

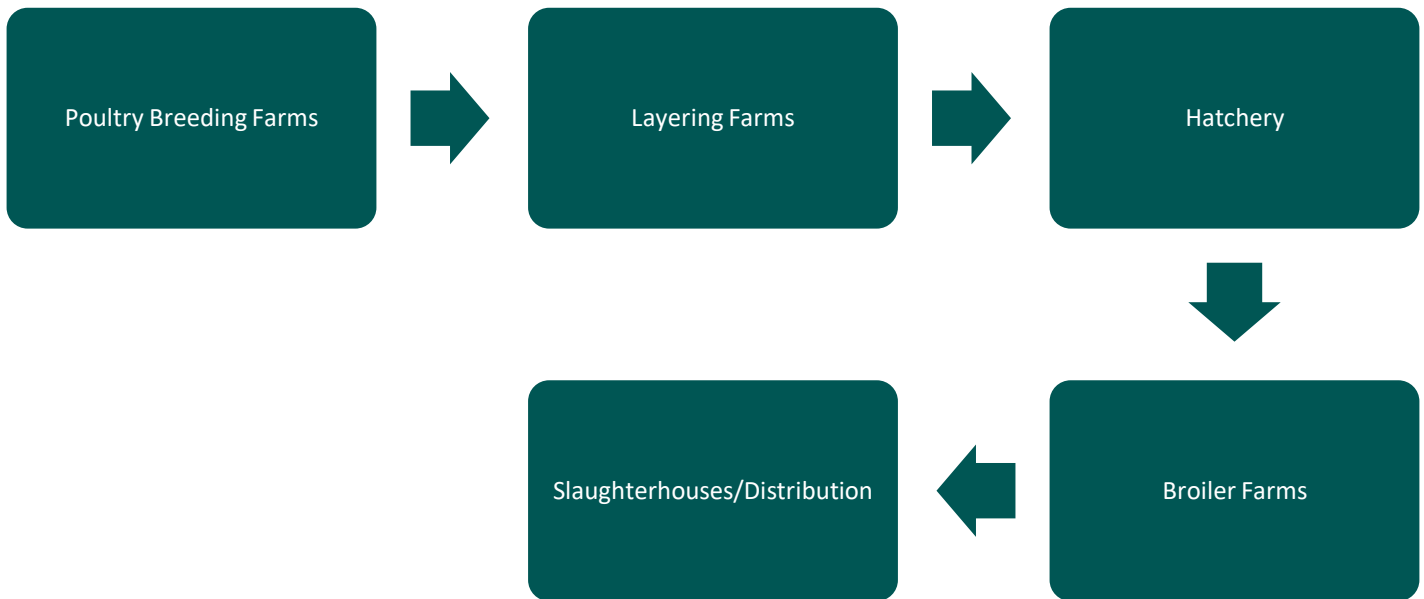
Qatar's Poultry Industry

April 2019

Table of Contents

1	Poultry Production Process	3
2	Poultry Production Process Flow.....	3
3	Overview of Qatar’s Poultry Industry.....	4
4	Key Statistics.....	5
5	Key Industry Drivers.....	8
5.1	Economic Growth	8
5.2	Government Initiatives	9
5.3	Rising Population and Tourism	9
5.4	Advanced Technology.....	9
6	Poultry Industry Restraints	10
6.1	Low Agro Production	10
6.2	Extreme Weather Causing Diseases	10
6.3	Diseases outbreak and Limited Veterinary Services.....	10
7	Future Development and Key Strategies	11
7.1	Qatar 2nd National Development Strategy 2018-2022.....	11
7.2	Poultry Farming Projects in Qatar	11
8	Key Challenges.....	12
8.1	Government Regulations and Tariffs	12
8.2	Food Safety Concerns	12
8.3	Low Agro Production Country.....	13
8.4	Limited Veterinary Services and Dependence on Imported Medicine and Vaccination.....	13
8.5	High Production Cost	13
9	References	14

1 Poultry Production Process



2 Poultry Production Process Flow

There are a number of stages involved in getting poultry to the end consumers. The process can be categorized as an industrial operation. The main steps in the production process are as follows:

1. **Input:** Primary breeding sector produces eggs that are hatched to produce parents' stocks which are then passed on to the production sector. This sector uses nutritionally complete poultry feed as an input to ensure good quality poultry.
2. **Layer poultry farming:** In this process egg-laying poultry birds are raised for the purpose of commercial egg production.
3. **Hatcheries:** The egg-laying poultry birds are kept in hatcheries, whereby the use of controlled and artificial conditions the eggs are hatched.
4. **Broiler sheds:** In this process, chickens are raised specifically for meat production.
5. **Output/Final Products:** The aforementioned processes result in the production of Day Old Chicks, Table Eggs & Chicken Meat.
6. **Distribution:** The products are then distributed from the Slaughterhouse/hatcheries to consumers, supermarkets and local butchery shops.

