Helping to understand and address the complex problem of industrial food animal production around the globe

TINY BEAM FUND

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ACADEMIC RESEARCH FINDINGS TURNED INTO INFORMATION THAT ADVOCATES CAN GRASP AND USE EFFORTLESSLY

To learn why we launch this program, read the Explanatory Note placed at the end. Feedbacks welcomed. Contact: min@tinybeamfund.org

• ISSUE 20 – 2024 (NOVEMBER) •

Chicken meat and eggs production in Asia: Quiz!

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Some facts and figures on chicken meat and eggs production to set the scene for the Quiz:

Top three chicken meat production countries *in the world* (2020-2024):

1. U.S. (average ~20,800 metric tons /year).
2. China (average ~14,700 metric tons /year).
3. Brazil (average ~14,500 metric tons /year).

Number 4 is the EU (average ~11,000 metric tons /year).

Chicken Meat Production - Selected Countries Summary
1,000 Metric Tons (Ready to Cook Equivalent)

	2020	2021	2022	2023 Apr	2023 Jul	2024 Apr	2024 Jul
Production							
Angola	30	36	48	48	48	52	52
Brazil	13,880	14,500	14,465	14,900	14,900	15,100	15,100
Canada	1,305	1,334	1,371	1,410	1,416	1,445	1,440
China	14,600	14,700	14,300	14,800	14,800	13,870	15,000
Cuba	11	12	12	12	12	12	12
European Union	11,030	10,840	10,880	11,060	11,060	11,110	11,200
Iraq	231	245	250	200	200	200	200
Japan	1,749	1,775	1,779	1,785	1,785	1,790	1,790
Korea, South	962	935	925	923	923	940	940
Mexico	3,596	3,665	3,763	3,888	3,888	4,000	4,000
Philippines	1,305	1,343	1,437	1,499	1,499	1,540	1,540
Saudi Arabia	900	930	1,130	1,050	1,150	1,100	1,175
South Africa	1,537	1,570	1,577	1,504	1,504	1,540	1,540
Thailand	3,250	3,220	3,300	3,450	3,450	3,490	3,490
United Kingdom	1,779	1,841	1,847	1,851	1,851	1,865	1,865
Others	23,236	23,894	24,009	24,087	24,087	24,702	24,702
Total Foreign	79,401	80,840	81,093	82,467	82,573	82,756	84,046
United States	20,255	20,391	20,993	21,082	21,082	21,395	21,250
Total	99,656	101,231	102,086	103,549	103,655	104,151	105,296

(Source: USDA 2024 link)

***China's* broiler production forecast:**

Down several percent in 2024 after a stable 2023. This is due to "Highly Pathogenic Avian Influenza (HPAI)-related reasons and for continued live poultry market closures".

(Source: USDA 2024 link)

Top three countries in *Asia* with the most broiler chickens produced and slaughtered:

1. China
2. India
3. Indonesia

(Source: Compassion in Food Business, with FAO 2020 data link)

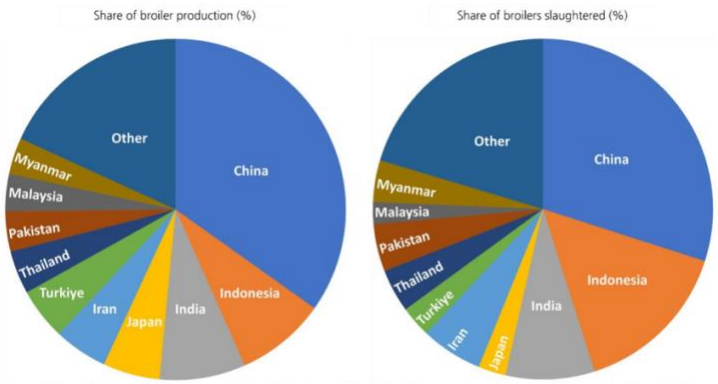

Figure 1. The main chicken producing countries in Asia by share of total Asia chicken meat production and chickens slaughtered (%) in 2020. Source: FAOSTAT[1]

Top three countries *globally* with largest chicken eggs production in 2022:

1. China (39% of global production)
2. Indonesia
3. India

(Source: WATT Global Media with FAO 2024 data link)

Region *in the world* with largest chicken eggs production:

Asia, with more than 64% of global output. Production in Asia increased almost fourfold in last three decades.

(Source: FAO link)

QUIZ QUESTIONS!

