Review of High Value Agriculture in the Philippines with Comprehensive Subsectoral Focus: Livestock Industries

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Presentation Outline

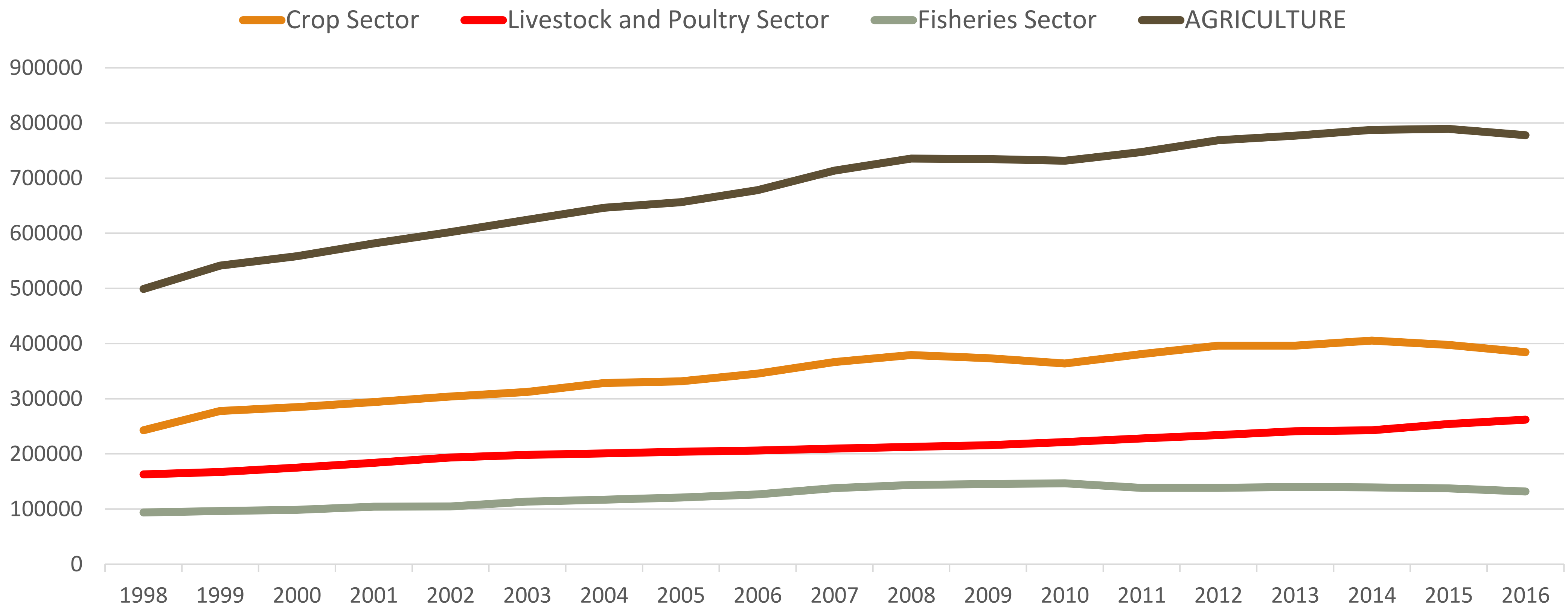
- Livestock and Poultry Industry Overview
- Objectives of the Study
- Industry Performance by Subsector
  - Swine/Hog
  - Poultry
  - Beef Cattle and Dairy
  - Goat
- Government Programs and Interventions
- Issues of the Livestock Industries
- Recommendations and Opportunities Ahead

❑ Industry Overview

- The Philippine livestock and poultry industry has been **consistently contributing positively to the economy** even with lesser support from the government compared to other agricultural commodities over these past decades.
- Chatham House (2014) listed the Philippines as among the **top 10 countries with fastest growing meat consumption** with projected compound annual growth rate of around 30 percent for beef, pork and chicken from 2011 to 2021.
- Thornton (2010) describes livestock sector in developing countries like the Philippines as **evolving to respond to rapidly increasing demand** for the livestock products.
- Being tagged as a meat-consuming nation, livestock and poultry industry is also projected to continuously grow in the next decades.

There has been a slowly decreasing trend for the value of production in agriculture and its subsectors except for the combined livestock and poultry industry which is slightly trending upwards.

Figure 1. Value of Production in Agriculture by Subsector in Million Pesos, 1998-2016, (2000 Prices)



Source of basic data: Philippine Statistics Authority (PSA)

❑ Objectives of the Study

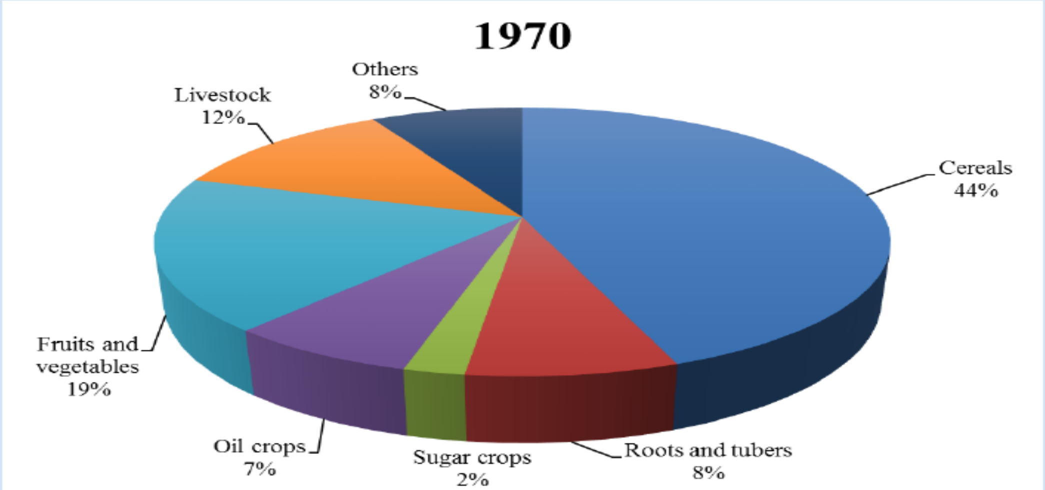
- While the livestock and poultry industry presents a glimmer of light in local agriculture, its industries are beset with production and marketing issues.

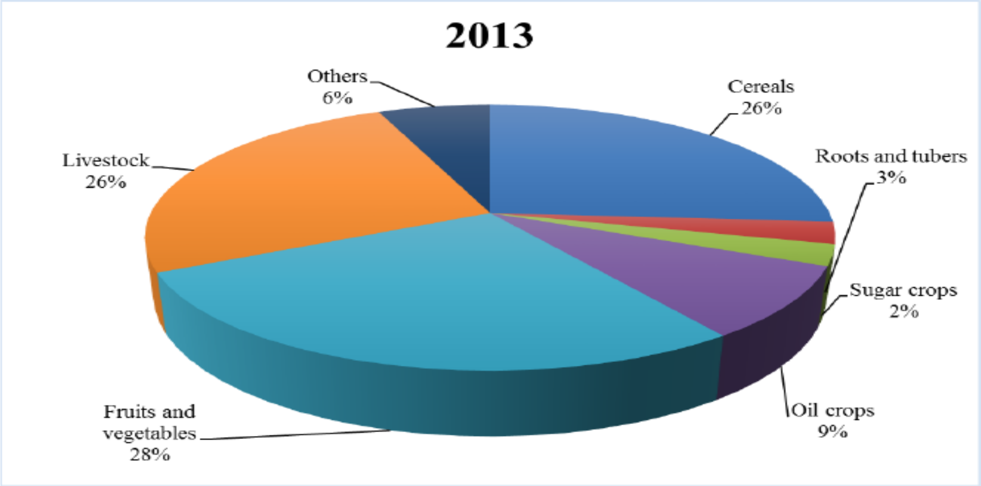
- The main objective of this paper is to **review the status and performance of the Philippine livestock sector**.

  - Provide discourse on the livestock subsector's performance over the years, and look into ways of bettering outputs and competitive advantages both within domestic commodity systems and beyond.