3 Overview of Qatar's Poultry Industry

- Overall, the agriculture and livestock market contributes 0.2% to the GDP of Qatar. (MDPS, 2013-2018)
- The biggest source of meat from livestock is poultry. As per the Peninsula Qatar, in 2018, fresh poultry meat production has increased from 10,000 tons per year to 22,000 tons; meanwhile, eggs production increased from 4,000 tons to 10,000 tons after the blockade, showing a 120% and 150% increase respectively.
- Poultry meat contributes to 33% of total meat production and 1.6% to the total agriculture production quantity of Qatar. (MDPS, Agriculture, 2013-2017)
- Total imports of poultry products (chilled/frozen & fresh) during YE 2017 was QR 904 million, and YE 2018 was QR 710 million.
- Average monthly income of a Qatari household is QR 41000/- out of which 8% is spent on eggs/dairy products and 18% of the income is spent on meat & poultry. (MDPS, n.d., p. 19)
- On average Qataris purchase 128.7g poultry meat per capita per day. (Research Gate, 2017)
- On average per capita expenditure and consumption per month on eggs/dairy is QR 62.34 and poultry meat is QR 130.59 per month per capita. (MDPS, n.d., p. 19)
- Qatar's self-sufficiency with respect to poultry meat is 10% and for eggs it's 14%. (MDPS, Agriculture, 2013-2017)
- Qatar's government has been extremely focused on its agenda of food security and self-sufficiency for the past five years. The recent political developments in the GCC and the blockade against Qatar have provided additional impetus to accelerate these efforts. Further proven by the fact that, in the past two years local production of agricultural, fish, animal, and dairy products has jumped by 400 percent since 2017 and annual fresh food trade volume has reached QR10bn.



4 Key Statistics

LAYERING CHICKEN REARING PERIOD (TO 17 WEEKS):	
Livability	98%
Feed Consumed	5.75–6.13 kg
Body Weight at 17 Weeks	1.40–1.48 kg
LAYERING CHICKEN LAYING PERIOD (TO 100 WEEKS):	
Percent Peak	95–96%
Hen-Day Eggs to 60 Weeks	257–266
Hen-Day Eggs to 90 Weeks	419–432
Hen-Day Eggs to 100 Weeks	468–483
Hen-Housed Eggs to 60 Weeks	253–262
Hen-Housed Eggs to 90 Weeks	408–421
Hen-Housed Eggs to 100 Weeks	453–467
Livability to 60 Weeks	97%
Livability to 100 Weeks	92%
Days to 50% Production (from hatch)	140 days
Average Daily Feed Consumption (18–100 weeks)	105–112 g / day per bird
Feed Conversion Rate, kg Feed / kg Eggs (20–60 weeks)	1.87–1.99
Feed Conversion Rate, kg Feed / kg Eggs (20–100 weeks)	1.98–2.10
Feed Utilization, kg Egg / kg Feed (20–60 weeks)	0.50–0.54
Feed Utilization, kg Egg / kg Feed (20–100 weeks)	0.48–0.51
Feed Consumption per 10 Eggs (20–60 weeks)	1.18–1.22 kg
Feed Consumption per 10 Eggs (20–100 weeks)	1.28–1.32 kg
Feed Consumption per Dozen Eggs (20–60 weeks)	1.42–1.46 kg
Feed Consumption per Dozen Eggs (20–100 weeks)	1.54–1.58 kg

Data Source: (Brown Commercial Layers, n.d.)

