



Study of Poultry Farming in Morocco: Assessment Report on the Caged Chicken System



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INTRODUCTION

Poultry farming is defined as the breeding of birds for the purpose of producing meat, eggs, and other by-products.

Battery cage farming is one of the poultry production systems commonly used worldwide to confine hens and other types of birds in order to produce eggs on a large scale.

The use of battery cage systems has been globally criticized for violating the welfare of poultry. Numerous scientific studies have shown that intensively confined farm animals are frustrated, stressed, and suffer.

This study aimed to assess the prevalence and status of battery cage poultry farming as a management system in Morocco by examining this practice on a national scale. Personalized interviews (in person, by phone call, or through various other communication networks) guided by questionnaires (see annexes for the forms) were used to collect primary data from government authorities, consumers, and farmers... The study also employed other methods for data collection, such as interviews with multiple individuals and discussions held in institutions like schools and universities.

This research is divided into two main parts, along with annexes containing some statistics, photographs, texts of laws and regulations governing the poultry sector in Morocco, also a concrete study of establishing a battery cage :

1. The first part discusses the overall situation of chicken farming in Morocco, to establish the existence and extent of adoption and use of chicken caged farming, and to identify existing national policies, legislative frameworks, and regulations, with a focus on intensive chicken production using the battery cage system.
2. The second part aims to gain an understanding of consumer and public perception regarding the use of battery cages, as well as its impact on purchasing decisions regarding end products. To this end, research was carried out among farmers and consumers to better understand the scope and significance of this sensitive issue. To achieve this also, data were collected, and studies were conducted with administrative bodies and specialized veterinarians.

But does the battery cage production sector take animal welfare into account?

I- Poultry sector in Morocco

Morocco stands out for its significant investment of nearly 13 billion dirhams in the poultry sector, creating a dynamic industry that is essential for employment, food security, and exports to foreign markets.

The poultry sector is one of the most dynamic agricultural activities in Morocco. Due to their relatively low prices compared to other animal products, poultry products are consumed by the entire population and are the only viable option for improving the country's food security in terms of animal protein.

Several factors explain the economic strength of the sector. Indeed, the dynamism of the poultry industry in Morocco lies in its ability to comprehensively meet national needs in poultry meat and eggs. This highlights a remarkable level of self-sufficiency, thereby strengthening the country's food security.

What sets this sector apart is the diversity of its products, ranging from poultry meat to eggs, which have become staples in the Moroccan diet.

The Market of the Moroccan poultry

Achieving 100% self-sufficiency in poultry meat and eggs reflects a successful agricultural strategy aimed at ensuring a steady domestic supply. This reduces reliance on imports, creating a solid foundation for national food security. The affordability of poultry products, thanks to their relatively low cost compared to other sources of animal protein, encourages widespread consumption across all income levels.

The poultry sector represents 55% of total meat consumption in Morocco, underlining its critical role in the national food basket. This significant market share not only reflects consumer preference but also highlights the industry's vital role in meeting the population's protein needs.

Poultry products, due to their affordability, also demonstrate the sector's ability to adapt to economic fluctuations. Poultry meat and eggs are often seen as cost-effective alternatives to other animal proteins, making them especially attractive to consumers regardless of their purchasing power.

Beyond the domestic market, the sector has shown its ability to export poultry products, particularly to the African market (between 3 and 5% of the total production). The 2,000 tons exported in 2019, including chicks and hatching eggs, highlight the sector's contribution to the country's trade balance. Thus, the poultry industry not only meets domestic needs but also plays

a key role in the national economy by supporting food security and seizing international market opportunities.

POULTRY SECTOR IN MOROCCO ANALYSIS

With an impressive output of 655,000 tons of poultry meat and 5 billion eggs in 2022, the Moroccan poultry sector has achieved significant self-sufficiency. It meets 100% of the national demand for poultry meat and eggs, positioning itself as a cornerstone of national food security.

Infrastructure figures reveal a well-structured and diversified poultry sector. There are 46 compound feed factories, 56 hatchery units, and 30 licensed poultry slaughterhouses, among other facilities. The existence of specialized hatcheries for laying chicks and turkey poult reflects attention to the various stages of the poultry life cycle.

Cumulative investments of 13.9 billion dirhams reflect a strong commitment to the sector, with a clear drive for innovation and modernization. The substantial turnover of 36.9 billion dirhams demonstrates the sector's economic viability and its significant contribution to the national economy.

With 142,000 direct jobs and 328,000 indirect jobs, the poultry sector is a major provider of employment. This impact illustrates the industry's deep integration into Morocco's socio-economic fabric, helping to reduce unemployment and improve living conditions of some Moroccans.

ACHIEVEMENTS AND IMPACTS

Since 2008, the consumption of white meat and eggs in Morocco has steadily increased, reaching 22.1 kg and 195 eggs per capita per year, respectively. Poultry meat production has grown by more than 60%, reaching 782,000 tons in 2019. Egg production has risen by 87%, reaching 6.9 billion units in the same year.

The poultry sector has also seen significant employment growth, peaking at 530,000 direct and indirect jobs in 2019—a 66% increase. This expansion has led to the construction of 27 slaughterhouses with a capacity of 50,000 chickens per hour, 18 egg grading centers, and 3 major egg processing units, representing a total investment of 700 million dirhams.

Finally, the poultry industry has seen advancements in product marketing and value enhancement across the supply chain.

This sector currently covers:

- 100% of the poultry meat requirements representing 52% of the total consumption of all meats.
- 100% of the consumption egg requirements.

POULTRY INFRASTRUCTURE

- *43 compound feed plants*
- *51 hatcheries for broilers*
- *3 hatcheries for laying chicks*
- *3 hatcheries for turkey*
- *7627 approved broiler farms*
- *885 authorized turkey farms*
- *251 laying hen farms allowed*
- *27 poultry slaughterhouses*
- *19 Consumer Egg Packing Centres*
- *03 egg processing units*

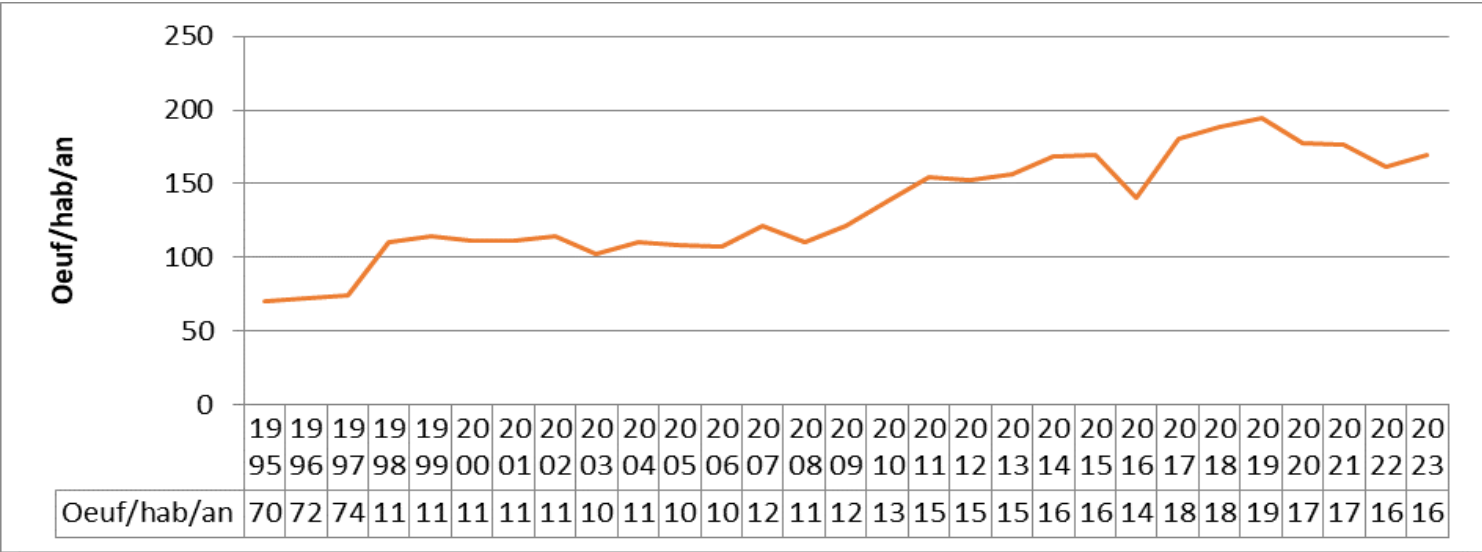
THE POULTRY SECTOR IN FIGURES

Annual production:

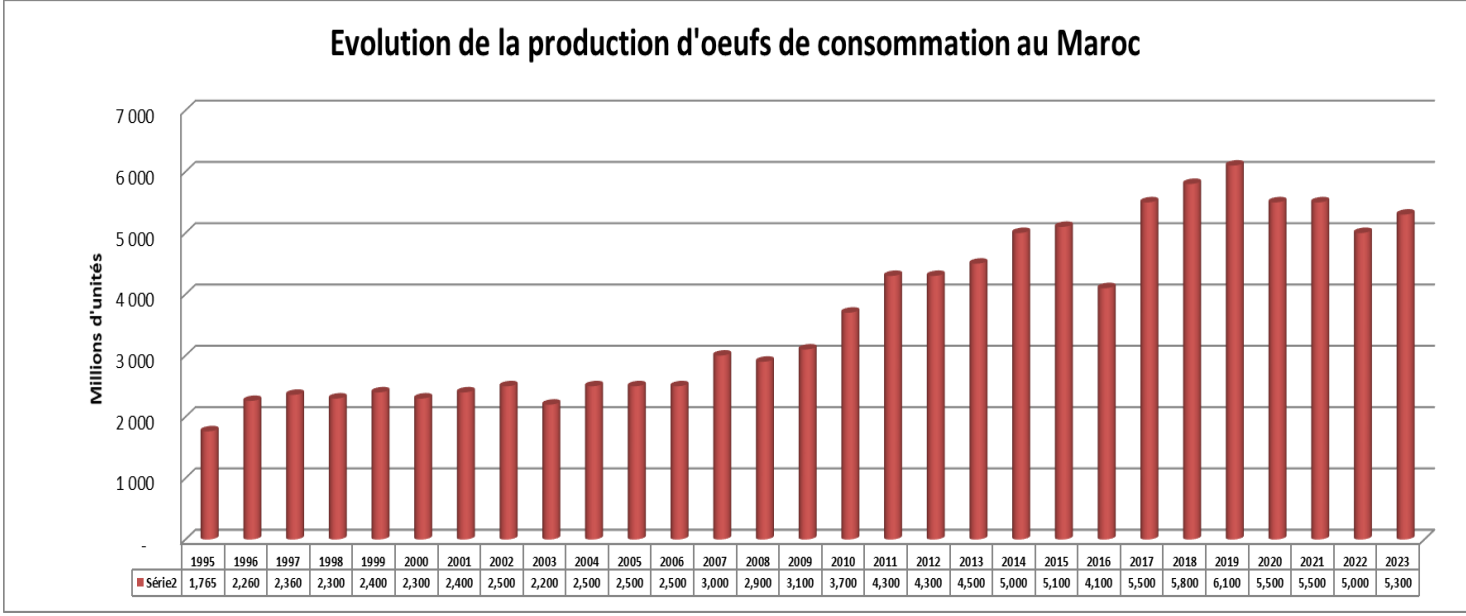
- *535,000 tonnes of meat from broiler*
- *100,000 tonnes of turkey meat*
- *380 million meat type chicks*
- *10.6 million local turkeys*
- *2 million imported turkey*
- *165 million chicks*
- *5.5 billion eggs for consumption*
- *3 million tonnes of compound poultry feed*