If you answer all six questions correctly, do let us know: min@tinybeamfund.org

1. Why isn't *China* producing a lot of cage-free eggs?

(a) Producers don't understand animal welfare.
(b) No demand for cage-free eggs.
(c) Lack of involvement of company leaders.
(d) Concern with costs and profits.

2. What is one of the key reasons for the spectacular growth in *India's* chicken production?

(a) Consumer demand.
(b) Contract farming.
(c) Government restriction of imports.
(d) Foreign investments.

3. How does *Thailand* rank globally in chicken meat export?

(a) 20th.
(b) 10th.
(c) 4th.
(d) 2nd.

4. Which one is NOT a key characteristic of *Indonesia's* poultry production?

(a) Few small independent producers.
(b) Unstable business environment for producers.
(c) Lack of capacity to collect and share important data.
(d) Weak government interest.

5. What scale is *Vietnam's* chicken meat and eggs production and distribution networks?

(a) Mostly large-scale.
(b) Mostly small-scale.
(c) Mostly mid-size.
(d) A mix of different scales.

6. What did the government in *Malaysia* do in its attempt to provide affordable chicken meat and eggs to meet consumer demand in recent supply crises?

(a) Encourage more small-scale production.
(b) Help producers reduce loss of chickens from diseases.
(c) Ban exports and increase imports.
(d) Incentivize foreign companies to come to build large farms.

ANSWERS:

1: d. Concern with costs and profits
2: b. Contract farming
3: c. 4th
4: a. Few small independent producers
5: d. A mix of different scales
6: c. Ban exports and increase imports

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1. Why isn't China producing a lot of cage-free eggs?

(a) Producers don't understand animal welfare. (b) No demand for cage-free eggs. (c) Lack of involvement of company leaders. (d) Concern with costs and profits.

Answer: (d)

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Animal welfare:

• Producers of broiler and layer chickens in China are not ignorant of the concept and practice of animal welfare. Their understanding may well be robust. But their priorities can differ: Those that produce layer chickens tend to prioritize chickens' natural behaviors, while broiler producers emphasize chickens' health and productivity.

• Consumers, on the other hand, may not have a clear understanding of animal welfare, not helped by the way the term is translated into Chinese. The exception are young, highly educated urban residents in high-tier cities.

Demand:

• There is an obvious demand for cage-free eggs in that several dozens multinational and national corporations have made public commitments to source 100% cage-free eggs in China. Half of the commitments are due in 2025, the rest between 2026 and 2030.

• In the lead are companies from the hospitality sector, followed by manufactured goods and restaurants. "There are comparatively few grocery retailers or food service providers and there no commitments, as yet [in 2022], from the egg production companies."[(a)]

• But individual consumers may be confused about the meaning of 'cage-free eggs' in the marketplace. There are various terms used on egg packaging that indicate hens being reared outdoors or in 'natural environments', and there are regional differences in the use of terms.

• "Providing consumers with more information about what cage-free means is frequently cited as a way to scale cage-free production in China and other countries. However, it is not clear that providing more information is necessarily helpful, especially where confusion about egg production already exists."[(a)]

Company leadership:

• Leaders in egg production companies are involved in making choices of housing systems. "The leadership's decisions in companies also played an essential role in adopting cage-free systems, especially for the farms established by owners and companies."[(b)]

• When one tries to persuade a company or farm to adopt cage-free systems, it is important to understand features and contexts specific to that business such as its personal leadership and organization culture.

Economic factors:

- The #1 barrier to producing lots of cage-free eggs in China boils down to *production costs and profitability*.
- Setting up cage-free systems is costly, especially for smaller independent producers.
- Moreover, producers are not confident that they can sell their cage-free eggs – pricier than conventional egg – on the market, and that food businesses with pledges to source cage-free eggs will really keep their promise. (These food businesses, in turn, do not trust the producers to give them genuine cage-free eggs because of limited verification and traceability.)
- To producers, "making a profit and surviving market competition"[(b)] trumps everything else. "While animal welfare values matter, economic incentives seem more promising for steering the shift towards and maintaining cage-free poultry production."[(b)]

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Questions to ponder:

How many more years will it take for China to have 50% cage-free eggs production? Does that depend chiefly on producers receiving the right kind of economic incentives and financial gains, or on something else that is not necessarily tied to profits and cost of production?