Feed Conversion Ration-Broiler		
Days	Weight	(FCR, kg feed per kg gain)
0-21	900 g	1.42
21-43	2.3 Kg	1.85

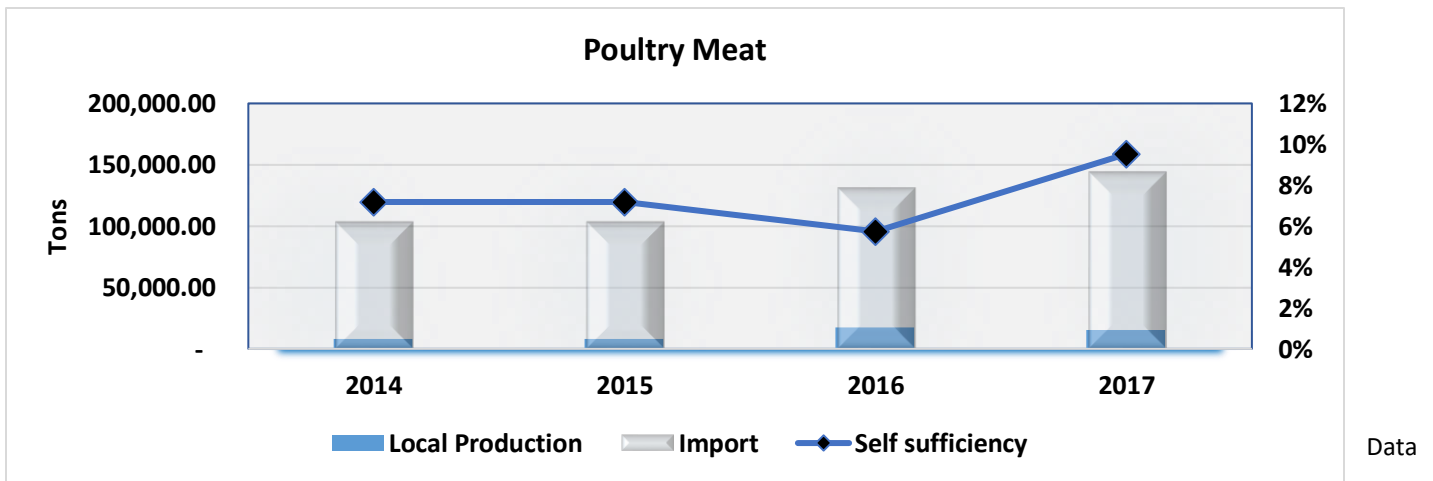
Data Source: (Poultry Hub, n.d.)

Feed and feeder space requirements for 100 chickens		
Age (weeks)	Daily feed consumption (kg)	Suggested feeder depth (cm)
1 to 4	1.4 to 5	5
4 to 6	3.2 to 7.3	8
6 to 9	5.0 to 9.5	9
10 to 14	7.3 to 15.9	12.5
15 and above	9.1 to 11.4	15

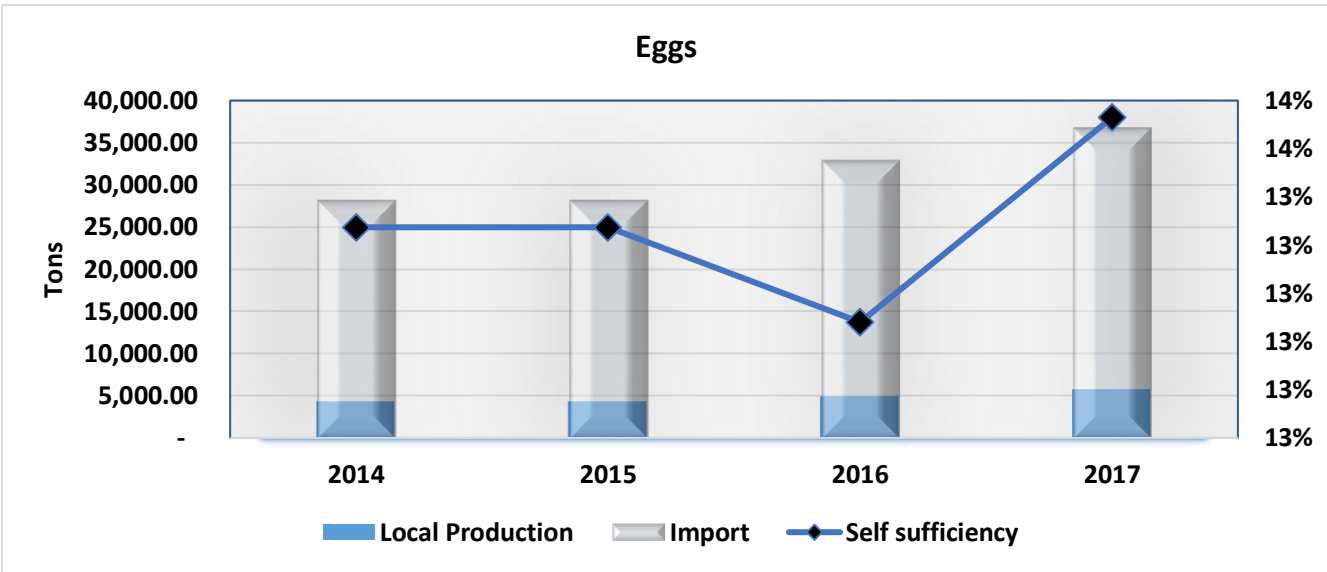
Data Source: (General Management, n.d.)

