Resoso	Philippine College of Swine Practitioners (PCSP)
Dr. Jose Sabater	Philippine Veterinary Medical Association (PVMA)
Dr. Jaime Sison	Foremost Farms
Mr. Leo Obviar	San Miguel Foods, Inc.
Ms. Rosette Arca	San Miguel Foods, Inc.

Government Sector

Ms. Ruth Miclat-Sonaco	ATI-International Training Center on Pig Husbandry (ITCPH)
Ms. Elizabeth Cabrera	Philippine Statistics Authority (PSA)
Mr. Hernando Avilla	Bureau of Animal Industry (BAI)
Dr. Marvin Vicente	National Meat Inspection Service (NMIS)
Ms. Manolita Gaerlan	Agribusiness and Marketing Assistance Service (AMAS)
Ms. Diana delos Santos	Philippine Council for Agriculture and Fisheries (PCAF)

Bureau of Animal Industry's Facilitating Team

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Vice Chair	:	Simeon S. Amurao, Jr., DVM, MBA, CESO IV Acting Director III
Over-All Focal Person	:	Maria Laarni P. Cerna, MSc, LRDD

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Legend:

AFVDBCD- Animal Feeds, Veterinary Drugs and Biologics Control Division
AHWD- Animal Health and Welfare Division
LRDD- Livestock Research and Development Division
NVQSD- National Veterinary Quarantine Services Division
VLD- Veterinary Laboratory Division