More information from publication (b):

- "At the political level, the Chinese government has prioritised scaling up and intensifying animal farming to expedite agricultural development to alleviate poverty, address food shortages, and enhance food safety. . . . Moreover, export rejections in international markets and domestic food safety scandals have heightened awareness and concerns about food safety among Chinese consumers. Consequently, China welcomes industrialised and intensive production systems, such as battery cages, seen as "scientific" tools to boost poultry output and enhance food risk management."
- "Furthermore, China's lack of legislation and limited public engagement contributes to the lower priority of animal welfare in poultry production. . . . While the Chinese government shows willingness for animal welfare improvement, it allows limited public engagement in animal welfare initiatives due to the term's associations with animal and human rights and concerns that public activism might jeopardise political stability. Moreover, animal agricultural industries are antagonistic toward international advocacy groups and their pressure to improve animal welfare because the industry might feel their cultural identities are under attack. As such, similar to previous research, participants in this study demanded that farm animal welfare standards be developed and applied in the Chinese context rather than copying Western standards, or as Participant 17 put it: "We must [develop] animal welfare with Chinese characteristics"."
- "The emphasis on profitability was ubiquitous in the participants' narratives. A few producers believed that profitability was an inherent feature in farm animal production and that improving animal welfare offsets the pursuit of efficiency and profitability. Thus, it is undesirable for Chinese farming businesses to use cage-free systems. As such, the "pressure" of gaining profits was often highlighted as a significant reason for not choosing cage-free systems or shifting from floor-based systems to cages in the broiler sector."

(a): Bright, Ashleigh. *Egg Producer and Egg Buyer Disconnect: Exploring Barriers and Levers to Increase Cage-Free Egg Production in China*. 10.15868/socialsector.41288, Tiny Beam Fund, Dec. 2022. (link)

(b): Yang, Qing, et al. "Animal Welfare with Chinese Characteristics: Chinese Poultry Producers' Perceptions of, and Attitudes towards, Animal Welfare." *PLOS ONE*, vol. 19, no. 7, July 2024, p. e0307061. (link)

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2. What is one of the key reasons for the spectacular growth in *India's* chicken production?

(a) Consumer demand. (b) Contract farming. (c) Government restriction of imports. (d) Foreign investments.

ANSWER: (b)

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Consumer demand:

Consumer demand is not a significant driver of the dramatic increase in poultry production in India. There is evidence to show that it can be *the other way round*: Supply-side factors – especially the steady rise of higher productivity in the poultry industry in some parts of the country – have lowered prices of poultry for consumers, and this price drop has helped to drive up consumption.

Import regulations:

Also the other way round is government import regulations. It is government *liberalization* – not restriction – that lent a big helping hand to the poultry industry. Slashing import duties and liberalizing imports of grandparent poultry stock opened up a golden opportunity for producers to get hold of breeds that can yield higher feed efficiency and more rapid growth.

Investments:

It was the investment from *homegrown Indian private sector* – not foreign sources – that powered productivity increase. Venkateshwara Hatcheries (Venky's) is the most prominent. Their investments in R&D of poultry parent stock of both international and indigenous breeds were especially consequential. Using new breeds contributed to the remarkable rise in productivity and profits.

Contract farming:

Added to the above features that characterize the poultry industry's success story is contract farming. Efforts to institutionalize contract farming started in the 1980s. By 2020 "almost 80 percent of India's poultry production (in value terms) came from this organized contract farming segment". It was "a vertical integration model between large integrators/hatcheries and small farmers through a contract farming approach" that "transformed the Indian poultry sector from a mere backyard activity into a major organized commercial one."

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Question to ponder:

If, like India, the driver of the sharp rise in poultry production in other developing economies is also not primarily due to leaps in consumer demand but is instead stimulated by supply-side developments that are highly favorable to producers (policy changes, innovations and new production models in the private sector, etc.), should one pay more attention to tackling and thwarting these supply-side developments instead of focusing the bulk of one's resources on reducing demand?

More information from (a):

- "Rapid advancements and developments in the Indian poultry sector's structure and operations have kept poultry products affordable and available in the southern states. The private sector in Southern India has undergone expansion and the industrial chicken meat and eggs sector grew at an average annual growth rate of 9% and 6% from 2000–2001 to 2018–2019. On the demand side, Landes et al. found that, in southern India, per-capita poultry consumption has been higher in urban settings because higher-income consumers live in cities and because retail poultry prices offered by large-scale poultry production are significantly lower in the region's urban areas. This implies that income and household characteristics might be important factors for consumption."