Investissements cumulés: 13,5 milliards de dirhams
Chiffre d'affaires : 27,4 milliards de dirhams
Emplois:
140 000 emplois directs 320 000 emplois indirects

Evolution of the spawning sector and production

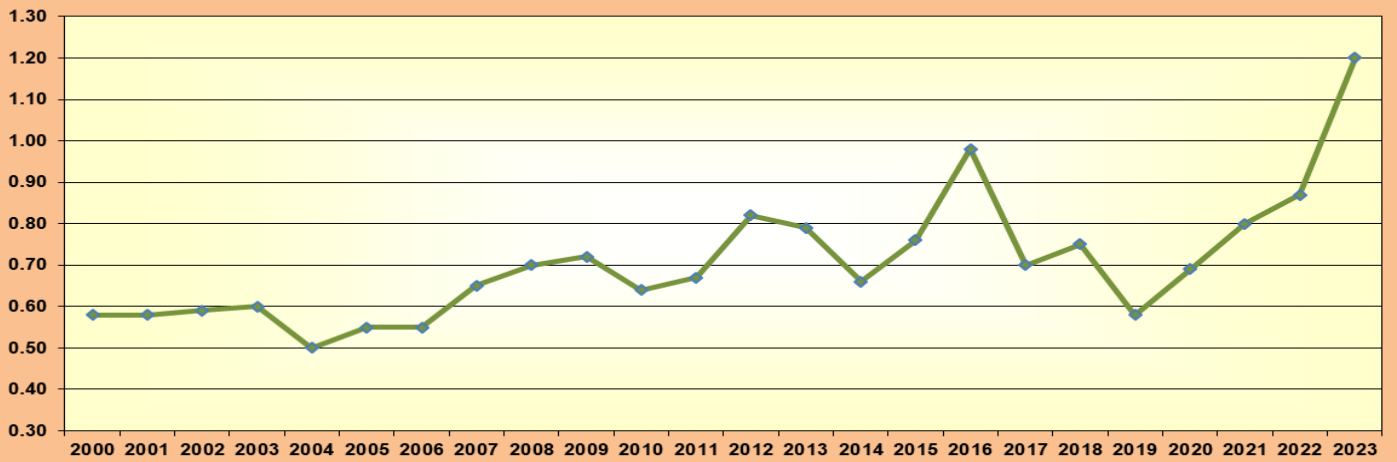


Trends in consumption of eggs per person per year



Trends in Table Egg Production in Morocco

Evolution annuelle du prix moyen de vente d'oeufs de consommation Gros Calibre à la ferme (Dhs/Unité)



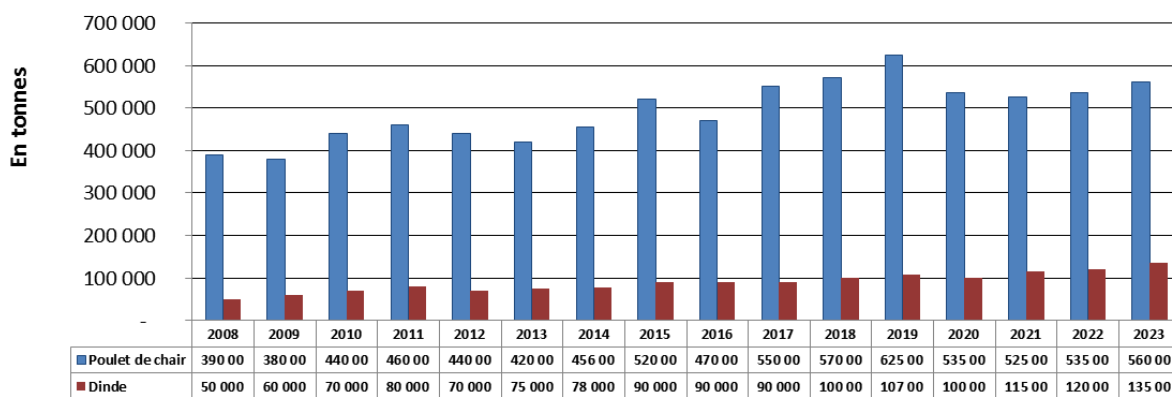
Annual Trend of the Average Farm-Gate Selling Price of Consumer Eggs – Large Size – Dh/unit

Evolution annuelle du prix moyen de vente du poulet de chair à la ferme (Dhs/Kg vif)



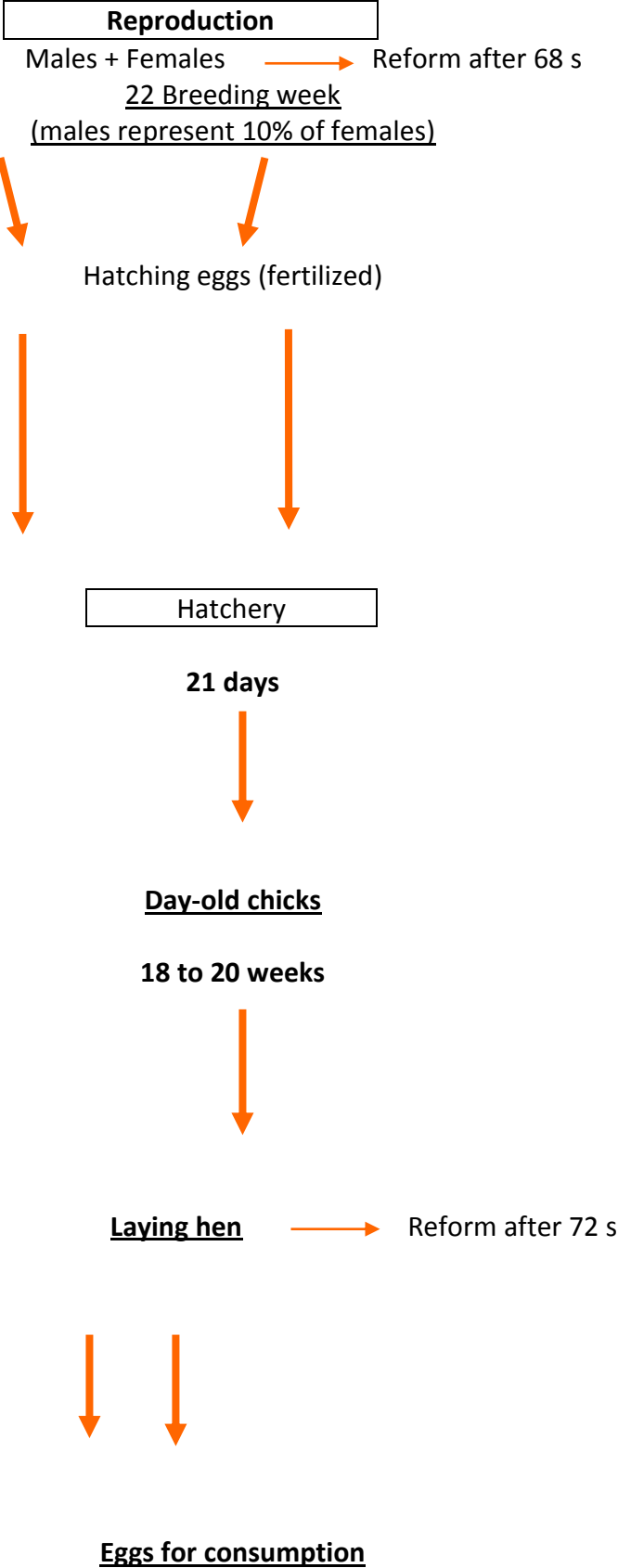
Annual Evolution of the Average Farm Price of Broiler Chicken – Dh per Unit

Évolution de la production des viandes de volailles (poulet de chair et dinde) au Maroc



Annual Trend in Poultry Meat Production (Broiler Chicken and Turkey) in Morocco

Schema of laying hens



Breeding of laying hens

Traditionally, laying hens are reared on the ground or in cages. There are, however, variations to these two modes (aviary, open air, alternating cages, etc.). Overall, these variants do not bring added value in terms of zootechnical performance, the objective being above all ecological, but also qualitative. In any case, the ideal is for the hens to be reared during the laying period under the same conditions as during the rearing of the chick. Thus, animals previously raised in cages (hen period) will be less stressed if the production period also takes place in cages. The choice between one or the other depends on the level of sophistication of the breeder and the type of equipment best suited to his barn, given that the latter has been designed to be versatile.

Advantages and disadvantages of cage farming (farmers prespective):

Benefits:

The cage system offers the following advantages:

- Feed economy: 5 to 25 grams less feed per hen per day than ground-raised hens,
- Better consumption index,
- High density in relation to the building surface,
- Better control of the health status of the hens (avoid mainly parasitism problems),
- Improvement of the microbiological quality of eggs,
- Reduction of personnel constraints,
- Improved egg weight (0.5 to 1.0 gram more),
- Energy saving (heating),
- High egg count (2.5-3%) with a maximum of 5%),

- Facilitates the handling of animals,

Cons:

Cage farming has the following disadvantages:

- High investment: acquisition of specific equipment (cages, feeder, drinkers, egg collection device, scraper and excrement disposal device),
- Need to evacuate waste,
- Relatively high egg breakage rate (3.5 to more than 6%),
- Bad presentation of the (very plucked) cull hens,
- The live weight of cull hens is generally low compared to ground-reared hens,
- Poor light distribution especially for lower floors,
- Poor air circulation,
- Disturbance of animal welfare

Sector Structuring and Regulation

LEGAL FRAMEWORK AND REGULATIONS

Twenty years after the enactment of Law No. 49-99 on the sanitary protection of poultry farms, control of production, and the marketing of poultry products, a new decree has been adopted by the Council of Government, amending the application decree of this law. This long-awaited update has been widely welcomed by the Interprofessional Federation of the Poultry Sector in Morocco (FISA), which actively contributed to its development.