Density of birds per unit area			
Chicken Type	Floor Space (birds/m2)	Floor Space (ft2/bird)	Perch Space (per bird)
Layer	3	3.6	25 cm
Dual Purpose	4	2.7	20 cm
Boilers	4 to 5	2.1 to 2.7	15-20 cm

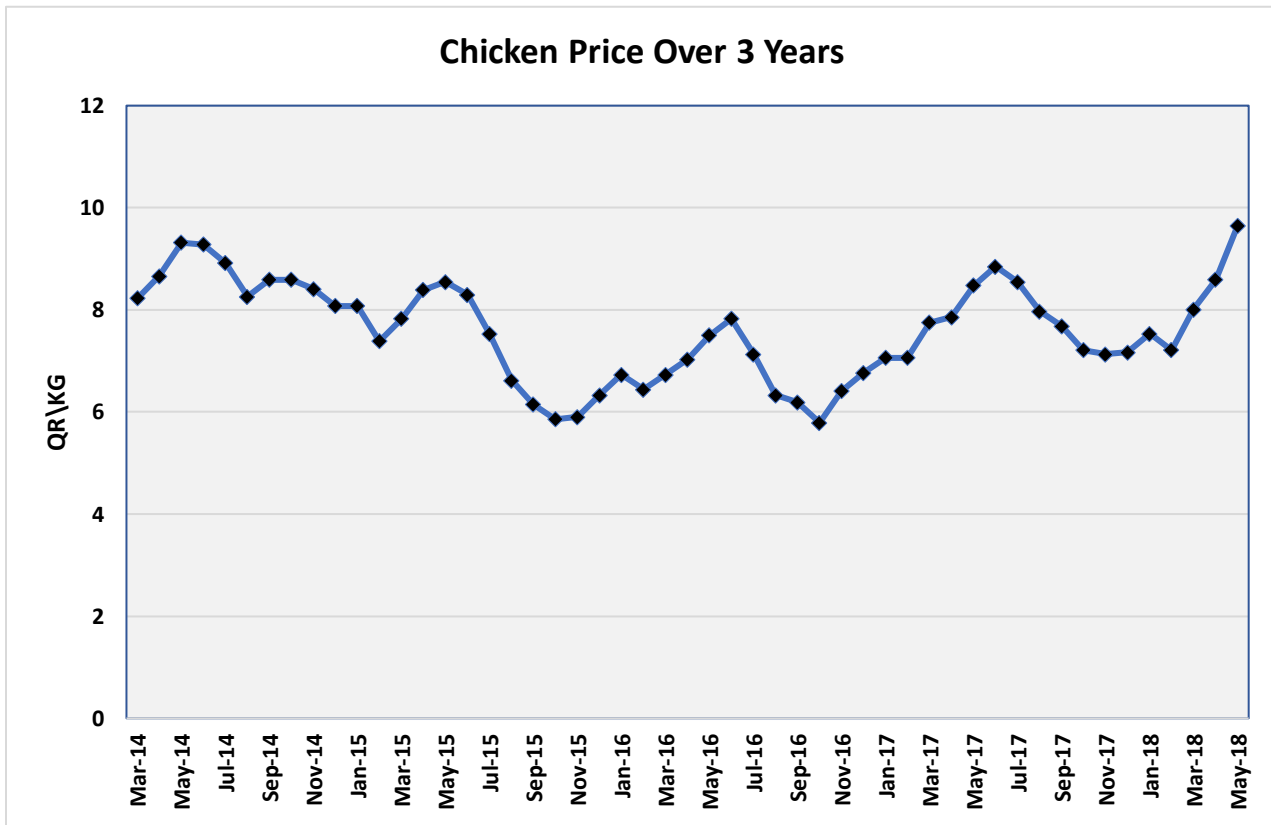
Data Source: (General Management, n.d.)