Diversification of Agricultural Output

ASEAN





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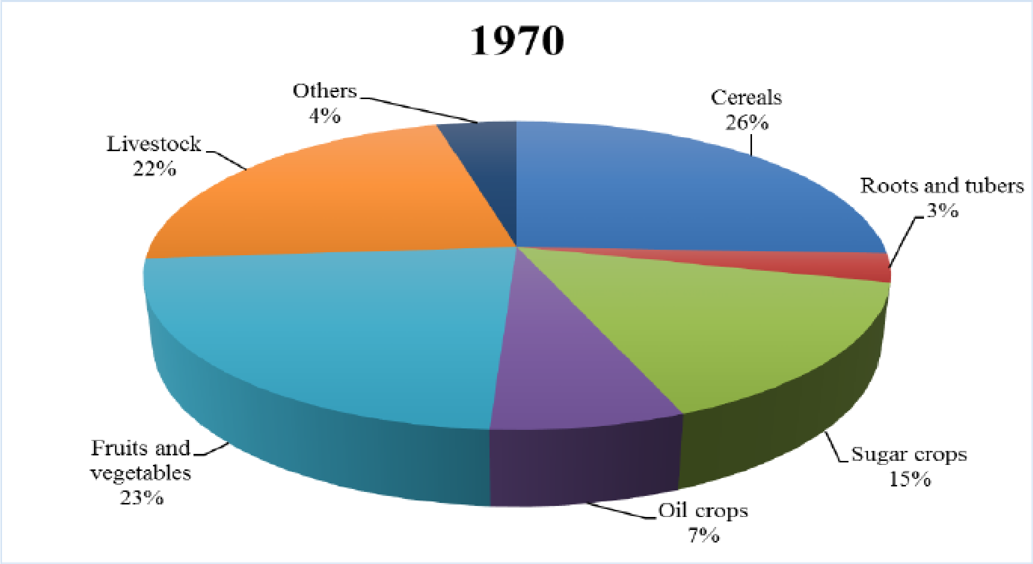
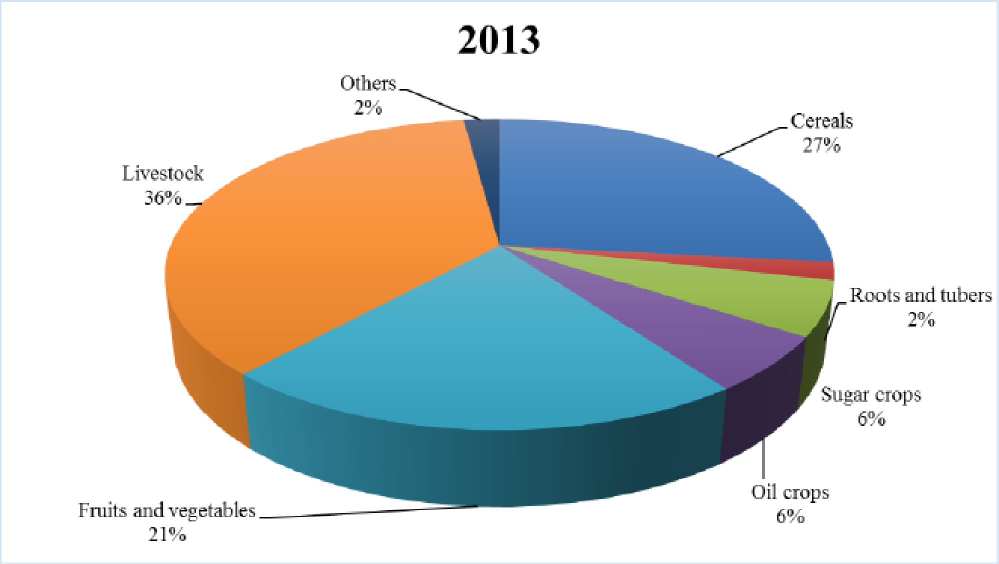
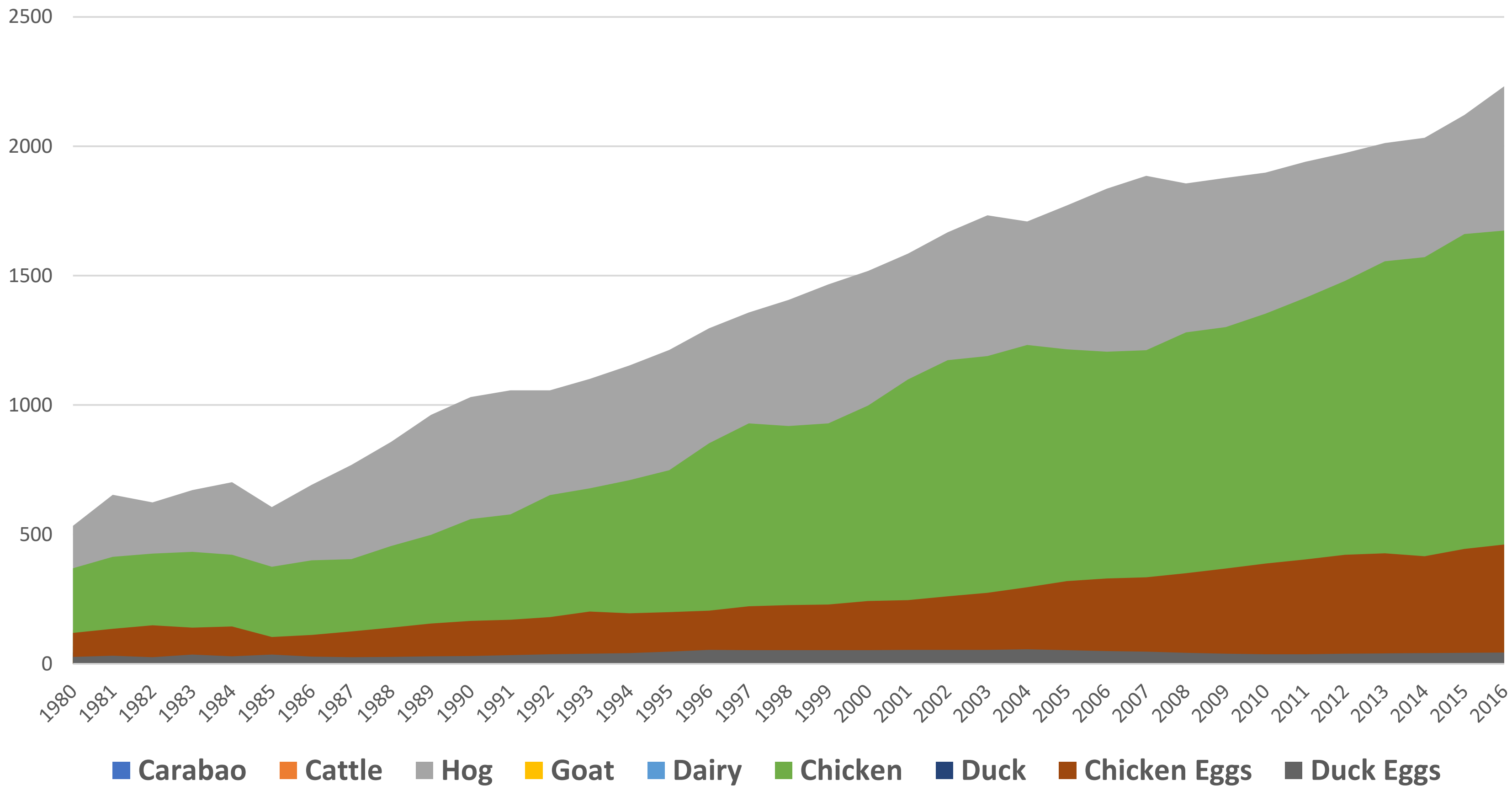




❑ Industry Performance

Figure 2. Volume of Production by Animal Type, 1980-2016 ('000 mt)