Highly anticipated by professionals, the new legislation aims to align national laws with the current developments in Morocco's poultry sector. According to the "FISA", the sector has experienced significant growth and rapid professionalization, which now requires an updated legal framework.

"Today, professionals manage to produce over 8 million chicks per week, including 1.5 million destined for export to Africa and the Middle East, particularly the United Arab Emirates. This progress must be accompanied by a new legal structure," explains the president of the FISA.

The new decree, developed in partnership with the National Office for Food Safety (ONSSA), introduces several new measures. Among them is the limitation of operating licenses for poultry farming and hatchery activities to a renewable five-year period instead of being indefinite. This change is intended to enhance oversight and control within the industry.

REGULATION OF TIMEFRAMES FOR NEW POULTRY FARM UNITS

The decree also outlines a new procedure for investors wishing to create new poultry farming units. They must now submit a request for technical advice to ONSSA to ensure the location of the project complies with regulatory standards for poultry farming (Battery cages or other's production systems).

One such requirement is the obligation to maintain a minimum distance of one kilometer from the nearest existing poultry unit. "This provision was already part of the previous decree, but a recurring problem was that some investors delayed setting up their farms even after receiving prior approval, which remained valid indefinitely. In the meantime, other units were established nearby, disregarding the legally required distance," explains Mr. Alaoui, (FISA President).

"With this new decree, that issue will be addressed, as the validity period of the initial approval will now be limited." According to the FISA president, the specific time limits will be defined in a forthcoming decree to be issued by the Minister of Agriculture.

The sector is regulated by different institutions (Ministry of Agriculture, ONSSA and FISA "the federation")

The Interprofessional Federation of the Poultry Sector in Morocco "FISA" is a structured and dynamic professional organization serving the poultry sector, operators, and consumers.

Recognized, in accordance with Law 03-12, as the interprofessional agricultural organization of the poultry sector.

The Federation brings together five associations, each representing a specific branch of the poultry sector:

- AFAC: Association of Compound Feed Manufacturers
- ANAM: National Association of Moroccan Hatcheries
- ANAVI: National Association of Industrial Poultry Slaughterhouses
- ANPO: National Association of Egg Producers for Consumption
- APV: National Association of Poultry Meat Producers

FISA has, within the Interprofessional Technical Center for the Development of Animal Production Sectors "Zoopole d'Aïn Jemâa", a training center called "Avipole Casablanca".

They aim to develop the capacity of the poultry sector to produce and market quality products at competitive prices that are accessible to consumers. And their missions are :

- Represent the interests of the profession to the relevant authorities.
- Improve the technical and economic environment of poultry production and marketing.
- Establish communication bridges with administrative bodies for the sustainable development of the poultry sector.
- Inform, raise awareness, and guide operators in the poultry sector.
- Promote communication actions regarding the quality and consumption of poultry products.

Law and Authorization for battery cages

The authorization to carry out the poultry activity obtained from the local veterinary services, if you plan to start with a workforce of more than 500 chickens

This authorization is granted after the satisfaction of certain technical standards of law 49/99.

The establishment of new poultry farms and hatcheries must respect the following minimum distances, measured as the crow flies, between these units:

- ✓ three (03) kilometres between:

all breeding and other poultry holdings;
any breeding and hatchery;

- ✓ two (02) kilometres between:
two hatcheries;
a hatchery and any other poultry farm that is not breeding;
two laying hen farms;
Laying hens and broiler poultry;
- ✓ one (01) kilometre between two broiler poultry farms.

Documents of the authorization file

1. Declaration on the honour, legalized, specifying the distances with the nearest establishments to poultry activity
2. The application for authorization must specify: the address of the establishment, the nature of the activity, the production capacity, for a natural person: the identity and domicile of the applicant and for legal persons: the name of the company, its registered office, the status of the signatory and the identity of the head of the company or group
3. A health supervision contract with a private veterinarian and provided with the health mandate
4. Supporting documents indicating ownership of the premises or a lease agreement
5. A document containing: a 1/1000 scale plan showing the location of the premises and the boundaries of the establishment plus a mass plan of the whole establishment, at a scale from 1/100 to 1/300 depending on the size of the premises, indicating the layout of the working spaces and their dimensions in square metres covered, the premises for use by staff and the waste water disposal plan;
6. List of equipment and materials used
7. a report on the chemical and bacteriological analysis of water, indicating its quality and any treatment required; failing that, an attestation of connection to the public network;
8. The plan for cleaning and disinfecting premises and equipment; and Pest control plan

II- Assessment and results

The poultry sector plays an important socio-economic role in the Moroccan national economy.

Investments in the sector amount to 9.8 billion MAD, and the turnover is estimated at 28.3 billion MAD. This sector provides approximately 120,000 direct jobs and 270,000 indirect jobs and meets the entire domestic demand for poultry meat and eggs.

CONSUMPTION

The consumption of poultry products followed the same trend of progression, reaching 22.1 kg and 195 eggs per capita per year in 2019, respectively, for poultry meat and eggs.

Processing and Valorization

The valorization of poultry products is ensured by the following structures:

- 40 compound feed manufacturing plants
- 56 broiler chick hatcheries
- 3 laying hen hatcheries
- 3 turkey chick hatcheries
- 8,527 authorized poultry and turkey farms
- 251 authorized laying hen farms
- 27 approved industrial poultry slaughterhouses
- 5 cutting units
- 15,000 Ryachates units
- 18 egg packaging centers
- 3 egg processing units

ASSESSMENT METHODOLOGY

A survey aimed to establishing the situation of chicken welfare, farming and its impact for the consumer. This views therefore, reflects the current status of chicken caged farming in Morocco.

To conduct this study, a sample of 325 men and women, including consumers and farmers from different parts of Morocco, as well as 47 administrators, professors, academics, and veterinarians, was used.

All the forms and questions were translated into French and Arabic, as some people in Morocco are more comfortable reading in French, while others prefer Arabic. For others participants who aren't used to reading, I had to read the questions aloud in Moroccan Darija.

1. For farmers, breeders, and veterinarians, as well as some administrators:

In response to questions 1 and 2 of the questionnaire:

Poultry farming systems and locations

The type of poultry farming varies by region. In areas close to major cities and the central part of the country, cage farming is well established and remains the dominant method for egg-laying hens. Semi-intensive systems, mainly using deep litter, are the most commonly used approach in Morocco, particularly for broiler chicken production. Free-range farming is also practiced by many, though it is generally for the broiler chicken.

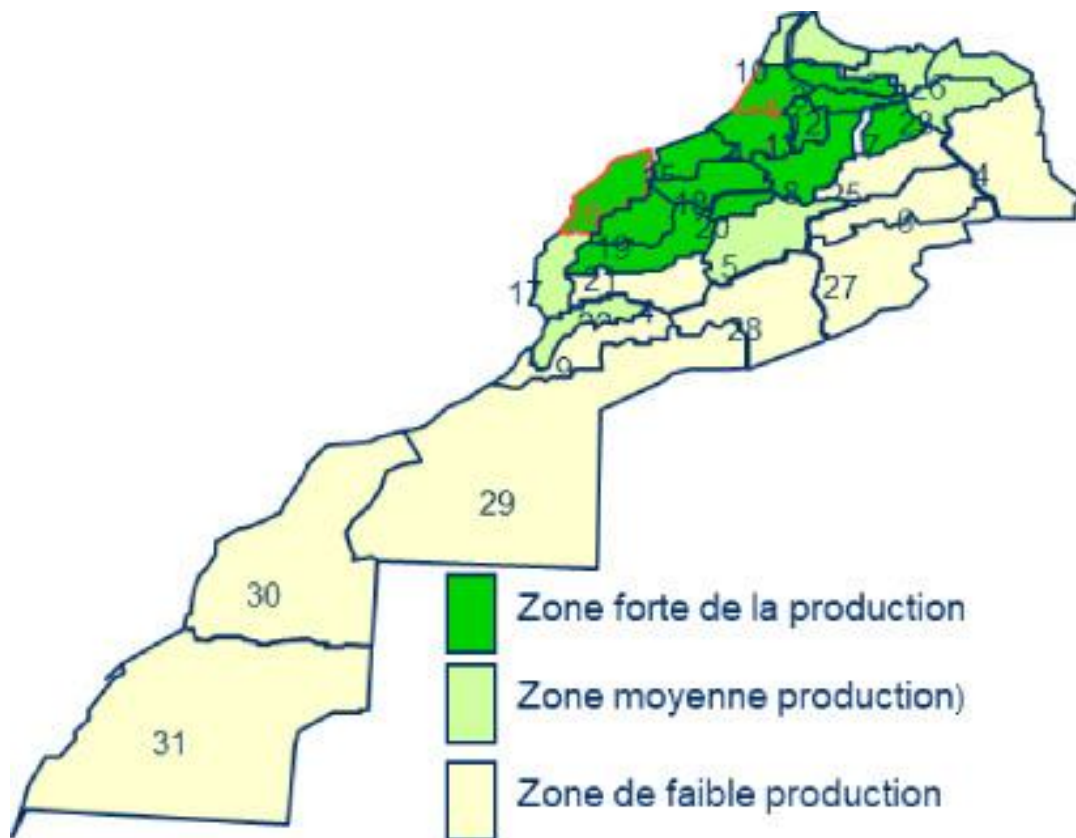
Based on the data we have collected, approximately 65% of the eggs available on the market are produced through intensive cage systems. Overall, poultry farming accounts for more than 50% of the country's total livestock production, making it the leading sector compared to other types of animal farming.

Regional Distribution of Poultry Farming

The various types of poultry traditionally raised in Morocco (chickens, turkeys, pigeons) are distributed across the entire country, with spatial concentrations influenced by the climate (North-South and East-West gradients) and demographic distribution.