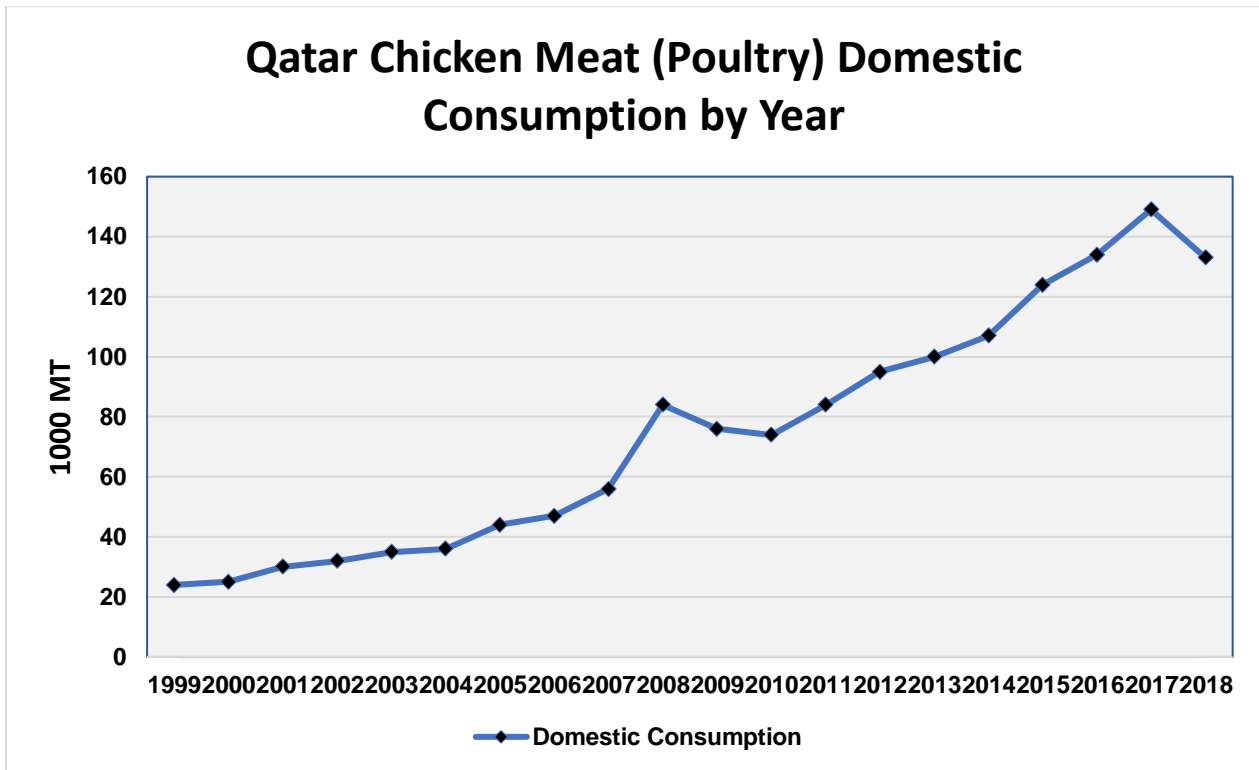
Source: (MDPS,Agriculture, 2013-2017)



Data Source: (MDPS,Agriculture, 2013-2017)



Data Source: (Index Mundi (A), n.d.)



Data Source: (Index Mundi (B), n.d.)

5 Key Industry Drivers

5.1 Economic Growth

- Qatar's economy is one of the richest economies in the world based on GDP per capita, ranking between sixth and seventh on world rankings for 2018 and 2019, as per the data compiled by the World Bank, United Nations, and IMF.
- Qatar has succeeded in developing its transportation network and infrastructure based on international standards, in preparation of the 2022 Football World Cup and as per the Qatar Vision of 2030. These projects include Qatar Rail, numerous new hotels, malls, entertainment areas and continuous improvement in the land transport system, which has contributed to the country's economic growth rate.
- Qatar's Government policies to promote private-sector development and achieve self-sufficiency at all levels is lifting domestic demand for food products including Poultry.
- The 'Sustainable Strategic Plan-2018-22' of the Ministry of Municipality and Environment focuses especially on food security and on increasing the self-sufficiency by expansion of the local production of agricultural products and food commodities.

5.2 Government Initiatives

- Qatar has been talking about boosting domestic poultry production to achieve self-sufficiency for years.
- Organized by Qatar’s Government, in 2020, AgriteQ will be held at the Doha Exhibition and Convention Center (DECC) to lead the way to achieve food security and sustainable development. A specialized animal auction will be organized at AgriteQ and participants will have a space to showcase livestock and poultry to a group of farmers seeking to source the best breeds for their farms. Furthermore, advanced technology will be displayed to improve productivity in livestock farming. It will help local farmers to expand their business as they will meet top decision makers from public and private sectors, industry professionals, food product traders, supermarkets and wholesalers.
- In order to promote local production and reduce dependence on imported goods, The Qatar Chamber’s has introduced “Made in Qatar”, which is playing an integral part in the promotion of Qatari products locally and globally.