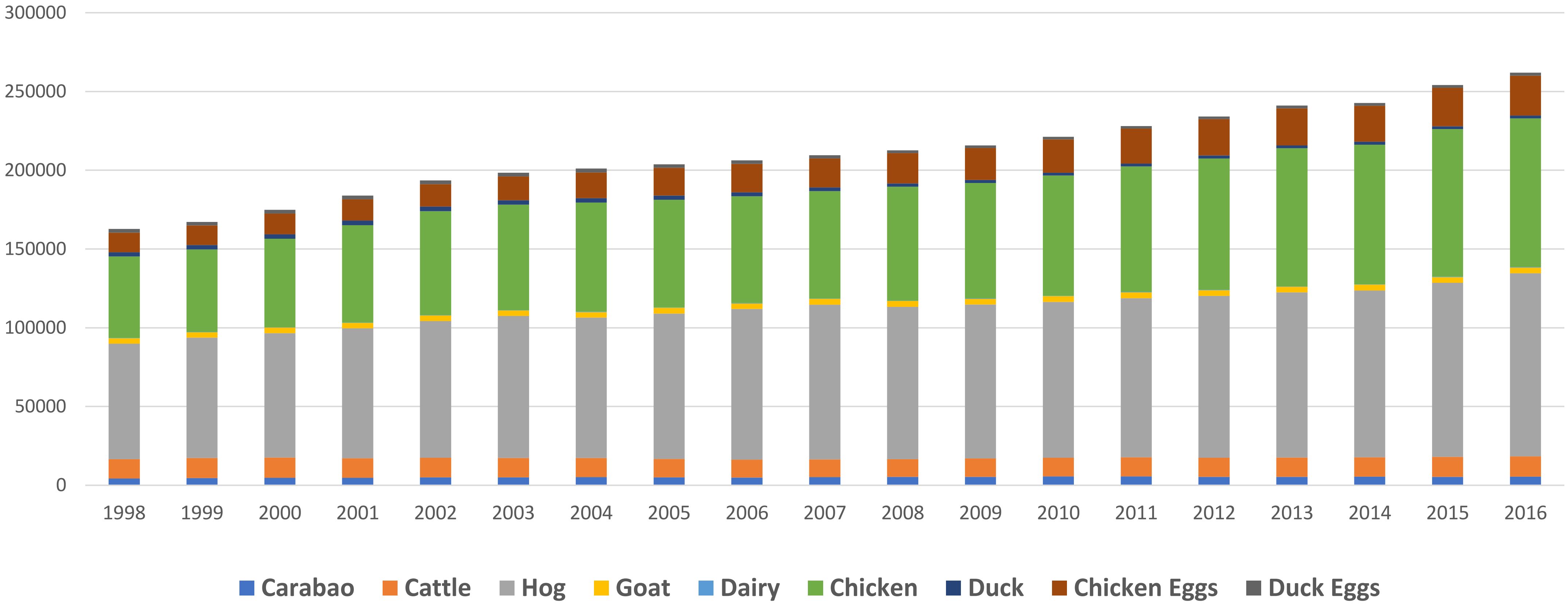


Source of basic data: Philippine Statistics Authority (PSA)

- Hog and chicken dominate share in the volume of production over the past four decades.
- Pork, chicken meat and eggs are now considered staple food in the country.

❑ Industry Performance

Figure 3. Value of Production in Livestock and Poultry by Animal Type, 1998-2016 in Million Pesos, (2000 Prices)



Source of basic data: Philippine Statistics Authority (PSA)

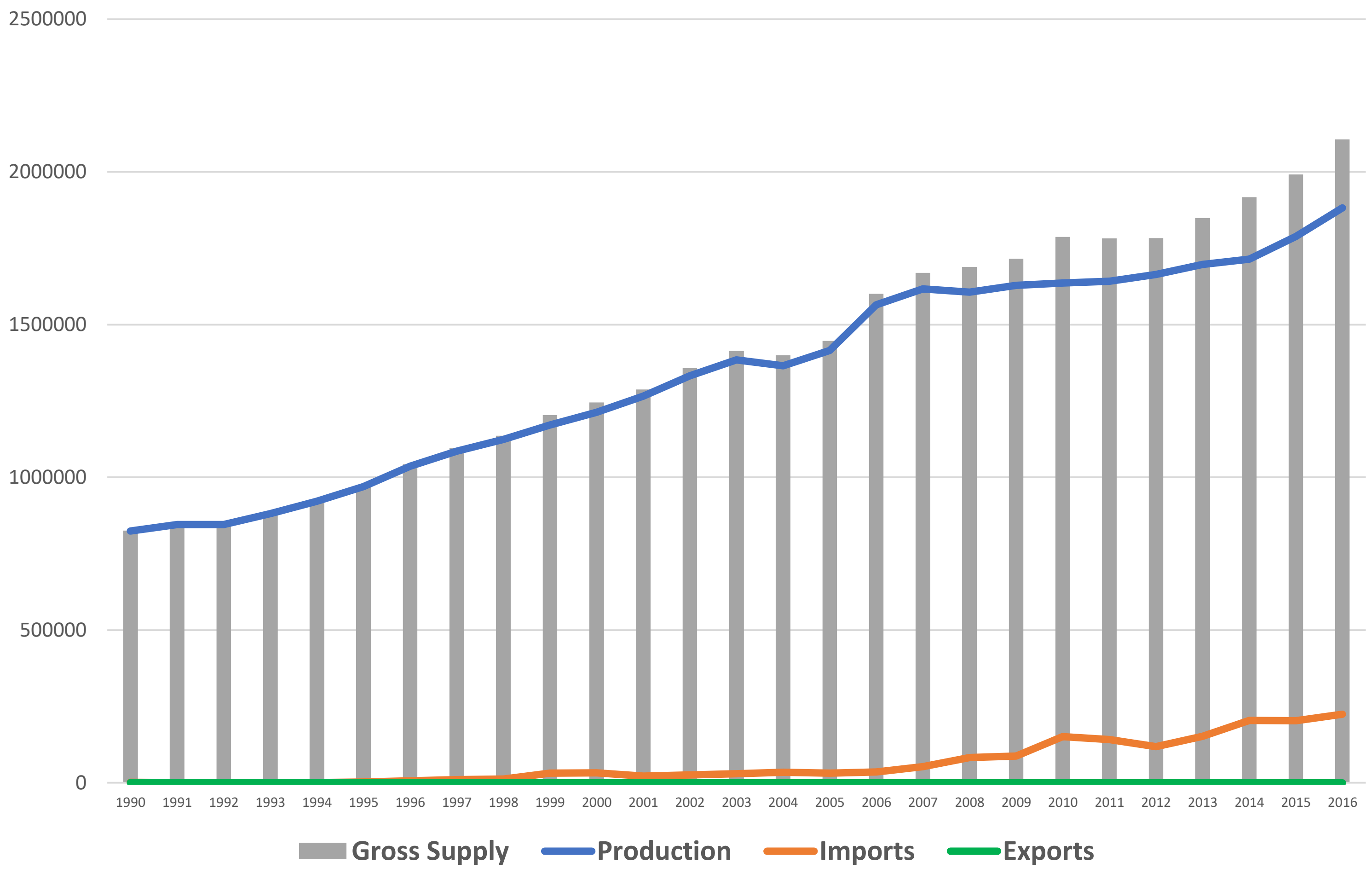
Industry Performance: Swine/Hog

- Marked as a **P191-billion industry**, swine production is the largest industry among the livestock and poultry subsectors in the country (PCAARRD, 2016).

- **Upward trend for the gross domestic supply** of pork from 1990 to 2016 with the majority of supply coming from local production; **increase in the volume of imports** can also be observed

- In 2016, the country imported around 78,000 tons of pork posting a **33 percent increase** from 2015, as reported by the AHDB (2017); Germany, Canada, and France are top importers of pork in the country in 2015 and 2016.

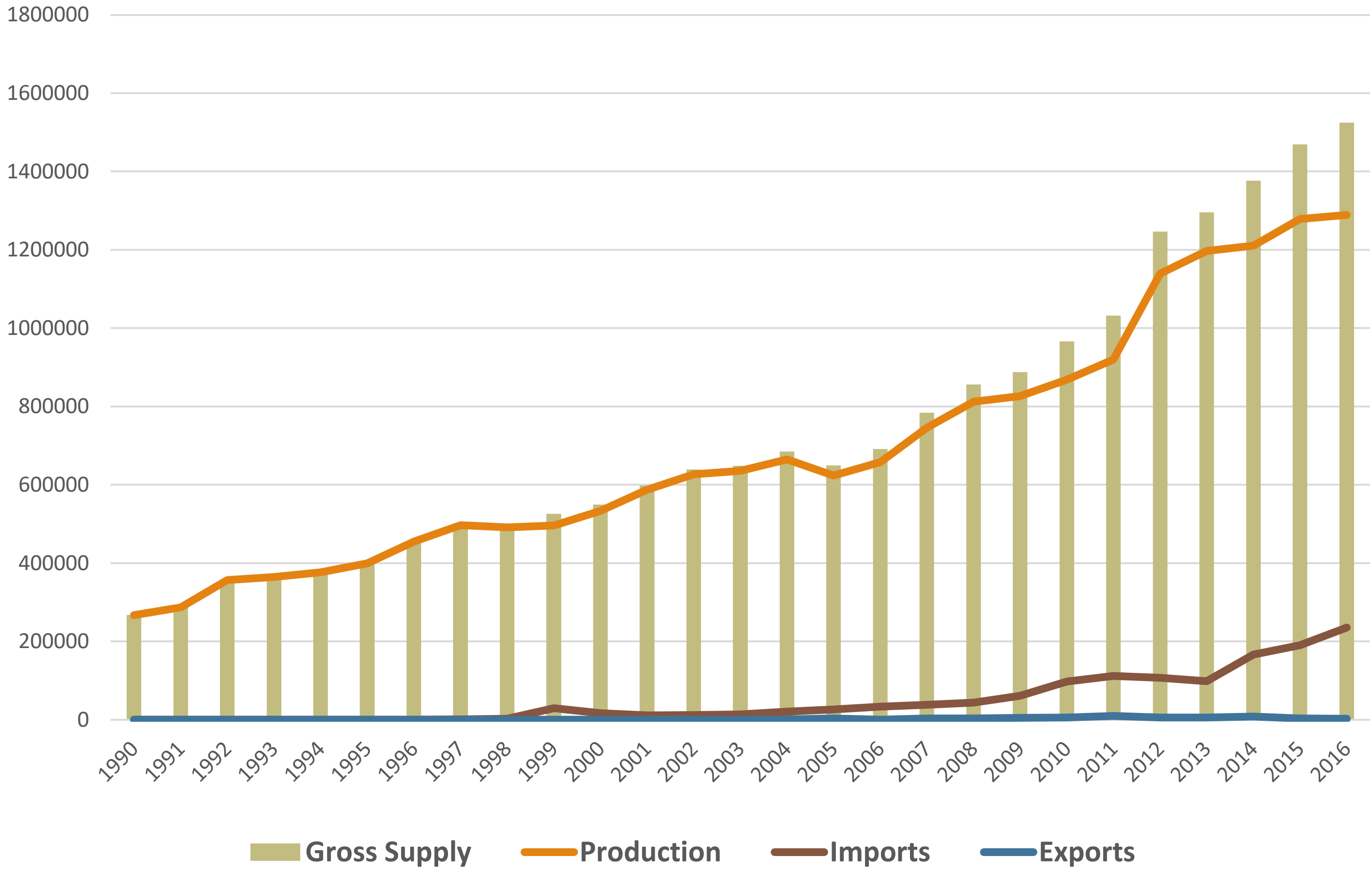
Figure 4. Pork Supply Accounts, 1990-2016 (mt)