On the other hand, industrial farms, although present in most regions, are heavily concentrated along the Atlantic coast, particularly along the Kenitra-El Jadida axis, which benefits from a favorable climate and is close to major transformation, factories and consumption centers in the region of Casablanca, Rabat and kenitra.

Geographical Distribution of the Poultry Sector



Source : FISA

In response to question 3 of the questionnaire:

Poultry Breeds by Production Type:

- **Meat Production:** This category includes commercial broiler chickens, local free-range chickens, and turkeys raised for meat purposes.
- **Dual-purpose (Meat and Eggs):** This group consists of free-range chickens of the Sasso breed and indigenous Beldi chickens, both of which are suitable for meat and egg production. Turkeys are also included in this category when used for both purposes.
- **Egg Production (Layers):** This includes commercial layer hens of industrial strains such as Isa Brown, Hy-Line, Warren, and Hisex, all known for their high egg-laying performance.

In response to questions 4, 5, 6 et 7 of the questionnaire:

The practice of cage poultry farming

Most people are not fully aware of intensive battery cage farming, as they do not use this system themselves. However, the majority of egg production comes from this intensive cage-based system.

The use of this intensive system is primarily concentrated around major cities in central Morocco. For instance, in the area surrounding Rabat — a region with high poultry production density — the most common and productive systems are floor-reared pullets (future layers) and caged laying hens.

Most stakeholders state that cage poultry farming is generally considered a good practice due to its economic management advantages, optimal production levels, and high yield per square meter. Veterinarians are also aware of the widespread use of cage systems and they don't really recognize their impact on poultry welfare.

In response to questions 8 et 9 of the questionnaire:

Capacity and average production in battery cage farms

In Morocco, there are about 260 battery cage egg-laying farms and around 4,000 broiler farms, certified.

Battery cage hen farms have an average of 20,000 to 120,000 hens per building. A farm can have multiple buildings, so sometimes there are more than 500,000 hens. For example, in a case we observed, they produce 17,500 eggs per day for 20,000 hens in a building, and it is proportional—when more hens are added, production increases.

In response to question 10 of the questionnaire:

Ensuring comfortable environment for the chickens

Based on the input from stakeholders and interviewees, the buildings are closed structures equipped with controlled ventilation and aeration systems to ensure optimal living conditions for the birds. Workers closely monitor the birds' general health during each visit, and specialized veterinarians conduct periodic health inspections.

Farm workers and technicians make multiple rounds throughout the day to observe and care for the animals. If any bird shows signs of illness or injury, it is promptly isolated and moved to a separate recovery facility, where it receives treatment until full recovery.

The daily visual inspections enable farm staff to assess the health status of the hens. In addition, a strict vaccination program is implemented to prevent the spread of infectious diseases such as Newcastle disease and Gumboro disease.

In response to questions 11 and 12 of the questionnaire:

Opinion on poultry farming

The majority of individuals in this study (farmers, administrators, and veterinarians) recommend cage poultry farming to poultry farmers, the government, or private companies because it increases production, allows for efficient use of resources, requires less labor for greater productivity, and reduces space requirements.

This group considers the main disadvantage of the cage method to be the high initial investment, along with the strict regulations and procedures required to obtain approvals and accreditations from the relevant authorities, which involve various conditions and regular health inspections.

The target market for poultry products is primarily the local and national markets, with some exports as well.

In response to questions 13, 14 and 15 of the questionnaire:

Concerns about poultry farming

A significant majority—90% of respondents—identified the primary concerns associated with battery cage systems for laying hens as the high capital investment required and the elevated risk of disease transmission, which can lead to substantial economic losses.

Respondents emphasized that the confined environment of battery cages can facilitate the rapid spread of infectious diseases, highlighting the critical need for rigorous biosecurity protocols, vaccination programs, and continuous veterinary oversight to mitigate health risks and ensure flock welfare.

At the same time, most of the individuals surveyed deny that mistreatment occurs and struggle to fully grasp the concept of animal welfare from the perspective of animal rights advocates, suggesting a gap between industry practices and broader ethical concerns.

In response to questions 16, 17 and 18 of the questionnaire:

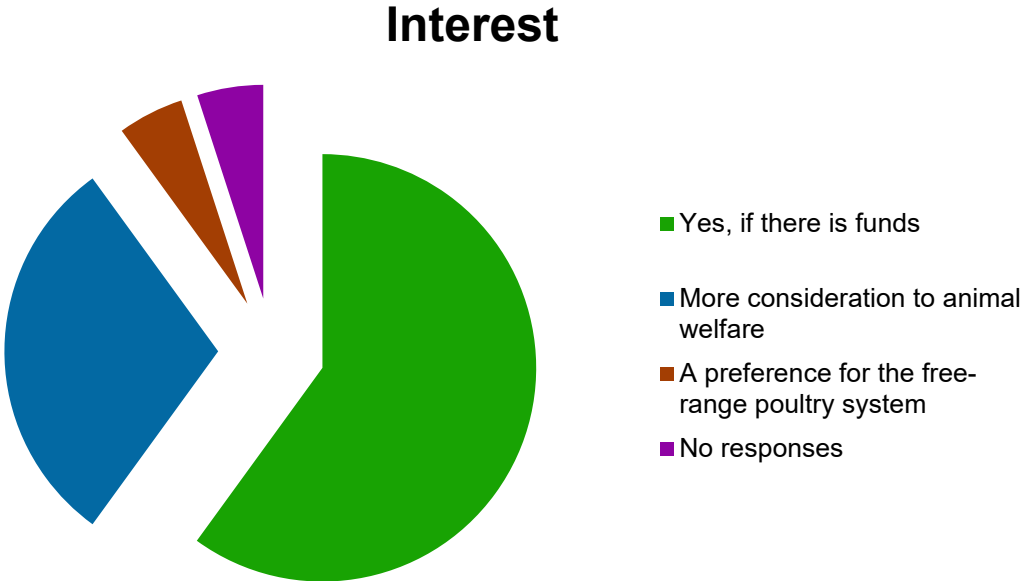
Awareness of poultry farming

In response to this question, participants indicated that consumers primarily consider price and whether the eggs are organic when making purchasing decisions, with preferences also varying according to social class.

After discussing animal welfare with them, their responses remained largely consistent: the most effective way to raise awareness among farmers and the general public about improving poultry welfare was through training programs—both for farmers and for public and private veterinarians.

In response to questions 19 and 20 of the questionnaire:

Individuals' interest in the poultry industry, animal welfare and laws



In response to questions regarding consumer preferences, 60% of respondents indicated that their purchasing decisions were largely dependent on their financial situation, saying, "If I have the money." Another 30% expressed a desire to take animal welfare more into account when choosing poultry products, suggesting a growing awareness of ethical concerns. Interestingly, 5% of participants indicated a preference for the free-range poultry system, highlighting a small but notable segment of the population that prioritizes more humane farming practices. Meanwhile, 5% of respondents did not provide an answer, which could suggest either uncertainty or a lack of interest in the issue. These findings underscore the complex relationship between consumer choice, financial considerations, and ethical values, especially in the context of the ongoing debate about animal welfare in the poultry industry.

Regarding awareness of government legislation on poultry farming and animal welfare, 25% of respondents stated that they are aware of such regulations. However, a significant 75% indicated that they have no knowledge of the legislation, pointing to a gap in understanding of regulatory frameworks within the industry. This lack of awareness could be a barrier to ensuring compliance with animal welfare standards, as well as a challenge in promoting better practices among

farmers and the general public. It highlights the need for more widespread education and communication about relevant laws and their implications for poultry welfare.

In response to questions 21 and 22 of the questionnaire:

Battery cages : Profits and/or animal welfare

When asked whether poultry farmers care about the welfare of hens in battery cages, 65% of respondents said yes, farmers care about the welfare of caged poultry (in terms of allowing natural behaviors). However, the other 35% argued that poultry farmers using battery cages are primarily focused on maximizing profits, often at the expense of the hens' welfare and their ability to express natural behaviors. This split response highlights the ongoing debate between commercial interests and ethical considerations in poultry farming. It also underscores the challenges of balancing productivity with animal welfare, a key issue in discussions surrounding industrial farming practices.

In response to the rest of the questionnaire:

Transport of hens

In response to the final three questions, 97% of poultry farmers reported that they transport their hens in plastic cages with standard dimensions of : length 96 cm, width 56 cm, and height 24 cm. These cages can hold between 10 and 22 chickens, depending on their weight (the heavier the chickens, the fewer fit in the cage).

The remaining 3% use alternative methods such as cardboard boxes or handmade cages. While the widespread use of standardized plastic cages suggests a degree of uniformity in transport practices, the use of non-standard or inappropriate methods raises concerns regarding compliance with animal welfare standards. According to the *World Organisation for Animal Health (WOAH)* and various national regulations, poultry transport must ensure adequate space, ventilation, and protection from injury and stress. Non-compliance with these guidelines can lead to increased mortality rates, stress-induced health problems, and potential legal consequences for producers.

2. For consumers (individuals and businesses):

In response to the first and the second question in the form:

poultry products' distribution

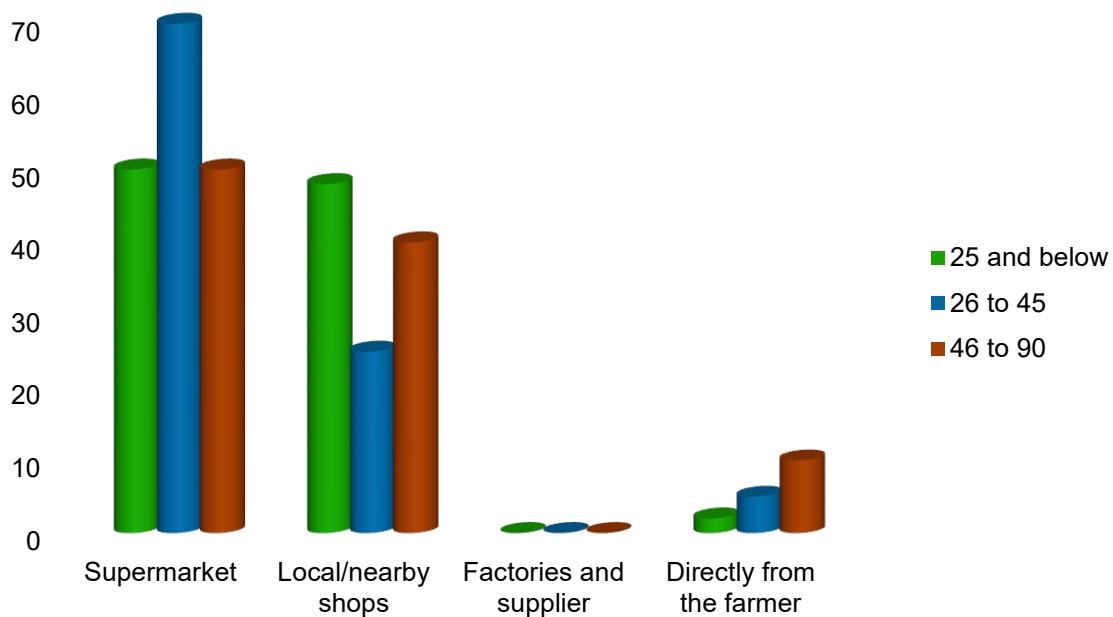
After surveying various individuals and entities, we observed that affluent men and women consume a large quantity of poultry products per month and tend to purchase them primarily from supermarkets.