5.3 Rising Population and Tourism

- Qatar has shown a continued population growth, with the population at the YE 2018 standing at 2.8 million and expected to rise to 2.9 million in 2019.
- According to the Ministry of Development Planning and Statistics data released recently, over 1.8 million people visited Qatar last year, driven by a strong inflow of travelers from countries in Asia and Europe.
- The inflow of foreign immigrants and tourists is likely to increase, as the country gears up to host the FIFA World Cup in 2022 by building infrastructure, hotels, stadiums and tourist attractions. Such factors augur well for the growth of the food sector out of which halal red meat, poultry meat and dairy products have a high share.
- High per capita income, accelerating economic growth, a thriving tourism sector, and ongoing construction projects will keep Qatar’s poultry farming supported over the next few years.
- The rising population, increase in inflow of tourist and immigrants is expected to result in a rise in domestic demand for poultry meat and products.

5.4 Advanced Technology

- Technology plays an important part in the growth of Poultry farming. Poultry farming operations are becoming more efficient with new high-tech gadgets.
- Precision livestock farming (PLF) is the use of advanced technologies to ensure optimal contribution by each animal. It involves the continuous management of livestock using real-time automated processes to monitor animal reproduction, welfare, production, and environmental impacts. There are tools available for all different livestock animals.

6 Poultry Industry Restraints

6.1 Low Agro Production

- Qatar is not an agricultural country, severe conditions, such as extremely high temperatures, lack of water and fertile soil, hinder agricultural production.
- From a total area of 1,149,300 hectares, only 65,000 hectares is suitable for crop cultivation, the rest is Orthents which is unfavorable for crop cultivation.
- The rapid depletion of ground-water that permits agriculture that is being replaced by saltwater which deters the soil's ability to increase the productivity of a majority of the crops.
- As per NDS-2 Report "Population, Labor Force and Sustainable Development" 40% of total water from all sources is used for the production of local crops, which only covers the 8% local demand for food and fodders.
- The main challenge in the agriculture sector is that less efforts are put in place to develop climate-resilient crops that lead to a decline in the agriculture production. Agricultural production is not at the same pace as Qatar's food security strategies. There is a lack of resources for fodder components, hence there is a requisite to introduce advanced technology for production of animal feed.

6.2 Extreme Weather causing diseases

- The Climate of Qatar can be described as a subtropical dry, hot desert climate with low annual rainfall and very high temperatures in summer (which lasts for 6 months).
- Extreme hot weather is not suitable for poultry farming, as it leads to heat stress in poultry causing reduced feed intake, decreased protein digestion absorption, reduced resistance to diseases, reduced fertility and increased mortality. Considering Qatar's hot climate, maintaining the optimum temperature for poultry farming to avoid heat stress is very crucial.

6.3 Diseases outbreak and limited veterinary services

- As Poultry farming in Qatar is at its early stages, awareness of related diseases and veterinary services are very limited.
- Poultry birds are prone to various types of diseases. If disease outbreaks are not handled and controlled on time followed by a delay in the import of medicine it can lead to a high mortality rate.
- Although Qatar's government has completed the infrastructure for 3700/- livestock farms, veterinary services do not cover all farms (currently services are offered to two out of nine animal compounds). ((NDS-2) 2018-2022, n.d.)




7 Future Development and Key Strategies

7.1 Qatar 2nd National Development Strategy 2018-2022

- To ensure its food security Qatar’s government plans to:
 1. Use sustainable management of animal production system to achieve self-sufficiency rate of 30% of local animal production by 2022.
 2. Develop and implement an Integrated Livestock Development Program to keep a track of livestock progress.
 3. Maximize local livestock production, by working on an integrated development program for animal nutrition and breeding methods to identify the most suitable species for breeding.