- "However, production facilities also impact demand. Indian consumers prefer to buy from live bird markets due to the perception that fresh poultry is of better quality. This perception is attributable to the short life of the poultry meat and the sector's underdeveloped cold chains, refrigerators, and specialised equipment for the transport and conservation of live animals and poultry. Additionally, the high costs of transporation shrinkage, and high rates of mortality pose difficulties in moving live birds over long distances from farms to rural areas. This has led to a concentration of production and consumption processes in urban areas, neglecting rural ones. Thus, research has suggested that supply-side factors are stronger determinants in the consumption of poultry products than demand-side factors."

More information from (b):

- "Another parameter to measure the growth of the poultry sector in India is the increase in the size of poultry farms. In earlier years, an average of a few hundred birds (200 to 500 chicks) per cycle were produced by broiler farm units. Recently, farm units with less than 5,000 birds are rare, while farm units with 5,000 to 50,000 birds per cycle are common. Similarly, layer farms with a size of 10,000 to 50,000 birds have become common. Most of these units are open sheds and just a few are large poultry integrators with environment-controlled housing, and automatic feeding and drinking systems."

- "Since most of the poultry meat in India is marketed in the form of live birds to consumers (almost 90 percent), the costs associated with moving live birds to markets (including transport, shrinkage and mortality) is beyond the bearing capacity of small-scale producers. Also, small-scale producers lack investments to cater to dynamic market demands. Thus, in a co-ordinated market approach, integrators on one hand cover market risks for small producers and ensure remunerative income (by keeping producer-retail margins relatively low), while on the other hand they help in compressing the average cost of production through improved technology and management practices. Besides this, integrators also perform key functions of banking and insurance against production risks."

- "According to the recent report of Agricultural Skill Council of India on Poultry Sector, there are around 100,000 layer farmers in India and an equal number of broiler farmers. Of these, 70 percent are small-scale farmers (3,000-10,000 birds) and 20 percent are medium scale farmers (10,000-50,000 birds). Only 10 percent are large-scale farmers with units varying from 50,000 to 400,000 birds. This shows that there is significant involvement of small-scale producers in the Indian poultry industry and they account for most of the production."

- "With vast commercialization and the emergence of organized contract farming in the Indian poultry sector, there is an increase in availability of credit and insurance (in terms of risk sharing), subject to a mutual agreement between the producers and contracting firms. This has not only eased the capital constraints of producers, particularly smaller ones, but also has improved production efficiency and provided them protection against price risk and uncertainty. Birthal et al. reported in a study that in the case of broilers, the contracted producers hardly incur any costs on extension, information and transportation for acquiring inputs, which account for 80 percent of the total transaction cost in broiler production. Moreover, in a contractual arrangement, they receive key inputs such as chicks, medicines and feed from the contracting firm, where these inputs account for about 75 percent of the total cost of broiler production. This has been the principal attraction to these farmers for participating in the contractual agreement."

(a): Scudiero, Lavinia, et al. "Understanding Household and Food System Determinants of Chicken and Egg Consumption in India." *Food Security*, vol. 15, no. 5, 2023, pp. 1231–54. (link)

(b): Gulati, Ashok, and Ritika Juneja. *Poultry Revolution in India: Lessons for Smallholder Production Systems*. No. 225, University of Bonn, Center for Development Research (ZEF), Sept. 2023. (link)

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3. How does *Thailand* rank globally in terms of chicken meat export?

(a) 20th. (b) 10th. (c) 4th. (d) 2nd.

ANSWER: (c)

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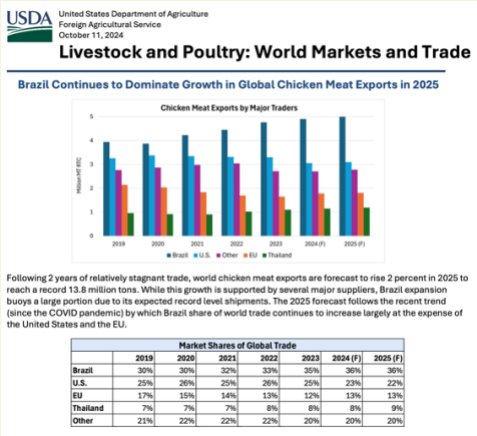
Thailand has been, and likely remains to be, the *fourth* largest exporter of chicken meat, albeit taking up less than 10% of global export (compared to the #1 exporter – Brazil – with over 30%).