Non-affluent men and women also consume significant amounts of poultry products, proportionate to their income, standard of living, and other factors, and typically buy them from local or nearby shops.

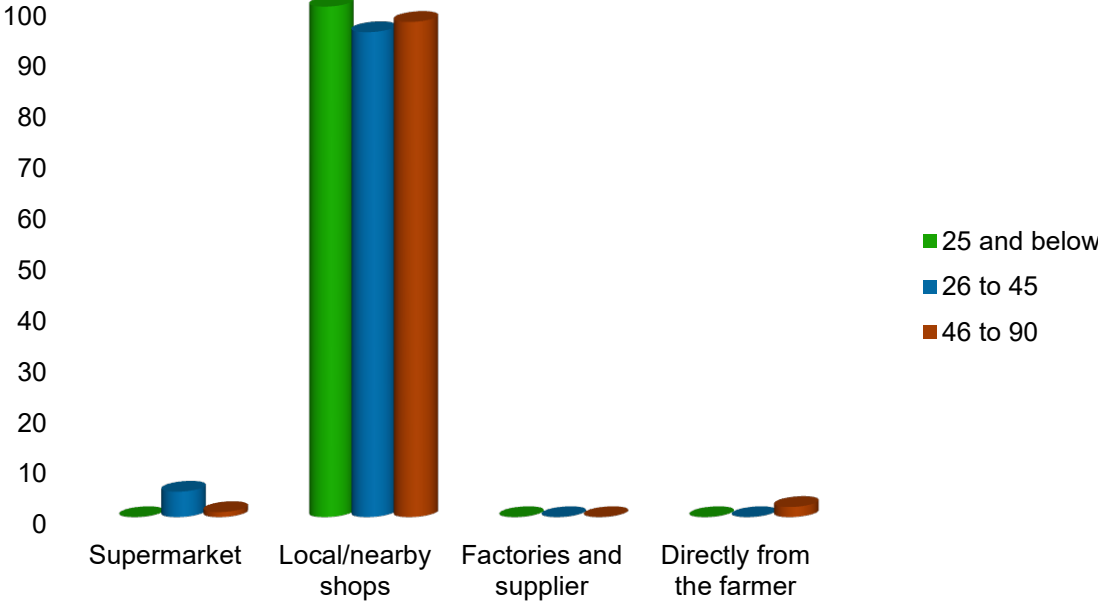
Small and large businesses often source their poultry products through intermediaries who process the goods from farms, as well as from factories and suppliers.

Please refer to the charts below for more detailed percentage breakdowns.

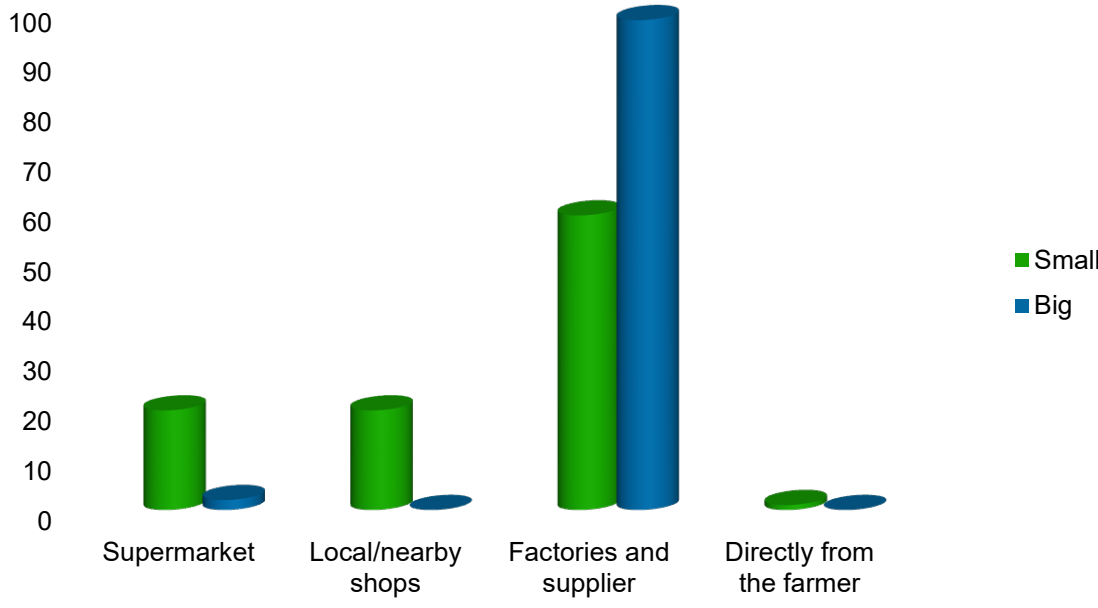
Affluent men and women



Non affluent men and women



Enterprises



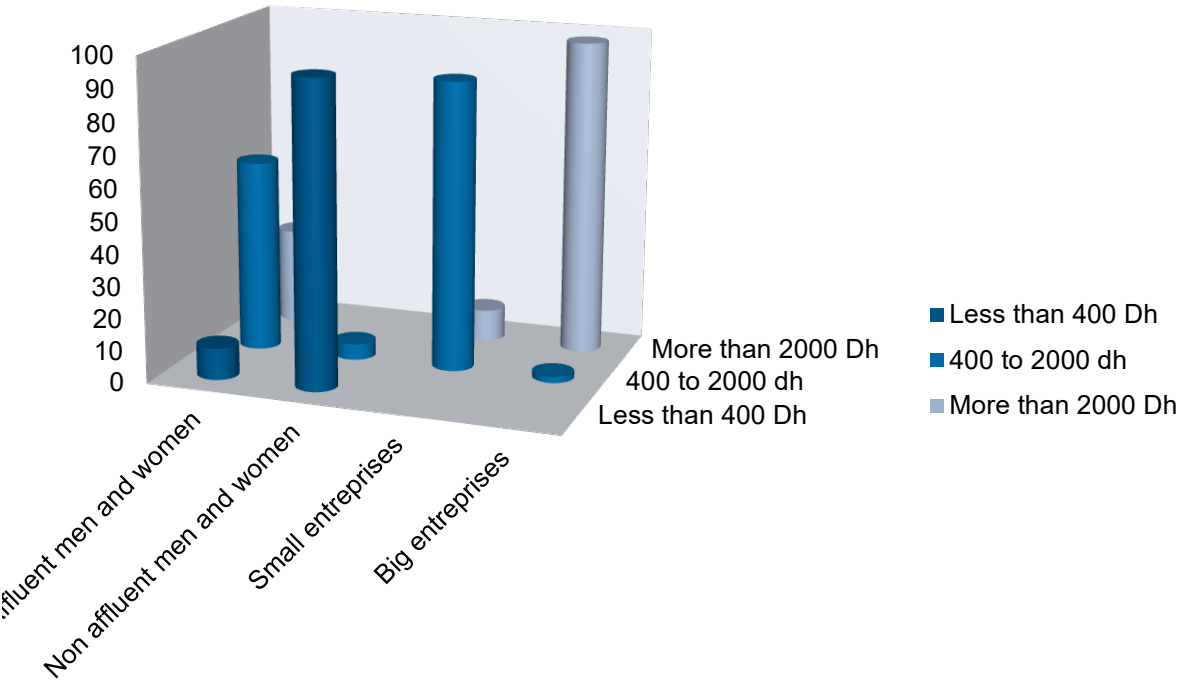
In response to questions 5 and 6 of the questionnaire:

Poultry production systems

90% of respondents indicated that they do not know how their poultry products are produced and are unfamiliar with the details of the production systems.

Among the 10% who do have some knowledge, 5% stated they have no particular preference, while the remaining 5% expressed a clear preference for the free-range system.

This highlights a significant lack of consumer awareness regarding poultry production methods, suggesting a need for greater transparency and education to help consumers make informed choices.



In response to questions 7, 8, 9 and 10 of the questionnaire:

Welfare requirements for poultry

In addition, approximately 30% of respondents claimed to be aware of the welfare requirements for poultry in the various production systems. The majority of their responses focused on key welfare concerns such as overcrowding, poor-quality feed, and the lack of freedom to express natural behaviors—factors that can lead to disease and high stress levels in birds.

This highlights not only a general lack of knowledge but also a partial awareness of animal welfare issues that may not be fully understood or translated into consumer choices. The findings

underscore the urgent need for public education, clearer labeling, and awareness campaigns. Enhancing consumer understanding of production systems and welfare standards could influence market behavior and encourage producers to adopt more humane and sustainable practices in response to growing ethical concerns.

When it comes to purchasing behavior, the population appears divided. About 50% of respondents are satisfied with the quality of poultry products available on the market and do not express concern about production methods. The other 50% are more concerned with quality, and within this group, 10% specifically consider the production system—particularly whether it is organic or traditional ("Beldi"). For this segment, the price and whether a product is organic are key decision factors, often influenced by social class and income level.