((NDS-2) 2018-2022, n.d.)
- The Animal Resource department of MME has already opened two veterinary centers in Al Wakra and Al Jamiliyah, with a new project of veterinary in the pipeline to be established in Abu Nakhla named ‘Al Azab’ to provide health care services to local livestock farms. This project is part of the plan of Qatar’s government to ensure self-sufficiency in terms of meat production which has become extremely important after the blockade. (The Peninsula Qatar, 2019)

7.2 Poultry Farming Projects in Qatar

Project Name	Mazzraty	Al Rayan Poultry	Arab Qatari Company for Poultry Production
			
Project Status	Completed	In progress	Completed
Total Cost of the Project	QR 412 M	QR 1.6 Billion	
Area	2 million Square Meter	15 million Square Meter	
Production Capacity	7 Million Chicken/Year	70,000 tons of broiler meat and 250 million eggs per year	8 million Chicken and 60 million eggs / year
Feed Production Capacity	175,000 tons per year	90 tons/hour	15 tons/hour
Automatic Slaughterhouse Processing Unit	6,000 birds per hour and hatchery		

8 Key Challenges

8.1 Government Regulations and Tariffs

The table below enlists tariffs imposed by the Government for the import of Poultry inputs, machinery, equipment and other necessary products required for the production process:

Regulation	Tariff	Stage of Imposition
Customs Duty	Exempted	Import of Grand Parent/ Parent Stock of poultry birds
Customs Duty	5.00 %	Import of Incubators, Brooders, poultry feed and other Poultry Equipment
KAHRA MAA	0.13 QR	Electricity for poultry-(1 to 999999999) Layers
KAHRA MAA	5.40 QR	Water for poultry-(1 to 999999999) Layers
Income Tax	Exempted	Tax on turnover of Poultry breeding, broiler production, egg production and poultry feed production

Data Source: (www.ecustoms.gov.qa, n.d.) (www.km.qa, n.d.)

8.2 Food Safety Concerns

- Poultry meat is among high-risk categories when it comes to food safety. Poultry manufacturers must guarantee the safety of their product starting from farms to processing and distribution centers in order to ensure compliance with the safety requirements to protect consumer health by providing contamination-free products. Hence, they must carry out Microbiological tests, Chemical tests, Nutritional tests and quality indicators, Hygiene audits, ensure good manufacturing practices and frequent ethical audits.
- Meeting health standards and obligatory regulations is the largest obstacle in the poultry industry. To ensure the protection of consumer food consumption, Qatar has established central food laboratories that provide different procedures and analysis on food safety to ensure consumers are provided with contamination free, safe and high-quality meat products. (Ministry of Public Health, n.d.)The poultry meat samples at the central food laboratories are subjected to analysis according to a set of local, regional and international standards as below:

1.ISO 17025:2005	6.Gulf Standards (GSO)
2.ISO 22174	7.ALACC 2010 eBook
3.ISO 7218	8.Codex Alimentarius
4.Eurochem	9.World Health Organization Guideline (WHO)
5.Qatari Standards	10.Food and Agriculture Organization (FAO)
11. World Organization for Animal Health (OIE)	

8.3 Low Agro Production Country

- Qatar is located in a very poor farmland region. Rainfall is low, irrigation systems are underdeveloped, farming labour is scarce, and the land is dry.

Currently, the country local crop production can only cover 8% of the requirement for livestock fodders ((NDS-2) 2018-2022, n.d.). Hence the cost of poultry meat production is high because of import of feed ingredients and storage required for imported feed. This makes cost of producing poultry meat higher than that of countries producing their own feed ingredients.

8.4 Limited veterinary services and dependence on imported Medicine and Vaccination

- Despite the efforts to make the country self-sufficient in terms of poultry meat production, at present Qatar does not have sufficient veterinary services to cover all the poultry farms. Currently, services are offered to two out of nine animal compounds.
- Related vaccines, medicines and disinfectants are to be imported as they are not locally produced in Qatar, hence leading to an increased cost in terms of tax on import and storage of medications. Furthermore, imports of vaccination takes time, if delayed, it could lead to high mortality rate leading to high losses.
- The average cost of vaccination is QR 0.15 per bird for broiler producers and QR 0.31 per bird for hatching egg producers. For a batch of 75,000 broilers, the total cost would be QR 11,000/-. (NCBI, n.d.)

8.5 High Production Cost

- As mentioned above, the total production cost in poultry market of Qatar is high due to import of feed ingredients, parent stocks (Import must comply with, the veterinary quarantine that is playing a key role in protecting the spread of any type of epidemic or trans-border disease in Qatar), vaccines, medicines and disinfectants. Hence, the cost of producing poultry meat is about double that of countries producing their own feed ingredients. Poultry meat production in Qatar depends on protecting this production from imports from countries whose cost of production in comparison is very low.
- The reduction of the cost depends on two factors, that has its own challenges:
 - i. Improving productivity to levels achieved in the exporting countries. This includes reduction of mortality in broiler flocks, improving feed conversion ratio and improving broiler parent productivity. Such achievements will reduce the cost of broiler production by about 30% (Iohmann-information, n.d.). At the moment veterinary and improved breeding research technologies are very limited in Qatar.
 - ii. Additional reduction in the cost of production can only come from producing feeds in Qatar at a lower cost than the import prices. Considering the fact that Qatar is a poor farm land region, it requires a lot of efforts from the government to introduce technologies to improve and increase in-house crops production.