Source of basic data: Philippine Statistics Authority (PSA)

❑ Industry Performance: Chicken

Figure 5. Dressed Chicken Supply Accounts, 1990-2016 (mt)



Source of basic data: Philippine Statistics Authority (PSA)

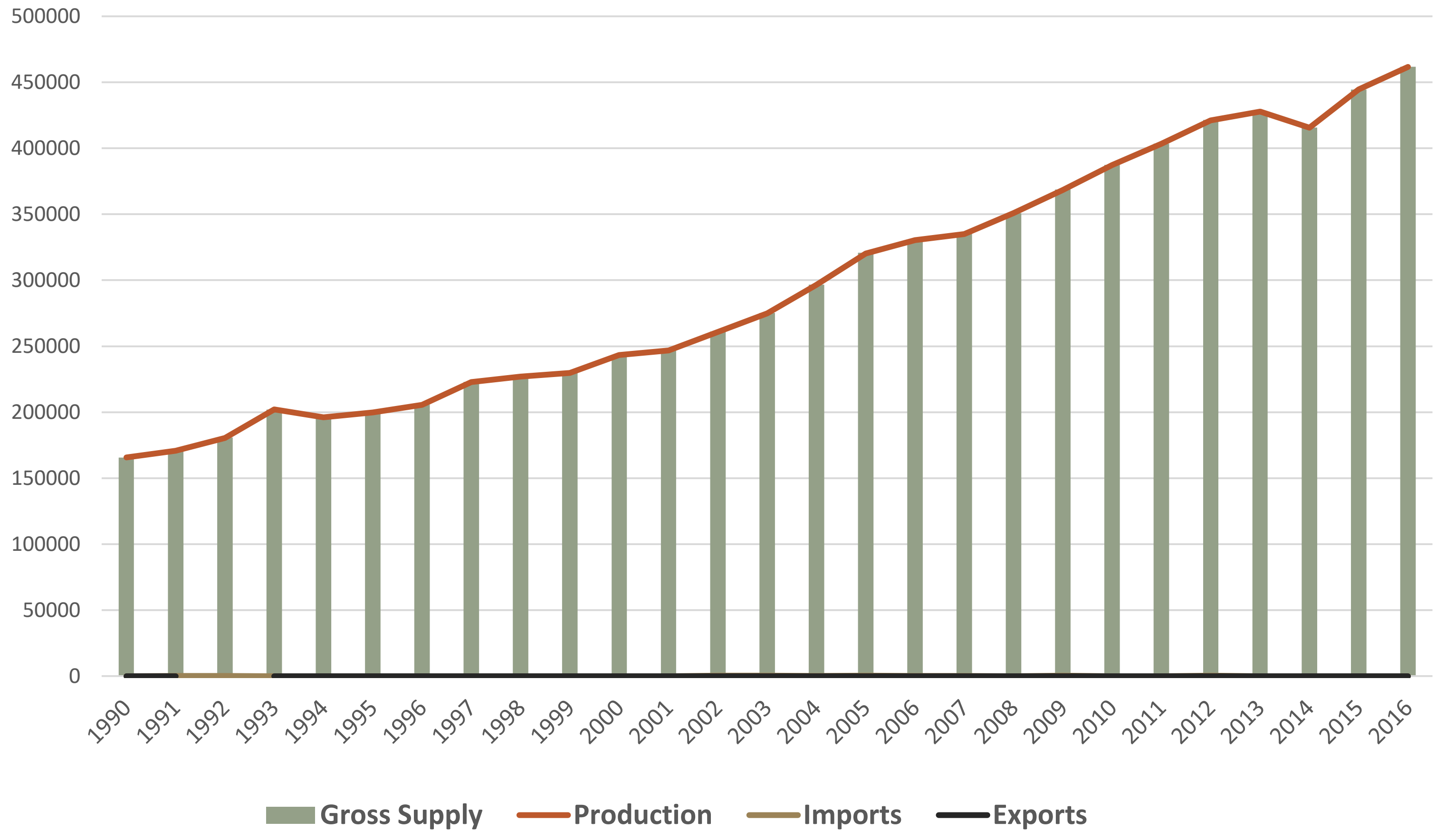
- **Fastest growing animal sector** in the country today; PSA data shows that poultry sector valued at about Php69B in 1990 soared up to PhP123B in 2016, posting a 78 percent growth

- The same **rapidly increasing trend** can be observed in the gross domestic supply of dressed chicken with majority of supply coming from local production.

- There is an **increasing volume of imports** in the recent years due to continuously increasing demand.

❑ Industry Performance: Chicken Eggs

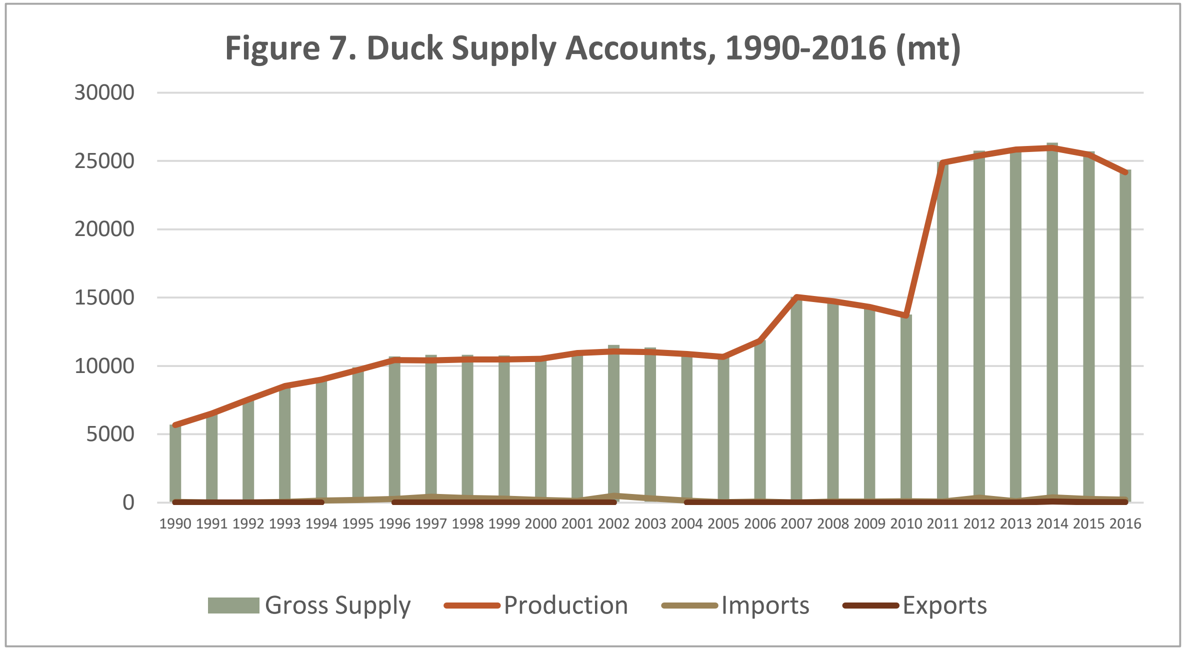
Figure 6. Chicken Egg Supply Accounts, 1990-2016 (mt)