USDA United States Department of Agriculture
Foreign Agricultural Service
October 11, 2024

Livestock and Poultry: World Markets and Trade

Brazil Continues to Dominate Growth in Global Chicken Meat Exports in 2025

Chicken Meat Exports by Major Traders

Following 2 years of relatively stagnant trade, world chicken meat exports are forecast to rise 2 percent in 2025 to reach a record 13.8 million tons. While this growth is supported by several major suppliers, Brazil expansion buoys a large portion due to its expected record level shipments. The 2025 forecast follows the recent trend (since the COVID pandemic) by which Brazil share of world trade continues to increase largely at the expense of the United States and the EU.

Market Shares of Global Trade

	2019	2020	2021	2022	2023	2024 (F)	2025 (F)
Brazil	30%	30%	32%	33%	35%	36%	36%
U.S.	25%	26%	25%	26%	25%	23%	22%
EU	17%	15%	14%	13%	12%	13%	13%
Thailand	7%	7%	7%	8%	8%	8%	9%
Other	21%	22%	22%	22%	20%	20%	20%

A paper published in July 2024 (using mostly sources from 2023) provide the following figures related to broiler chickens production in Thailand:

- Number of broiler producers: 31,117.
- Number of broiler farms accredited Good Agricultural Practice standards: 12,567.
- Number of broiler chickens produced in a year: 1,927 million.
- Amount of chicken meat produced and global rank: 3.45 million tons, ranked 7th globally.
- Increase in chicken meat produced from 2017 to 2022: From 2.71 to 3.27 million tons.
- Farm location: 28.53% (central region), 22.75% (eastern region), 6.55% (southern region).
- Number of chickens in farms considered to be small-scale: Less than 20,000 chickens.
- Number of chickens in farms considered to be large-scale: 100,000 to 1,000,000 chickens.

Key reason for growth in production: Transition "from smaller-scale, traditional systems to more specialized, large-scale farming", with "the adoption of standardized farming systems, enhanced epidemic prevention measures and increased inputs".

Export saw a noticeable rise in the late 2010s. This can be explained by the *opening up of overseas markets.* After a long period of export suspension, poultry meat could again be exported to markets in Japan, Republic of Korea, and other countries. Moreover, a significant new market entered the scene – China. Poultry meat is also exported to the EU.

Question to ponder:

Reliable facts and figures are essential to campaigns. But all campaigners know that statistics alone rarely change people's minds. What else is needed to achieve a great outcome – is it skillful storytelling, having the ear of key decision makers, and/or something else?

Klaharn, Kunnanut, et al. "Analyzing and Forecasting Poultry Meat Production and Export Volumes in Thailand: A Time Series Approach." *Cogent Food & Agriculture*, vol. 10, no. 1, Dec. 2024, p. 2378173. (link)

4. Which one is NOT a key characteristic of Indonesia's poultry production?

(a) Few small independent producers. (b) Unstable business environment for producers. (d) Lack of capacity to collect important data. (d) Weak government interest.

ANSWER: (a)

There are still many independent poultry producers in Indonesia. In spite of Indonesia's high position in the global poultry production league table, poultry raised in that country are *not* in the hands of a mere handful of mega corporations as is the case in a number of other countries.

However, large companies and integrators have been operating successfully and are gaining more power and prominence. Small-scale producers have "expressed fatalistic view, believing that they did not have the capacity to compete and were doomed to be overtaken by large players".

Key characteristics of Indonesia's poultry sector include:

- Relatively weak government interest in poultry: *Cattle* is king in Indonesia and receives more attention from the government. A number of small and medium-sized independent poultry farmers "felt abandoned by the government and complained of a lack of financial support".

- Unstable business environment: Producers face high production costs, difficulties of and heavy dependence on imports for sourcing day-old chicks and feeds (which together account for more than 80% of their production costs), an unpredictable market, and price fluctuations. Independent farmers, in particular, feel economically vulnerable and subjected to unequal power dynamics. They were "becoming increasingly dependent on large integrated companies for the supply of production input and had to comply with their terms and conditions, such as the bundling of feed and DOCs [day-old chicks]".