9 References

Index Mundi (A), n.d. *www.indexmundi.com*. [Online]

Available at: <https://www.indexmundi.com/commodities/?commodity=chicken&months=60¤cy=qar>
[Accessed 20 Apr 2019].

(NDS-2) 2018-2022, n.d. *MDPS*. [Online]

Available at: <https://www.mdps.gov.qa/en/knowledge/Documents/NDS2Final.pdf>
[Accessed 25 Apr 2019].

Brown Commercial Layers, n.d. *www.hyline.com*. [Online]

Available at: https://www.hyline.com/UserDocs/Pages/BRN_COM_ENG.pdf
[Accessed 28 Apr 2019].

General Management, n.d. *http://www.fao.org*. [Online]

Available at: <http://www.fao.org/3/y5169e/y5169e05.htm>
[Accessed 22 Apr 2019].

Index Mundi (B), n.d. *www.indexmundi.com*. [Online]

Available at: <https://www.indexmundi.com/agriculture/?country=qa&commodity=chicken-meat&graph=domestic-consumption>
[Accessed 22 Apr 2019].

lohmann-information, n.d. *lohmann-information*. [Online]

Available at: <http://www.lohmann-information.com/doc/1/43/artikel5.pdf.html>
[Accessed 29 Apr 2019].

MDPS, Agriculture, 2013-2017. [Online]

Available at: <https://www.mdps.gov.qa/en/statistics1/pages/topicslisting.aspx?parent=Economic&child=Agriculture>
[Accessed 10 Apr 2019].

MDPS, 2013-2018. *MDPS*. [Online]

Available at: <https://www.mdps.gov.qa/en/statistics1/pages/topicslisting.aspx?parent=Economic&child=GeneralEconomicStatistics>
[Accessed 10 Apr 2019].

MDPS, n.d. *MDPS*. [Online]

Available at: https://www.mdps.gov.qa/en/statistics/QMS/QMS_2014_8-AUG.pdf
[Accessed 20 Apr 2019].

Ministry of Public Health, n.d. *Ministry of Public Health*. [Online]

Available at: <https://www.moph.gov.qa/about-us/Pages/food-safety-n-environmental-health.aspx>
[Accessed 28 Apr 2019].

NCBI, n.d. *www.ncbi.nlm.nih.gov*. [Online]

Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3349596/>
[Accessed 15 Apr 2019].

Poultry Hub, n.d. *http://www.poultryhub.org*. [Online]

Available at: <http://www.poultryhub.org/family-poultry-training-course/trainers-manual/broiler-production/>
[Accessed 22 Apr 2019].

Research Gate, 2017. *Research Gate*. [Online]

Available at:
https://www.researchgate.net/publication/320891846_An_Overview_of_Food_Patterns_and_Diet_Quality_in_Qatar_Findings_fro

m the National Household Income Expenditure Survey
[Accessed 10 Apr 2019].

The Peninsula Qatar, 2018. *The Peninsula Qatar*. [Online]
Available at: <https://www.thepeninsulaqatar.com/article/19/10/2018/Qatar-self-sufficient-in-dairy-and-fresh-poultry-products>
[Accessed 20 Apr 2019].

The Peninsula Qatar, 2019. *The Peninsula Qatar*. [Online]
Available at: <https://www.thepeninsulaqatar.com/article/07/01/2019/New-veterinary-centre-to-come-up-in-Abu-Nakhla>
[Accessed 28 Apr 2018].

www.ecustoms.gov.qa, n.d. *Al Nadeeb*. [Online]
Available at:
<https://www.ecustoms.gov.qa/qccsw/jsf/common/custExternalHome.jsf;jsessionid=3yFkJ7kJB3BBph5nxfKTZgw95DhDj8sIC14Txvvp2hCg4HCb9Ppp!-1112551906>
[Accessed 25 Apr 2019].

www.km.qa, n.d. *Kahraa Maa*. [Online]
Available at: <https://www.km.qa/Customerservice/Pages/Tariff.aspx>
[Accessed 28 Apr 2019].