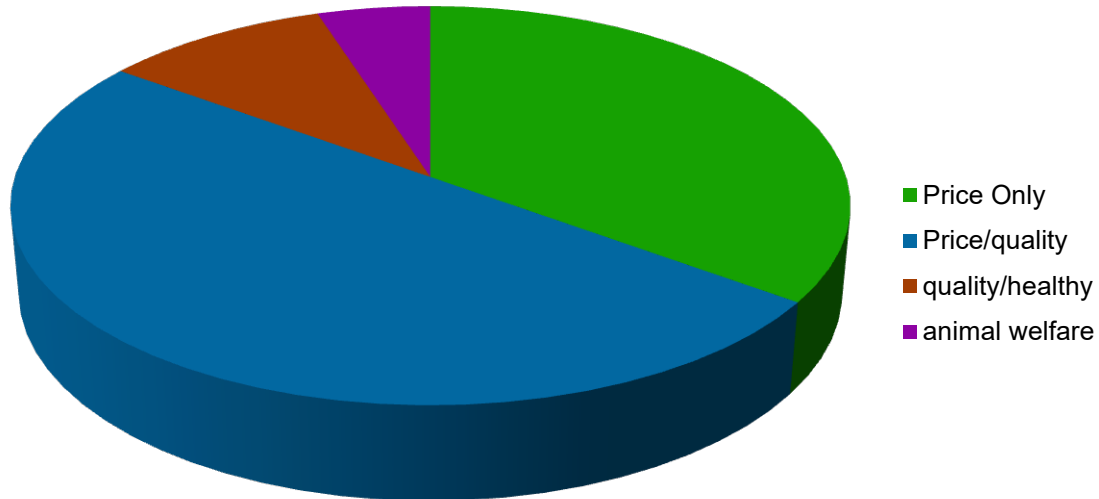
In response of the last question :

Concern of poultry

The responses also highlight the critical role of purchasing power in consumer choices. According to the data collected, 80% of respondents indicated they cannot afford to pay more for poultry products, while the remaining 20% would be willing to pay a premium—provided they are confident in the origin of the products and know that the hens were raised under better welfare conditions in high-quality production systems. Furthermore, they emphasized the importance of organic, natural feed provided to the animals.

Some participants suggested alternative production methods that could reduce production costs while still prioritizing animal welfare, appropriate nutrition, and the quality of the final product. These innovative approaches may present viable solutions to balance ethical concerns with economic constraints, benefiting both producers and consumers.

concerns about poultry products



35% only care about the price

50% are interested in the value for money

10% care about quality but also the concept of Healthy (organic/bio 'Beldi')

5% are concerned about animal welfare, but this percentage is increasing as more people become aware of farming systems and poultry production.

Conclusion on the Poultry Sector in Morocco and recommendations

Conclusion :

In general, the poultry sector has a very significant economic weight in Moroccan agriculture, with 23.3 million man-days and 9.9 billion dirhams in added value.

Given its relatively low prices compared to other animal products, poultry products are consumed by the entire population and are the primary means of improving food security in our country in terms of animal-based protein.

This sector currently covers:

- 100% of the needs for poultry meat, accounting for 52% of total meat consumption.
- 100% of the needs for table eggs.

Poultry farming creates more than 370,000 indirect jobs and 530,000 direct and indirect jobs. It also generates a turnover of 32.5 billion dirhams per year for an investment of 13.5 billion dirhams annually.

Furthermore, this sector has significant export potential. In 2018, Morocco exported 800 tons of compound feed, 44,000 day-old broiler chicks, and 30 million hatching eggs to West African countries.

The poultry sector has many strengths that allow it to develop under optimal production conditions:

- Favorable climatic conditions: Morocco's climate, characterized by mild temperatures, especially on the coast, is perfectly suited for poultry farming without large investments in building insulation compared to European countries.
- Cage-free farming: Intensive poultry production, which is not dependent on climatic factors, ensures a stable supply of meat and eggs, regardless of the quality of the agricultural campaign.
- Short production cycle: Intensive poultry production, with its short production cycle, is the most appropriate solution to meet the growing needs of the Moroccan population and address the deficit in animal protein in the average consumer's diet.
- Low levels of consumption: The relatively low consumption of poultry meat and eggs in Morocco, compared to other countries with similar levels of development, offers significant potential for growth in the coming years.

- Competitive prices: Poultry products can be marketed at affordable prices, in line with the purchasing power of Moroccan consumers.

- Developed production infrastructure: The poultry sector currently has all the necessary infrastructure for production under optimal technical conditions (laboratories, compound feed factories, hatcheries, etc.).

However, to sustain this growth, there is a need for ongoing investments in technology, animal welfare, and sustainability practices. With increasing consumer demands for healthier and more ethical production methods, the sector must adapt to new trends and ensure that practices align with international standards.

The lack of awareness is particularly important given the growing global conversation around food ethics, animal welfare, and sustainable agriculture. It underscores the urgent need for public education and transparent labeling to empower consumers to make informed decisions. Enhancing consumer understanding of production systems could not only influence purchasing behavior but also encourage producers to adopt higher welfare standards in response to more conscious demand.

This study highlights a mixed level of awareness and concern among consumers—ranging from indifference to growing interest in ethical and sustainable production. This reinforces the need for improved transparency in labeling, targeted public education, and better communication about animal welfare and production systems to support informed consumer choices and more responsible market demand.

In conclusion, the Moroccan poultry sector is a dynamic and essential industry that plays a significant role in the country's economy. With proper management and strategic improvements, it has the potential to further strengthen its position in both local and international markets. But Without taking animal welfare into a real consideration.

Recommendations:

1. Increase Transparency and Consumer Education:

- Implement clear and standardized labeling for poultry products, specifying the production system (e.g., free-range, organic, conventional) and animal welfare conditions.
- Launch national or regional public awareness campaigns on animal welfare and the environmental impact of different poultry production systems.
- Provide educational resources in supermarkets, restaurants, and on product packaging to inform consumers about the benefits and challenges of ethical poultry farming.

2. Improve Animal Welfare Standards:

- Strengthen regulatory frameworks governing poultry farming practices to ensure better living conditions for hens, such as reducing overcrowding and providing natural behavior expression.
- Introduce mandatory animal welfare audits for poultry farms, with periodic inspections to ensure compliance with national and international standards.
- Offer training programs for farmers on ethical poultry farming and welfare practices, with access to resources and support for implementation.

3. Incentivize the Adoption of Sustainable Production Practices:

- Establish government incentives for poultry farmers who implement sustainable and animal-friendly practices, such as grants for farm upgrades or tax rebates for ethical production systems.
- Promote research into low-cost, high-welfare production methods, providing funding and support for innovation in the poultry farming sector.
- Encourage partnerships between large poultry producers and smaller, ethical farms to create supply chains that balance cost-effectiveness with animal welfare.

4. Support the Development of Affordable, Ethical Alternatives:

- Facilitate collaborations between local farms, ethical brands, and community-supported agriculture (CSA) models to make ethical poultry products more accessible to price-sensitive consumers.
- Develop affordable packaging and distribution channels that allow small-scale ethical producers to reach a broader market, potentially lowering costs while maintaining high-quality standards.
- Explore government subsidies or price controls that help reduce the price of organic (Beldi) or free-range poultry products, making them more competitive with mass-produced options.

5. Enhance Market Segmentation Based on Consumer Preferences:

- Conduct market research to better understand the purchasing behaviors and price sensitivities of different consumer segments.
- Offer tiered pricing options that provide consumers with a choice of ethically produced poultry products, ranging from budget-friendly options to premium organic choices.
- Introduce loyalty programs or discounts for consumers who consistently purchase ethical poultry products, fostering a market that values animal welfare.

6. Government Regulation and Policy Enforcement:

- Enforce stricter regulations regarding animal welfare and poultry production systems, ensuring that all producers adhere to basic animal welfare standards.
- Create a national certification program for ethically produced poultry, with a transparent and consistent verification process.
- Set long-term sustainability targets for poultry farming in the national policy agenda, addressing both animal welfare and environmental concerns in the production process.

Call to Action:

It is crucial for stakeholders in the poultry industry -government bodies, producers, retailers, and consumers- to collaborate in creating a more ethical and sustainable poultry supply chain. Governments should lead by enforcing regulations and incentivizing best practices, while producers must invest in more humane and sustainable farming methods. Consumers, armed with better information, can drive demand for ethically produced poultry, encouraging a shift toward more responsible production practices. Together, these efforts can create a poultry industry that balances consumer demands, animal welfare, and environmental sustainability.

Some references :

<https://www.onssa.gov.ma/>

<https://www.fisamaroc.org.ma/>

<https://www.onca.gov.ma/>

<http://www.veterinaires.ma/>

<https://www.agriculture.gov.ma/>

<https://www.agrimaroc.ma/>

<https://www.ipcinfo.org/>

<https://conseil-concurrence.ma/>

www.fellah-trade.com

www.resagro.com

<https://www.avicultureaumaroc.com/>

<https://www.oeufmarocain.ma/>

Annexes :

Annexe 1 - Questionnaires :

All the forms and questions are translated into French and Arabic because some people in Morocco are more comfortable reading French, while others find Arabic easier. For a few participants, I had to read the questions to some of them in Moroccan Darija, as they are not accustomed to reading.

For farmers, breeders, and veterinarians, as well as administrators:

Pour les fermiers, les éleveurs et les vétérinaires ainsi que les administrateurs :
للمزارعين والمربين والأطباء البيطريين وكذلك المشتغلين بالإدارة

1. What poultry farming system is most commonly practiced in your area?

- Free-range farming
- Semi-intensive (mainly on deep litter)
- Intensive (cage farming)

Quel système de gestion de l'élevage de volailles est le plus couramment pratiqué dans votre région ?

- Élevage en plein air
- Semi-intensif (principalement sur litière profonde)
- Intensif (élevage en cages)

ما هو نظام تربية الدواجن الأكثر شيوعًا في منطقتك؟

- التربية الحرة (في الهواء الطلق)
- شبه المكثفة (في الأرض أو على نجارة الخشب أو التبن)
- التربية المكثفة (أقفاص بطاريات)

2. Is commercial poultry production significant in your area?

If yes, how does it compare to cattle, sheep, and goat (small ruminant) farming in terms of contribution?

- The most important
- Second most important
- Third most important
- Equal
- Least important

La production avicole commerciale est-elle importante dans votre région ?

Si oui, quelle est sa contribution par rapport à l'élevage de bovins, ovins et caprins, petits ruminants?

- La plus importante
- Deuxième plus importante
- Troisième plus importante
- égal
- La moins importante

هل إنتاج الدواجن التجاري مرتفع في منطقتك؟

إذا كانت الإجابة نعم، ما مدى مساهمته مقارنةً بالأبقار، الغنم والماعز، والمجترات الصغيرة؟

- الأعلى

- الثاني من حيث الأهمية

- الثالث

- مساوي

- الأقل

3. What is the most commonly raised poultry breed in your area?

- Local?
- Exotic?

Quelle est la race de volaille la plus couramment élevée dans votre région ?

- Locale ?
- Exotique ?