- Lack of capacity and collaboration to collect, understand, and share important data: There are major knowledge gaps that no one is filling – not the government; not academia (which

the poultry industry perceives as out of touch with real life). Small and medium-sized producers don't have the technical skills and resources to collect and analyze data about poultry diseases and production (e.g., many still use pen and paper). Moreover, there are no easy or formal channels to disseminate the information that is gathered.

- On-farm management of poultry health is inadequate: Chickens in Indonesia endure increasingly complex and numerous health problems (e.g., avian influenza). But producers are not able to deal with them properly. This is especially so with farmers from a previous generation who cannot update to new practices and knowledge.

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Question to ponder:

Is it surprising that the poultry sector of a country that does not have world-class technical know-how, and is faced with a number of challenges can still produce so many chickens? (For latest production figures, see 2023 BPS-Indonesia statistics here)

Chapot, Lorraine, et al. "Needs and Capabilities for Improving Poultry Production and Health Management in Indonesia." *PLOS ONE*, edited by Biswajit Pal, vol. 19, no. 8, Aug. 2024, p. e0308379. (link)

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5. What scale is Vietnam's chicken meat and eggs production and distribution networks?

(a) Mostly large-scale. (b) Mostly small-scale. (c) Mostly mid-size. (d) A mix of different scales.

ANSWER: (d)

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Chicken farming systems and value chains in Vietnam are diverse. They can be grouped into three broard categories:

1. Colored broiler and "spent hen" network:

- Mostly independent, backyard producers. Long distribution chains with numerous small-scale actors.
- Sold in live bird markets.
- Chickens produced and sold this way are most preferred by consumers.
- Various farm sizes (large 2,000 -10,000 chickens, medium 100 - <2000 chickens, small <100 chickens).
- A mix of housing (closed, open, free range).
- Indigenous breeds and hybrid breeds.
- Feed sources include self-supply, feed companies, local feed stores, scavenging.

2. White broiler network:

- Dual composition of (i) a great number of independent, household producers without much formal chain coordination, and (ii) "large farms contracted by vertically-integrated companies".
- Large and medium-scale (2,000 - 100,000 chickens).
- Closed, "modern" housing.
- Commercial, industrial breeds.
- Feed sources are from feed companies and local feed stores.

3. Egg network:

- Predominantly contracted by large vertically-integrated companies.
- "Large laying farms buy DOCs [day old chicks] or growers directly from breeding companies" (some of which are local, and some owned by foreign companies). Smaller farms get theirs from government research institutions.

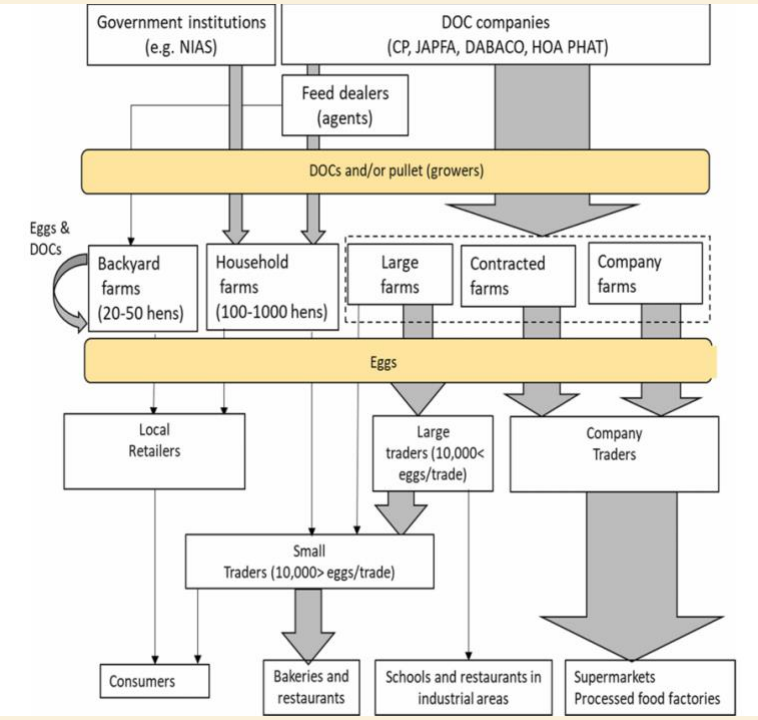

Fig. 3. **:** Egg production and distribution network. White boxes represent stakeholders in the system, while round orange boxes represent commodities (animals or products). The widths of the arrows represent the relative importance of a given flow in the network.