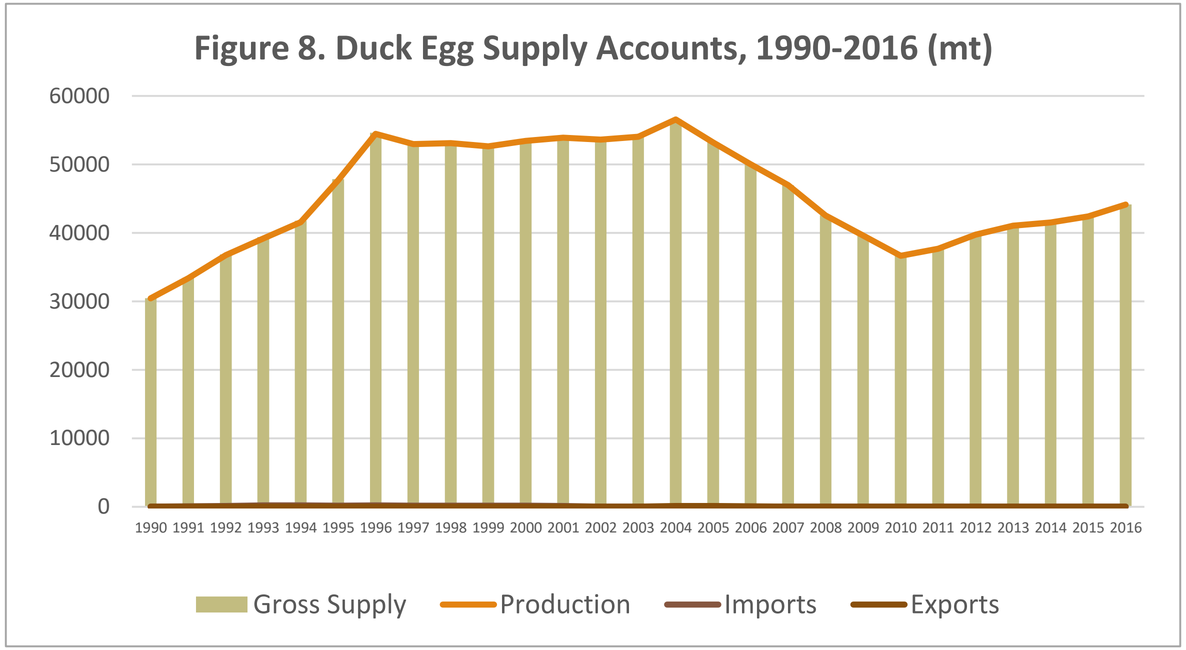


- Chicken Eggs: Increasing gross domestic supply for the past two decades with a very minimal volume of imports in the earlier years

Source of basic data: Philippine Statistics Authority (PSA)

❑ Industry Performance: Duck and Duck Eggs



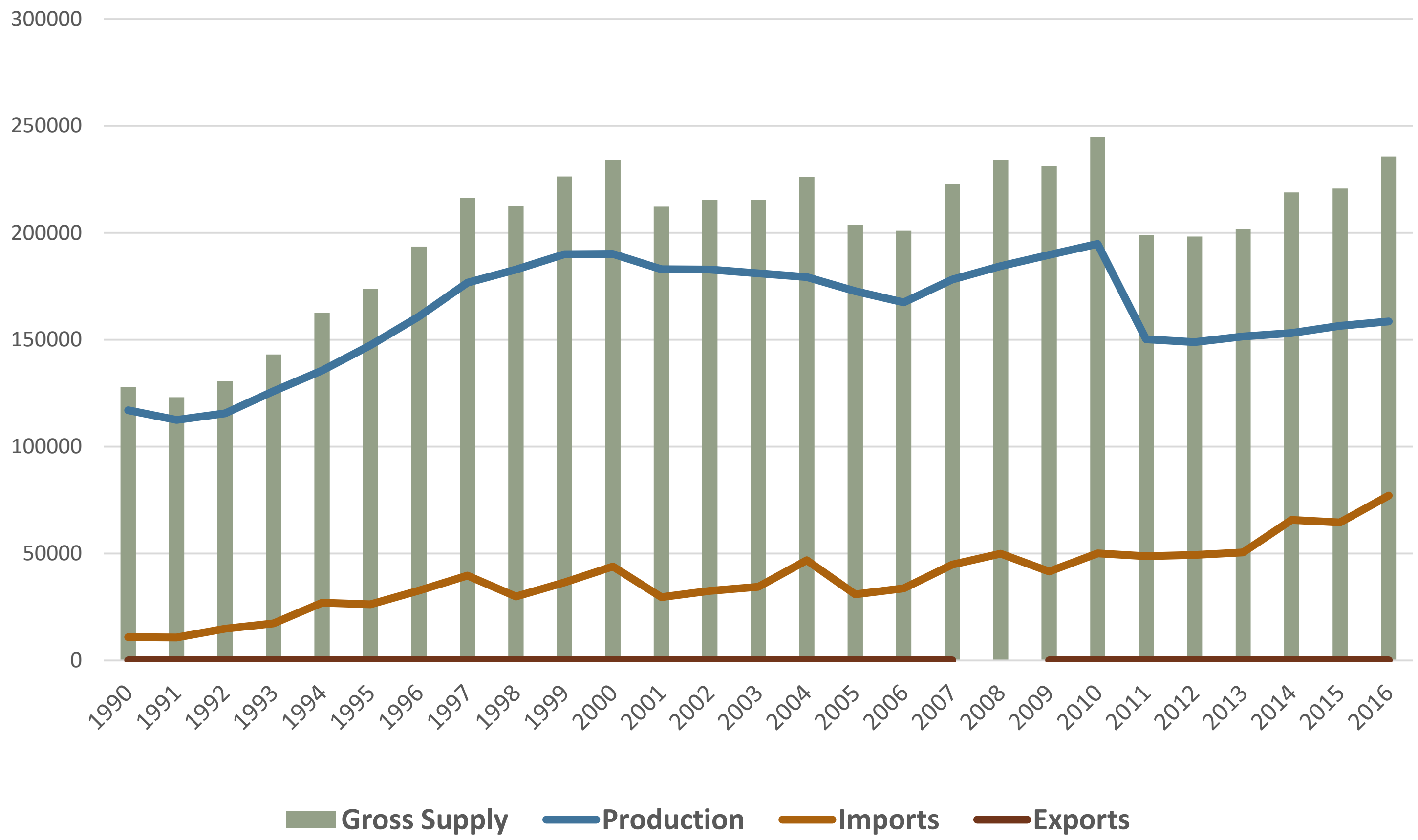


Source of basic data: Philippine Statistics Authority (PSA)

- Another poultry animal that is recently gaining popularity is duck, as reflected in the **sudden increase** in the gross domestic supply of duck in the recent decade.
- Unlike other countries that produces ducks mainly for meat, the Philippines mainly utilizes duck for egg production specifically ***balut* and salted egg** (Chang & Dagaas, 2004).
- There has been a decline in the gross domestic supply of duck eggs in the past decade, but it is already starting to slowly recover in the past few years. With the government's recent intervention, **Itik Pinas**, the industry is projected to grow rapidly in the coming years.

Industry Performance: Beef Cattle

Figure 9. Beef Supply Accounts, 1990-2016 (mt)



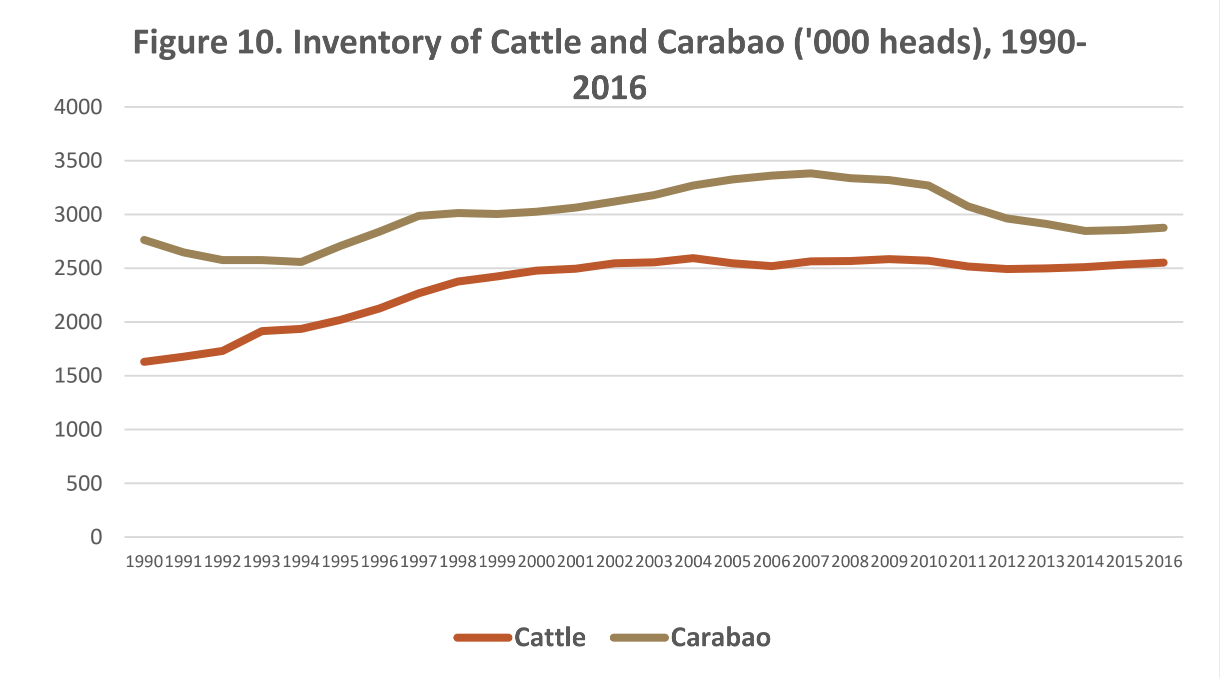
Source of basic data: Philippine Statistics Authority (PSA)