ما هي السلالة الأكثر شيوعًا لتربية الدواجن في منطقتك؟

- محلية؟

4. Are you familiar with cage poultry farming?

Yes / No

Connaissez-vous l'élevage de volailles en cage ?

Oui / Non

هل تعرف عن تربية الدواجن بالأقفاص؟

نعم / لا

5. Is battery cage farming a common practice in your area?

Yes / No

If yes, how many farms use this system?

Les cages en batterie sont-elles une pratique courante dans votre région ? Oui / Non

Si oui, combien de fermes les utilisent ?

هل تُستخدم أقفاص البطاريات كطريقة شائعة في منطقتك؟ نعم / لا

إذا كانت الإجابة نعم، كم عدد المزارع التي تستخدمها؟

6. In your opinion, is cage poultry farming generally a good practice?

Yes / No

À votre avis, l'élevage de volailles en cage est-il une bonne pratique en général ? Oui / Non

في رأيك، هل تربية الدواجن في الأقفاص تعتبر ممارسة جيدة بشكل عام؟ نعم / لا

7. Do you think veterinarians in your area are aware of the use of cage systems and their impact on poultry welfare?

Yes / No

If yes: Level of knowledge – High / Moderate / Low

Pensez-vous que les vétérinaires dans votre région connaissent l'usage du système de cages et son impact sur le bien-être des volailles ? Oui / Non

Si oui : Niveau de connaissance – Majorité / Moyenne / Faible

هل تعتقد أن الأطباء البيطريين في منطقتك لديهم معرفة بنظام التربية بالأقفاص وتأثيره على رفاهية الدواجن؟ نعم / لا
إذا كانت الإجابة نعم، فما مدى المعرفة؟ - جيدة / متوسطة / قليلة

8. How many chickens (layers) do you keep in your farms?

Combien de poules pondeuses élevez-vous dans vos fermes ?

كم عدد الدجاج البيّاض التي تربيها في مزارعك؟

9. How many eggs do you produce on a daily/weekly basis?

Combien d'œufs produisez-vous quotidiennement / hebdomadairement ?

كم عدد البيض الذي تنتجه يوميًا / أسبوعيًا؟

10. How do you ensure the environment is comfortable for the chickens? Shelter from wind, sun and rain etc.

- How to assess for sick, injured and distressed birds? How do you intervene?
- How do you see the management of the chickens? They are health? Good care?

Comment garantissez-vous un environnement confortable pour les poules ? Abri contre le vent, le soleil et la pluie, etc.

- Comment évaluez-vous la présence de poules malades, blessées ou stressées ? Comment intervenez-vous ?
- Comment percevez-vous la gestion de vos poules ? Sont-elles en bonne santé ? Reçoivent-elles de bons soins ?

كيف تضمن أن يكون بيئة الدجاج مريحة؟ مثل الحماية من الرياح، الشمس، والمطر، إلخ.

- كيف تقيّم ما إذا كانت هناك دجاجات مريضة أو مصابة أو تعاني من الإجهاد؟ وكيف تتدخل؟
- كيف ترى إدارة تربية الدجاج؟ هل هي بصحة جيدة؟ هل تتلقى رعاية جيدة؟

11. Would you recommend cage poultry farming to poultry farmers, the government, or private companies?

Yes / No

If yes, why?

- Increases production
- Improves hygiene
- Better monitoring and disease control
- Efficient use of resources
- Improves hen welfare
- Cost-effective and less labor
- Reduces space requirements

Conseillerez-vous aux éleveurs de volailles, au gouvernement, aux entreprises privées d'adopter l'élevage en cage ? Oui / Non

Si oui, pourquoi ?

- Augmente la production
- Améliore l'hygiène
- Meilleure surveillance et contrôle des maladies
- Utilisation efficace des ressources
- Amélioration du bien-être des poules
- Économique et moins de travail
- Réduction de l'espace nécessaire

هل تنصح المزارعين، الحكومة، أو الشركات الخاصة بتبني تربية الدواجن بالأقفاص؟ نعم / لا

إذا كانت الإجابة نعم، لماذا؟

- زيادة الإنتاج
- تحسين النظافة
- مراقبة وتشخيص الأمراض بشكل أفضل
- استخدام فعال للموارد
- تحسين رفاهية الدواجن
- اقتصادي ويتطلب مجهوداً أقل
- تقليل الحاجة للمساحات الكبيرة

12. What is the target market for poultry products?

- Local market
- Industries
- Export
- Others

Quel est le marché cible des produits avicoles ?

- Marché local
- Industries
- Exportation
- Autres

من هو السوق المستهدف لمنتجات الدواجن؟

- السوق المحلي
- المصانع
- التصدير
- أخرى

13. In your opinion, what problems are associated with battery cages for laying hens?

- Lack of freedom to express natural behavior
- Incidence of diseases
- High stress
- Overcrowding and confinement
- Cruelty
- High cost
- Others

Selon vous, quels problèmes sont associés aux cages pour poules pondeuses ?

- Manque de liberté pour exprimer leur comportement naturel
- Incidence de maladies
- Stress élevé
- Surpeuplement et confinement
- Cruauté

- Coût élevé
- Autres

في رأيك، ما هي المشاكل المرتبطة باستخدام أقفاص البطاريات في تربية الدجاج؟

- عدم القدرة على التعبير عن السلوك الطبيعي
- كثرة الأمراض
- توتر عالي
- الازدحام والحبس
- المعاناة
- تكلفة مرتفعة
- أخرى

14. What animal welfare issues do hens face in your area or farm?

- Diseases
- Stress
- Discomfort
- Malnutrition / lack of clean water
- Predators
- Lack of preventive measures / biosecurity

Quels problèmes liés au bien-être animal les poules rencontrent-elles dans votre région ou votre ferme ?

- Maladies
- Stress
- Inconfort
- Malnutrition / manque d'eau propre
- Prédateurs
- Manque de mesures préventives / biosécurité

ما هي مشاكل الرفق بالحيوان التي تواجهها الدواجن في منطقتك أو مزرعتك؟

- الأمراض

- التوتّر
- عدم الراحة
- سوء التغذية / نقص المياه النظيفة
- الحيوانات المقترسة
- غياب تدابير الوقاية / تدابير الأمن الحيوي

15. Previously, were you aware of animal welfare?

Yes / No

Auparavant, étiez-vous au courant du bien-être animal ? Oui / Non

هل كنت على علم بمفهوم الرفق بالحيوان قبل اليوم؟ نعم / لا

16. Do you think poultry product consumers in your area care about how poultry are raised and managed on farms?

Yes / No

Pensez-vous que les consommateurs de produits avicoles dans votre région se préoccupent de la manière dont les volailles sont élevées et gérées dans les fermes ? Oui / Non

هل تعتقد أن المستهلكين في منطقتك يهتمون بكيفية وطريقة تربية الدواجن في المزارع؟ نعم / لا

17. In your opinion, what do consumers consider when buying eggs?

- Physical appearance of the eggs
- Egg size
- Egg color
- Organic or not
- Type of production system (battery cage, semi-intensive, free-range)
- Welfare of the hens the eggs come from
- Irresponsible use of antibiotics
- Type of feed given to the hens
- Lowest price

Selon vous, que prennent en compte les consommateurs lors de l'achat d'œufs ?

- Apparence physique des œufs
- Taille des œufs

- Couleur de l'œuf
- Bio ou pas bio
- Type de système de production (Cage en batterie, semi-intensif, plein air)
- Bien-être des poules d'où proviennent les œufs
- Usage irresponsable des antibiotiques
- Type d'aliments consommés par les poules
- Le moins cher

ما الأمور التي يراعيها المستهلك عند شراء البيض برأيك؟

- المظهر الخارجي للبيض
- حجم البيض
- لون البيضة
- بلدي أم لا
- نوع نظام الإنتاج (قفص بطارية، شبه مكثف، حر)
- رفاهية الدواجن التي أنتجت البيض
- الاستخدام غير المسؤول للمضادات الحيوية
- نوع الأعلاف المستخدمة
- الأرخص

18. In your opinion, what is the best way to raise awareness among farmers and the general public about improving poultry welfare?

- Training for farmers
- Training for public/private veterinarians
- Radio/TV programs

Selon vous, quel est le meilleur moyen de sensibiliser les agriculteurs et le grand public à l'amélioration du bien-être avicole ?

- Formation des agriculteurs
- Formation des vétérinaires publics / privés
- Émissions radio / télé

ما هي أفضل طريقة برأيك لنشر الوعي بين المزارعين والجمهور حول تحسين رفاهية الدواجن؟

- توعية المزارعين
- تحسيس الأطباء البيطريين (الحكوميين / الخاصيين)
- البرامج الإذاعية أو التلفزيونية

19. If you wanted to start a poultry farm, would you prefer to use battery cages?

Yes / No

Si vous vouliez lancer un élevage de volailles, préféreriez-vous utiliser des cages en batterie ? Oui / Non

إذا رغبت في بدء مشروع لتربية الدواجن، هل تفضل استخدام أقفاص البطاريات؟ نعم / لا

20. Are you aware of government legislation regarding poultry farming and their welfare?

Yes / No

Connaissez-vous la législation gouvernementale concernant l'élevage de volailles et leur bien-être? Oui / Non

هل تعرف القوانين الحكومية التي تنظم تربية الدواجن ورفاهيتها؟ نعم / لا

21. Do you think farmers care about the welfare of caged poultry (in terms of allowing natural behaviors)?

Yes / No

Pensez-vous que les éleveurs se soucient du bien-être des volailles en cage (en ce qui concerne l'expression de comportements naturels) ? Oui / Non

هل تعتقد أن المزارعين يهتمون برفاهية الدواجن داخل الأقفاص (مثل التعبير عن السلوك الطبيعي)؟ نعم / لا

22. Do you think poultry farmers who use battery cages are only seeking to maximize profits at the expense of poultry welfare?

Yes / No

Pensez-vous que les éleveurs de volailles utilisant des cages en batterie cherchent uniquement à maximiser leurs profits, au détriment du bien-être des volailles ? Oui / Non

هل تعتقد أن المزارعين الذين يستخدمون أقفاص البطاريات يهتمون فقط بتحقيق الربح وليس برفاهية الدواجن؟ نعم / لا

23. How do you transport your chickens?

- Plastic crates
- Directly by motorcycle or vehicle
- Other

Comment transportez-vous vos poules ?