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Question to ponder: Do these complicated, diverse, and diffused networks have significant implications for those who want to address concerns with production practices (e.g., the strategies one uses to communicate with stakeholders in value chains)?

More information:

- "The current classification adopted by the Vietnamese government is based on the scale of production, differentiating farms into: large-scale (above 300 livestock units where one production unit equals 500 kg of livestock), medium-scale (30–300 units), small-scale (10–30 units) and household farms (less than ten units)."

- "While it is well established that chicken production has increased in Vietnam due to socio-economic changes, our data show how consumer demand differs with consumer characteristics, chicken breeds and seasons. Wealthier consumers tend to prefer indigenous free-ranged colored chickens while poorer consumers can only afford white chickens produced in commercial farms. However, most colored chickens sold as indigenous free-ranged are not raised in backyard farms, but are hybrid chickens or spent hens raised in commercial farms, with many consumers being unaware or not knowing the type of chicken consumed. While consumers generally prefer fresh (non-refrigerated) low weigh chicken (1.2 kg), as these can be eaten in a day, their preference for different breeds of colored chickens depends on the purpose of the purchase. For instance, hot pot restaurants preferentially purchase small hens with large thighs because it is assumed that hens are better than cock for hot pot. Restaurants offering "Pho" – a popular noodle soup dish in Vietnam – on the other hand, prefer spent hens with thick skin and flavorful meat. These are also preferred for weddings, conferences and by hotels. Consumers look for specific local breed chickens and cocks for religious ceremonies."

- "The population of household farms and backyard farms was reported to be numerous, operating on small profits, and highly heterogenous in terms of practices and compliance with regulations, which could generate further instability of chicken supply. The number of small farms was however believed to be declining, as they struggle to compete with large farms. In contrast, companies, through vertical integration, were seen to have more stable networks. These companies ensure that prices of DOCs and feed sold to farmers remain stable and provide farmers with support on technical advises on husbandry practices. As they have contracts with, or even own supermarkets, as well as slaughterhouses and processing plants, companies can also ensure the stability of the prices of finished chickens raised on their farms. Consequently, there is a high demand from farmers to be contracted by these companies."

- The study shows that there are major differences in governance and power dynamics between different networks, which have implications for disease control. Those networks operated through traders and live bird markets presents much lower coordination capacity and increased level of power symmetry than the networks organized by large integrated companies. The color broiler PDN is the most uncoordinated network, operating largely on informal processes in a market and relational type of chains and where relationship with traders is central for access to market. Consequently, the control of diseases along such networks becomes challenging as a large proportion of stakeholders are unregistered (with difficulty to monitor and implement surveillance programs), there is a lack of capacity to implement adequate traceability schemes (given lack of contracts). Moreover, the low investment model operated across the network means reduced biosecurity investments by stakeholders, lack of adequate infrastructure (such as slaughterhouses and cold chain) and the use of low-quality inputs (e.g. feed). This network however produces an important commodity and source of livelihood, given that it accounts for 72% of all broiler chickens produced in Vietnam, and their consumption increases in festive seasons. On the other hand, the white broiler and egg networks present a better coordination capacity, given the large scales of operations and the partake of large companies, supported through large foreign investment funds, and contract farming. Yet, a significant part of the white broiler chain operates through household farms and informal processes. Policies that can help establish better network coordination are required to allow effective disease control strategies to be implemented."

Nguyen, Thi Dien, et al. "Mapping Chicken Production and Distribution Networks in Vietnam: An Analysis of Socio-Economic Factors and Their Epidemiological Significances." *Preventive Veterinary Medicine*, vol. 214, 2023, p. 105906. (link)

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6. What did the government in Malaysia do in its attempt to provide affordable chicken meat and eggs to meet consumer demand in recent supply crises?

(a) Encourage more small-scale production. (b) Help producers reduce loss of chickens from diseases. (c) Ban exports and increase imports. (d) Incentivize foreign companies to come to build large farms.

ANSWER: (c)

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Consumption:

- Malaysia's per capita consumption of chicken meat is among the highest in the world.
- A key reason for consumers' preference for chicken products is that the majority of Malaysians are Muslims. "The *Halalan Toyyiban* concept in poultry consumption is important to create upright and righteous individuals and has been stressed by the prophetic tradition."
- Chicken meat and eggs are affordable. They are cheap – if not the cheapest – animal protein sources in Malaysia and are widely consumed by the population. Even in times of price spikes in 2022, poultry was "at an average of RM9.35 per kg, compared to beef (RM38.47 per kg) or fish (Cencaru or *Megalaspis cordyla* at RM10.35 kg)".