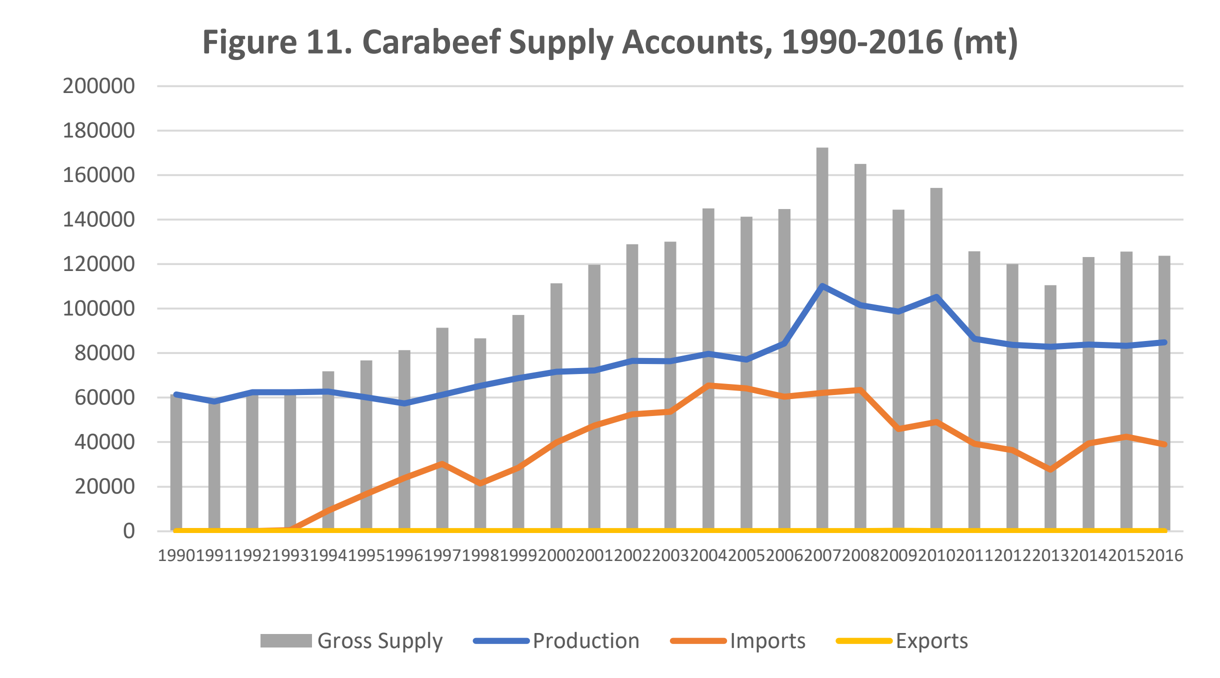
- Considered as one of the **least developed commodities** in the country for the past several years; continues to rely on importation to satisfy the local demand according to PCAARRD

- **Fluctuating gross domestic supply** in the past two decades with declining local production and increasing volume of imports in the recent years

- Availability and supply are cited issues because of the **extensive production system** required for cattle raising; difficulty in encouraging investors to go venture into pasture development and cattle raising because of the **risks**; low demand for beef in the country because of its relatively **higher price** compared to other meat products.

❑ Industry Performance: Carabao



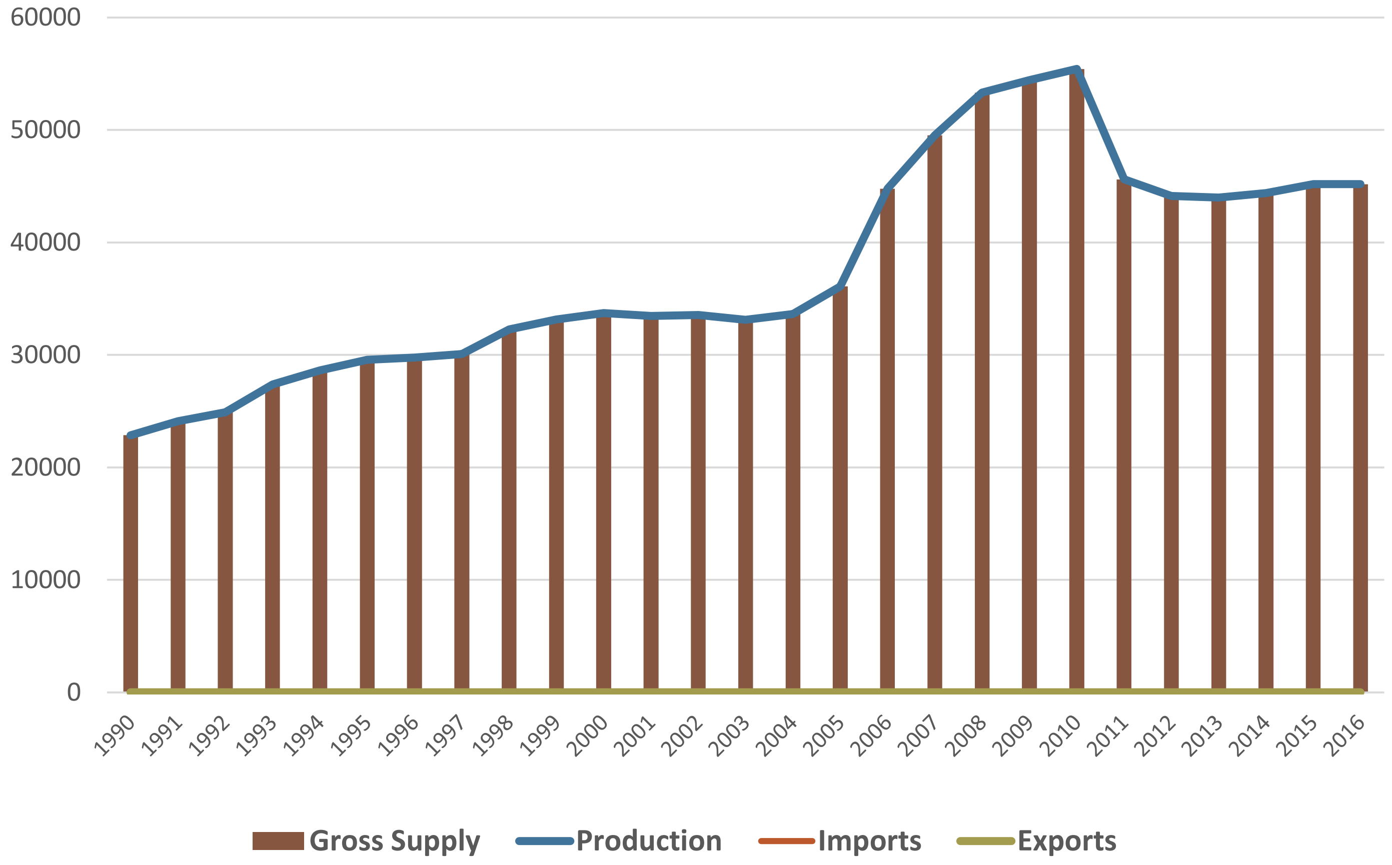


Source of basic data: Philippine Statistics Authority (PSA)

- **Declining population** of carabaos in the past decade due to inherently long gestation period of water buffaloes, low productivity and high slaughter rates in response to high demand
- **Decline in local production** of carabeef and **increased importation** from 1990 to 2016 can also be observed

Industry Performance: Goat

Figure 12. Chevon Supply Accounts, 1990-2016 (mt)