Production:

- Chickens in Malaysia are typically mass produced and raised intensively.
- "Profit margins for poultry and egg producers are considered small".
- Malaysia is "self-sustainable" for broilers and eggs which are "abundant" in the country.
- Although the poultry sector is "driven privately", the government sets ceiling prices for poultry products to ensure their affordability. These products are deemed to be highly important for Malaysia's food security.
- In recent years with the COVID-19 pandemic and war in Ukraine, the cost of imported feed and inputs shot up. Market prices jumped sharply. To address insufficient supply and price hikes, *the government temporarily banned exports and increased imports*. "A recent egg crisis in late 2022 saw Malaysia importing 2 million to 10 million units per day from India in December 2022." Subsidies were also given to breeders and producers.

Crises in supply driven by reliance on non-local resources:

- Animal feed: Livestock feed in Malaysia is heavily dependent on imports, chiefly maize and grains. 70% of production cost for livestock in the country is taken up by the cost for raw materials for feed, which has more than doubled in the last sevaral years.
- Housing system: "Production and housing systems are still dependent on foreign technology. . . . Improvements that can be considered, such as cost effective building materials, improved biosecurity application, and automation should take a localised approach to fit Malaysia."
- Logistic cost: Such cost has risen sharply, for example, when there were delays at ports and increase in fuel prices used in transportation.
- Fluctuating Malaysian ringgit: These fluctuations can make imported feed more costly.

Questions to ponder:

Malaysia's poultry sector is mostly industrialized, mature, and able to satisfy the country's demand for chicken meat and eggs which are currently quite high and important for food security. But the continued rise in cost for imported input is a serious threat. What if the industry is unable to develop stable low-cost localized end-to-end supply chains, needs to hike prices, and the government does not intervene? Would the poultry industry shrink and the market get flooded with cheaper imports to meet consumer demand?

More information:

- "The production of poultry for broilers and eggs can be considered stable for the last 5 years, as shown in Table 1 and is expected to maintain steady growth for years to come."

Table 1: Number of poultry output (broiler and eggs) from 2016 until 2021 (Federation of Livestock Farmers' Association of Malaysia, n.d.)

Year	2016	2017	2018	2019	2020	2021
Number of broiler (millions)	818	767	717	787	799	756*
Number of eggs (millions)	12,113	12,502	11,943	9,624	11,743	12,372*

*estimated

- "Poultry production in Malaysia was considered one of the cheapest due to its industrial approach. The policy by the Malaysian government to ban export on 1st June 2022 was to ensure poultry was sufficient within the country, and the decision to import poultry was initially expected to cushion local supply stability. This policy did not go down well with some local farmers and poultry integrators, suggesting the effect it will bring on the export market to Singapore. . . . Concerns by integrators and also farmers on the possible influx of imported chicken led to the decision to reduce output into the market by extending harvesting time and reduced poultry stocking numbers. In this effect, the insufficient market supply of chicken was evident for 2 to 3 months, followed by oversupply from August 2022. The supply crises did not last long, as supply and prices stabilised, although at a slightly higher retail value."

Jamaludin, Mohd Hafiz, et al. "Egg and Broiler Supply in Malaysia: Issues, Challenges and Recommendations." *Halalsphere*, vol. 3, no. 1, Jan. 2023, pp. 11–19. (link)

EXPLANATORY NOTE:

- Academic studies are notoriously hard to find, read, and put into practical use by non-academics.
- Super-busy advocates cannot afford to spend a lot of time and effort to dig up, digest, and deploy academic research even though they recognize the value of academic studies in informing and improving their advocacy work.
- *Academic Studies Without Tears* aims to help advocates faced with this dilemma.
- Its target audience are leaders and funders of non-profit advocacy organizations addressing the many negative impacts of industrial animal agriculture in low- and middle-income countries.
- It uses a communication style – reminiscent of news items – that makes everything a breeze to read.
- Each issue focuses on a particular topic and includes 6 – 10 academic studies.
- It goes without saying that the academic studies featured are *not* the final word. They have flaws and limitations. They are just a tiny selection of perspectives and findings for advocates to consider, to whet their appetite. But every relevant data point and nugget of cogent information adds to one's store of knowledge and has the potential to spark new ideas.