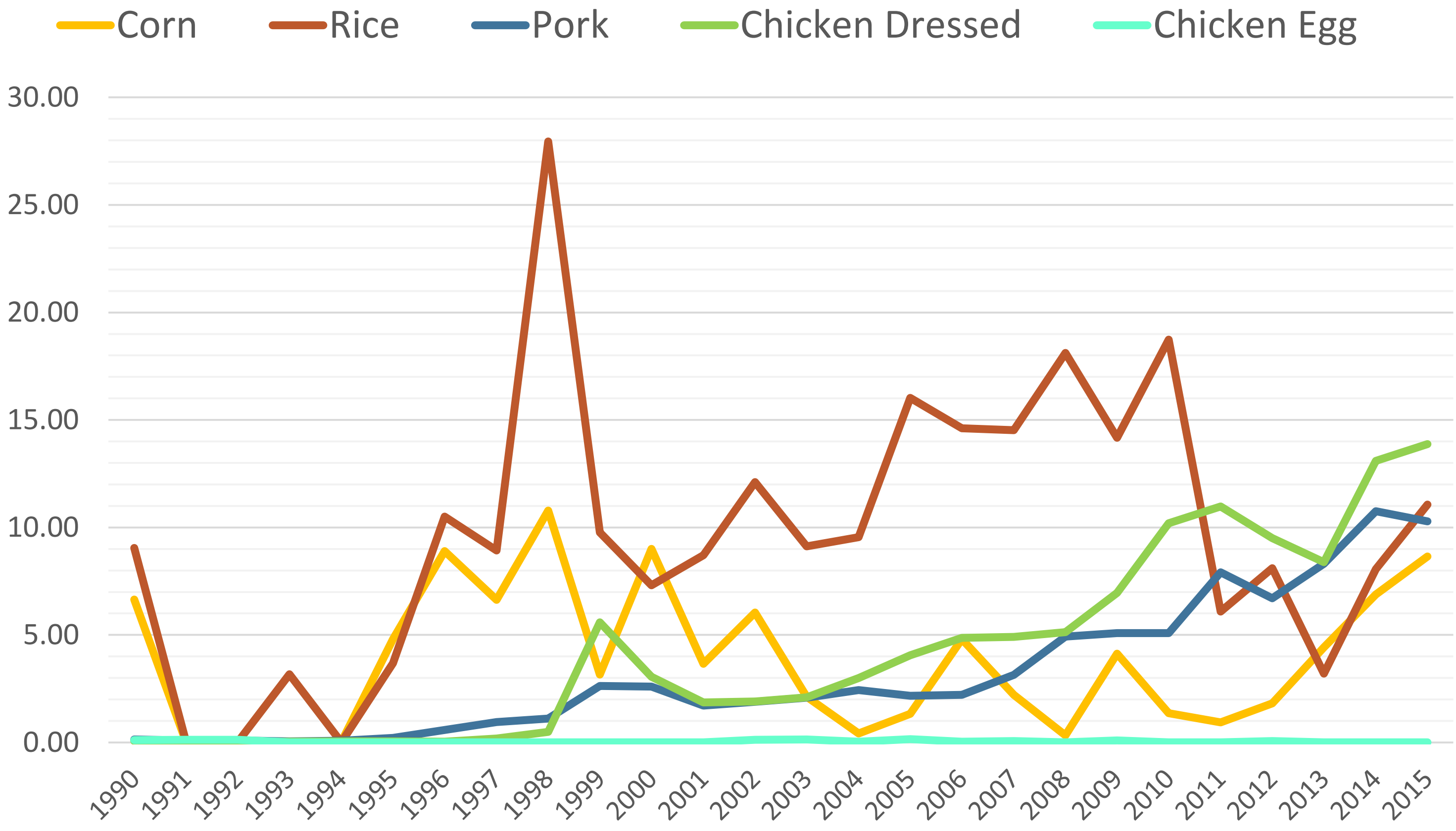


Source of basic data: Philippine Statistics Authority (PSA)

- Although the goat population has gradually increased in the past decades, it suffered a slow and almost stagnant growth in recent years
- **Suffered a slow and almost stagnant growth** for the past several years; uptake in goat production has been decreasing because many producers already discontinued operation due to losses

❑ Industry Performance: Import Dependency

Figure 13. Import Dependency Ratio of Selected Agricultural Commodities, 1990-2015



Source of basic data: Philippine Statistics Authority (PSA)

- Over the past two decades, import dependency of livestock and poultry commodities have been **slowly increasing** essentially to respond to the increasing local demand for meat products.

- Compared with other agricultural commodities like rice (and earlier years for corn), import dependency of livestock and poultry commodities such as pork, dressed chicken and eggs are **significantly much lower.**

❑ Industry Performance: Import Dependency

Table 1. Import Dependency Ratio (IDR) of Livestock and Poultry Commodities, 1990-2015 (by 5 years)

Commodity	1990	1995	2000	2005	2010	2015
Beef	8.51	15.08	18.75	15.14	20.45	29.18
Carabeef	0	21.73	35.72	45.42	31.76	33.74
Pork	0.14	0.22	2.6	2.17	8.46	10.22
Chevon	0	0	0	0	0	0
Chicken Dressed	0.07	0.05	3.05	4.06	10.2	13
Duck Dressed	0.93	1.91	1.77	0.37	0.72	1.01
Chicken Egg		0	0.01	0.16	0	0

Source of basic data: Philippine Statistics Authority (PSA)

- **Carabeef and beef** remained as the highly import dependent commodity; this was attributed to increasing demand for processed meat products and canned goods brought about by increasing purchasing power of local consumers.

- With limited local supply of carabeef, a primary raw material in manufacturing processed meat, manufacturers opted to importing bulk volume of carabeef from India

❑ Projected Demand and Supply

	Particulars	Units	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
A.	**Philippine Population, million**		102.97	105.02	107.12	109.27	111.45	113.68	115.96	118.27	120.64	123.05	125.51	128.02	130.58	133.20
B.	**Demand for Dairy Products @ 16.5 kg/capita**	Million lme	1,709.22	1,743.40	1,778.27	1,813.84	1,850.11	1,887.12	1,924.86	1,963.36	2,002.62	2,042.67	2,083.53	2,125.20	2,167.70	2,211.06
	Demand for Dairy Products @ 19 kg/capita	Million lme	1,956.34	1,995.46	2,035.37	2,076.08	2,117.60	2,159.95	2,203.15	2,247.21	2,292.16	2,338.00	2,384.76	2,432.46	2,481.11	2,530.73
	Projected Demand RTD & Curd @ 6% of 19 kg	Million lme	117.38	119.73	122.12	124.56	127.06	129.60	132.19	134.83	137.53	140.28	143.09	145.95	148.87	151.84
	Requirement for Malnourished Children		98.85	100.82	102.84	104.90	106.99	109.13	111.32	113.54	115.81	118.13	120.49	122.90	125.36	127.87
	Total for RTD Milk & Needs of Malnourished Children		**216.23**	**220.55**	**224.96**	**229.46**	**234.05**	**238.73**	**243.51**	**248.38**	**253.34**	**258.41**	**263.58**	**268.85**	**274.23**	**279.71**
	Projected Production with the Program, milliom li															
	Carabao		6.04	6.75	8.89	17.50	28.99	50.70	79.82	113.52	155.29	203.17	257.24	317.29	381.86	451.76
	Cattle		16.84	19.37	25.37	39.90	68.98	119.48	190.00	262.91	336.65	417.62	502.02	586.45	670.57	755.46
	Goat		0.31	0.83	1.81	3.46	5.11	6.84	8.51	10.12	11.67	13.36	15.11	16.53	17.19	17.88
	Total Production		**23.19**	**26.95**	**36.07**	**60.86**	**103.08**	**177.02**	**278.33**	**386.55**	**503.61**	**634.15**	**774.38**	**920.27**	**1,069.63**	**1,225.10**
	Percent increase	37.2%		16.2%	33.8%	68.7%	69.4%	71.7%	57.2%	38.9%	30.3%	25.9%	22.1%	18.8%	16.2%	14.5%
	Local Supply, li per capita		***0.23***	***0.26***	***0.34***	***0.56***	***0.92***	***1.56***	***2.40***	***3.27***	***4.17***	***5.15***	***6.17***	***7.19***	***8.19***	***9.20***
			0.01	0.01	0.02	0.03	0.05	0.08	0.13	0.17	0.22	0.27	0.32	0.38	0.43	0.48
	Share of Total Resulting Production															
	As % of total demand @ 16.6 kg/capita		1.4%	1.5%	2.0%	3.4%	5.6%	9.4%	14.5%	19.7%	25.1%	31.0%	37.2%	43.3%	49.3%	55.4%
	As % of total demand @ 19kg/capita		1.2%	1.4%	1.8%	2.9%	4.9%	8.2%	12.6%	17.2%	22.0%	27.1%	32.5%	37.8%	43.1%	48.4%
	As % of demand for RTD Milk & Curd		19.8%	22.5%	29.5%	48.9%	81.1%	136.6%	210.6%	286.7%	366.2%	452.1%	541.2%	630.6%	718.5%	806.8%
	As % of demand for RTD M7C + Malnourished Children		10.7%	12.2%	16.0%	26.5%	44.0%	74.1%	114.3%	155.6%	198.8%	245.4%	293.8%	342.3%	390.1%	438.0%
		2011														
C.	**Demand for Meat, Milk and Egg per capita**	32.0	57.9	59.0	60.1	61.4	62.6	63.9	65.2	66.6	68.0	69.4	71.0	72.5	74.1	75.8
	Pork	13.0	15.1	15.4	15.7	16.0	16.3	16.6	17.0	17.3	17.7	18.0	18.4	18.7	19.1	19.5
	Chicken	10.7	13.6	14.0	14.4	14.9	15.3	15.8	16.3	16.7	17.2	17.8	18.3	18.8	19.4	20.0
	Red Meat	4.4	5.7	6.0	6.3	6.6	6.9	7.2	7.6	8.0	8.4	8.8	9.2	9.7	10.2	10.7
	Egg	3.9	4.5	4.6	4.8	4.9	5.1	5.2	5.4	5.5	5.7	5.9	6.0	6.2	6.4	6.6
	Daiiry	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
	Demand for Meat and Egg , 1000 MT															
	Pork		1,551.7	1,614.4	1,679.7	1,747.5	1,818.1	1,891.6	1,968.0	2,047.5	2,130.2	2,216.3	2,305.8	2,399.0	2,495.9	2,596.7
	Chicken		1,402.0	1,473.0	1,547.5	1,625.8	1,708.1	1,794.5	1,885.3	1,980.7	2,080.9	2,186.2	2,296.8	2,413.1	2,535.2	2,663.4
	Red Meat		583.9	625.4	669.8	717.3	768.2	822.8	881.2	943.8	1,010.8	1,082.5	1,159.4	1,241.7	1,329.9	1,424.3
	Egg		463.1	486.5	511.1	537.0	564.2	592.7	622.7	654.2	687.3	722.1	758.6	797.0	837.4	879.7
	Dairy		1,956.3	1,995.5	2,035.4	2,076.1	2,117.6	2,160.0	2,203.2	2,247.2	2,292.2	2,338.0	2,384.8	2,432.5	2,481.1	2,530.7
	Combined		**5,957.1**	**6,194.7**	**6,443.4**	**6,703.7**	**6,976.2**	**7,261.5**	**7,560.3**	**7,873.4**	**8,201.4**	**8,545.1**	**8,905.4**	**9,283.2**	**9,679.4**	**10,094.9**
D.	**Production, 1000 MT**															
	Pork		1,729.7	1,816.1	1,906.9	2,002.3	2,102.4	2,207.5	2,317.9	2,433.8	2,555.5	2,683.3	2,817.4	2,958.3	3,106.2	3,261.5
	Chicken		1,140.5	1,197.6	1,257.5	1,320.3	1,386.3	1,455.7	1,528.4	1,604.9	1,685.1	1,769.4	1,857.8	1,950.7	2,048.3	2,150.7
	Red Meat		249.7	252.3	256.8	273.6	294.2	328.9	364.7	382.3	405.4	433.4	462.2	492.2	523.2	555.3
	Egg		550.2	582.8	617.4	654.0	692.8	733.9	777.5	823.6	872.5	924.2	979.1	1,037.2	1,098.8	1,164.0
	Dairy		23.2	27.0	36.1	60.9	103.1	177.0	278.3	386.6	503.6	634.1	774.4	920.3	1,069.6	1,225.1
	Combined		**3,693.3**	**3,875.8**	**4,074.7**	**4,311.1**	**4,578.8**	**4,903.0**	**5,266.8**	**5,631.1**	**6,022.1**	**6,444.4**	**6,890.9**	**7,358.7**	**7,846.1**	**8,356.6**
	Production per capita															
	Pork		16.8	17.3	17.8	18.3	18.9	19.4	20.0	20.6	21.2	21.8	22.4	23.1	23.8	24.5
	Chicken		11.1	11.4	11.7	12.1	12.4	12.8	13.2	13.6	14.0	14.4	14.8	15.2	15.7	16.1
	Red Meat		2.4	2.4	2.4	2.5	2.6	2.9	3.1	3.2	3.4	3.5	3.7	3.8	4.0	4.2
	Egg		5.3	5.5	5.8	6.0	6.2	6.5	6.7	7.0	7.2	7.5	7.8	8.1	8.4	8.7
	Dairy		0.2	0.3	0.3	0.6	0.9	1.6	2.4	3.3	4.2	5.2	6.2	7.2	8.2	9.2
	Combined		**35.9**	**36.9**	**38.0**	**39.5**	**41.1**	**43.1**	**45.4**	**47.6**	**49.9**	**52.4**	**54.9**	**57.5**	**60.1**	**62.7**

❑ Government Programs and Interventions

1. **Crafting of research and development agenda** with goals and strategies to increase production, improve productivity and enterprise development, and ensure compatibility of practices within environmental standards and global competitiveness of the livestock and poultry sector

2. Implementation of **breeding program** for carabaos and small ruminants intended to increase their production

3. Introduction of **improved management and practices** aimed to increase production of milk and prevent wastage due to spoilage

4. Conduct of **regular consultations with the private sector** to gather insights and recommendations through the Philippine Council for Agriculture and Fisheries (PCAF)

❑ Government Programs and Interventions

5. Implementation of **program on native animals** to cater to the huge local demand for native animal products

6. Conduct of **feed cost reduction research** to assess low cost feed alternatives, such as banana stalks and water lily: possible sources, digestibility, etc.

7. Implementation of **animal health programs**, such as the local production of diagnostic kits or vaccines to address priority economic diseases in the Philippines as identified by the Bureau of Animal Industry (BAI)

❑ Government Programs and Interventions

8. Conduct of **community-based participatory action research** to recognize that location sensitivity of certain technology should also be taken into primary consideration aside from the development of the technology itself

9. Mainstreaming of climate change in agriculture-related programs and projects

10. Crafting of dairy roadmap

11. Implementation of other related policies, such as the recent issuance of an executive order imposing zero tax duties on imported animals, except for horse and dogs, which may result in a more accessible source of good breeder stock at a much lower price

❑Issues of the livestock industries

In the institutional level

- This study notes a weak link between the government and the private sector, which makes it difficult for the former to comprehensively assess the livestock industry. The private sector stakeholders, for instance, maintain a conservative stance when it comes to providing information to the government.
- The national regulatory agencies, like the BAI, have no direct supervision over local government units.

❑Issues of the livestock industries

In the policy level

- Conflicts in local policy remain a big threat to the growth of the livestock industries. For instance, the current land use policy encroaches on livestock production areas, threatening the operation and productivity of poultry and swine.
- This study notes the perennially lower government support to the livestock industry compared to what the crop sector receives.

❑Issues of the livestock industries

In the stakeholder level

- The key industry players of the livestock and poultry sector are more empowered than other agricultural actors. They are aware of their economic importance and perhaps even their influence on food availability.
- Many livestock entrepreneurs are receptive to innovative practices and active in local policy discourses. They are even involved in discussions on the classification of agro-industrial zones and identification of advantageous compromises and progressive alternatives.

❑Recommendations

In the institutional level

- Though the industry is private-led, the government must still guide its workings and establish a functional enabling facility. It must also consider increasing support to the industry in terms of research and development, policy support, and productivity incentives.

- In terms of research and development, initiatives should not be limited to scientific inquiries. Instead, they should give more emphasis on locally applicable technological productivity interventions.

- Participation is critical when dealing with a large and widely diverse group of stakeholders. The government must establish platforms where inputs from all concerned can be weighed and considered when crafting the sector's development agenda and in grounding specific projects and programs.

❑Recommendations

In the policy level

- To address the conflicts in the current local land policy, the government must craft rational and relatively stable land use policy within local government. This move can deliver commensurate stability and growth to the industry.
- Previous modelling works have shown that the livestock sector would fare better when international markets are opened. While the volatility of prices poses risk, the current international marker prices are surging, presenting opportunities for local producers.
- The government must pursue evidence-based policymaking and consider the sentiments of both the public and key industry players. It can augment researches through technical capacity building and resource augmentation.

❑Recommendations

In the policy level

- The government must highlight biosecurity as a matter of policy. Doing so can strengthen the competitive edge of the Philippines in addressing the spread of diseases, such as avian flu and foot and mouth disease.
- As in the case of traditional cereal commodities, shifting the policy focus from self-sufficiency to food security is applicable for livestock and livestock products.
- The government must consider the standardization of products.

❑ Opportunities Ahead

- Different generational behavior patterns among both agricultural producers and consumers present opportunities for the livestock and poultry industries.
- The consumption trends for meat and meat products are also positive. Such are indicative of bright prospects and point to a more vibrant future for the livestock industry.
- The threats within and outside the sector are generally manageable. The industry is relatively resilient and its players are able to address current issues on productivity, disease spread, and climate variability.

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