- Cages en plastique
- Directement à moto ou en véhicule
- Autre

كيف تنقل دواجنك؟

- في أقفاص بلاستيكية
- مباشرة على الدراجة النارية أو السيارة
- أخرى

24. What is the size of your cage?

Quelle est la taille de votre cage ?

ما هو حجم القفص الذي تستخدمه؟

25. How many birds do you transport per cage?

Combien de volailles transportez-vous par cage ?

كم عدد الدواجن التي تنقلها في كل قفص؟

For consumers (individuals and businesses):

Pour les consommateurs (individus et entreprises):

للمستهلكين (الأفراد والشركات)

1. Region/City: _____

2. Consumer Details: 2.1 type: Affluent Non affluent

2.2 Sex: Male Female

2.3 Age: 25 and below 26 to 45 46 to 90

3. Where do you buy your poultry products?

Supermarket

Local/nearby shops

Factories and supplier

Directly from the farmer

4. Average expenditure of poultry products per month?

Less than 400 MAD

400 MAD to 2000 MAD

More than 2000 MAD

5. Which poultry production systems do you know?

Deep litter

Battery

Free range

6. Do you have preference for products from any of the production systems?

Deep litter

Battery

Free range

Not concerned

Explain reasons for your choice?

7. Do you know of welfare requirements for poultry produced in the above systems?

Yes

No

8. What are the pressing issues that you know regarding welfare of poultry in Morocco?

9. What are your concerns with the quality of poultry products found at sale points?

10. Would you want the producer to indicate the production systems on the products sold on the market?

Yes

No

11. Would you pay a higher price for poultry products raised in better welfare and quality production systems?

Yes

No

Translation to French language

1. région/ville : _____

2. Détails du consommateur :

2.1 Type : Aisé Non Aisé

2.2 Sexe : Masculin Féminin

2.3 Âge : moins de 25 ans 26 à 45 ans 46 à 90 ans

3. Où achetez-vous vos produits de volaille ?

Supermarché

Magasins locaux/proches

Usines et fournisseurs

Directement du fermier

4. Dépenses moyennes mensuelles en produits de volaille ?

Moins de 300 Mad

300 MAD à 1000 MAD

Plus de 1000 MAD

5. Quels systèmes de production de volaille connaissez-vous ?

Litière profonde

Cages de batterie

Élevage en plein air

6. Avez-vous une préférence pour les produits issus de l'un des systèmes de production ?

Litière profonde

Cages de batterie

Élevage en plein air

Pas concerné

Expliquez les raisons de votre choix :

7. Connaissez-vous les exigences de bien-être pour la volaille produite dans les systèmes mentionnés ci-dessus ?

Oui

Non

8. Quels sont les problèmes pressants que vous connaissez concernant le bien-être de la volaille au Maroc?

9. Quelles sont vos préoccupations concernant la qualité des produits de volaille disponibles à la vente ?

10. Souhaiteriez-vous que le producteur indique les systèmes de production sur les produits vendus?

Oui

Non

11. Seriez-vous prêt à payer un prix plus élevé pour des produits de volaille élevés dans des systèmes de production offrant de meilleures conditions de bien-être et de qualité ?

Oui

Non

Translation to Arabic language

1. المنطقة والمدينة : _____
2. تفاصيل المستهلك:
 - 2.1 النوع: ميسور الحال غير ذلك
 - 2.2 الجنس: ذكر أنثى
 - 2.3 العمر: أقل من 25 من 26 إلى 45 من 46 إلى 90
3. من أين تشتري منتجات الدواجن؟
 - سوبر ماركت
 - متاجر محلية/قريبة
 - مصانع ومومنين
 - مباشرة من المزرعة
4. المصروف الشهري التقريبي على منتجات الدواجن؟
 - أقل من 300 درهم مغربي
 - من 300 إلى 1000 درهم
 - أكثر من 1000 درهم
5. ما أنظمة تربية الدواجن التي تعرفها؟
 - نظام الفرشة العميقة (Deep litter)
 - نظام الأقفاس (Battery)

□ النظام المفتوح / الرعي الحر (Free range)

6. هل لديك تفضيل لمنتجات من أحد أنظمة التربية؟

□ الفرشة العميقة

□ الأقفاص

□ الرعي الحر

□ لا يهمني

اشرح أسباب اختيارك:

.....

7. هل تعرف متطلبات الرفاهية للدواجن المنتجة في الأنظمة المذكورة أعلاه؟

□ نعم

□ لا

8. ما هي القضايا الملحة التي تعرفها بخصوص رفاهية الدواجن في المغرب؟

.....

9. ما هي مخاوفك بخصوص جودة منتجات الدواجن المتوفرة في نقاط البيع؟

.....

10. هل ترغب في أن يوضح المنتج نظام التربية المستخدم على المنتج؟

□ نعم

□ لا

11. هل أنت مستعد لدفع سعر أعلى لمنتجات دواجن تم تربيتها في أنظمة ذات جودة ورفاهية أفضل؟

□ نعم

□ لا

Annexe 2

Example of a TECHNICAL STUDY

breeding - Laying hens (production in Battery cages) Ex: (Workforce: 30,000)

The life of the egg-laying hen consists of two periods:

- The breeding phase: 1j to 18 to 20 weeks,
- The laying or production phase: 20 to 22 weeks to 72 to 78 weeks (retirement age),

THE breeding phase is of paramount importance for successful laying. During this period, the breeder must set the following objectives:

- Produce healthy, well-vaccinated young hens (pullets); With the result that there is good viability
- Achieve growth that results in good batch homogeneity,
- Obtain a live weight compatible with sexual maturity: 1550 gr at 5% laying for heavy strains and 1350 gr for light strains,

The breeding methods of laying hens

Breeding phase	Laying phase
On the floor	On the floor
On the floor	To the cage
To the cage (batteries)	Laying cage

This Example will focus on the rearing of in-cage pullets,

- Investment needs:

1. constructions: livestock buildings and outbuildings

a- Need for construction:

This project will involve the purchase of ready-to-lay hens in a plot of .. Ha equipped with water and wells.

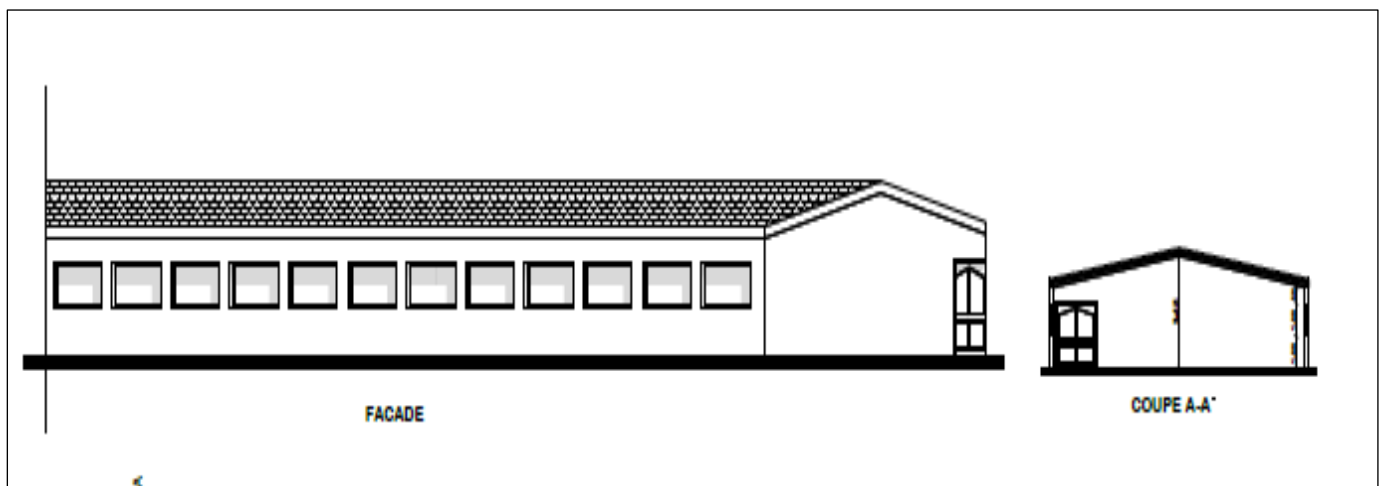
Livestock construction:

- Equipment store/ Office (40m²): 52,000 DH
- Egg room/ Storage: 65,000 DH
- Staff accommodation: 50,000 DH
- Locker room: 20,000 DH
- False cadavers: 12,000 DH
- Outdoor fence for 1 ha in galvanized wire mesh: 30,000 DH
- Door and Car: 15,000 DH
- 90 m *10 m steel frame poultry house

A batch of 30,000 high laying hens in a compact 4-storey cage needs a 900 m² building

- Cost of building with metal frame:
 - Length 90 m and width 10 m height 4 m
 - Metal structure with roof insulation (sandwich panel)

Total TTC: 927 432 DH



Total of buildings and facilities: 1 171 432 DH

b- Need for Bridge building equipment and materials:

➤ Equipment in cages



This list of materials and equipment is consistent with the type of building:

90 m * 10 * 4 m

- Cage dimensions 64 cm*66.5cm * 69 cm
- Automatic watering system (pipettes)
- Automatic feeder chains
- Food dispenser
- Silos
- Automatic manure removal equipment
- Automatic egg collection system
- Ventilation and bad-cooling system

- Total ex works: 1,316,051 DH
- Transport and installation: 180,000 DH
- Customs clearance 2.5%: 32 901 DH
- Vat 20%: 263 210 DH

Total: 1,792,162 DH

➤ Other material

Material	Unit price (DH)	Quantity	Total price (DH)
Dynamometer	2 500	2	5,000 DH
Sprayer and pump	10 000	1	10,000 DH
Water tank 1 T	1 000	3	3,000 DH
Work clothes	1 000	1	1,000 DH
TOTAL			19,000 DH

• **Amortization:**

Type of equipment	Investment amount	Duration	Amort. / an	Amort. / lot
Construction and building	1 171 432 DH	20	58,572 DH	54 022 DH

Equipment in cages	1 792 162 DH	10	179 216 DH	179 216 DH
Material	19,000 DH	5	3 800 DH	3 800 DH
Total	2,982,594 DH		241 588 DH	237 038 DH

A- Working capital requirement

1-Requirements for compound feed:

Unlike broiler chickens that are fed ad libitum, future laying hens receive a rationed diet. This system sets out several objectives, namely:

- Produce subjects that are able to resist disease and stress,
- Save food,
- Produce subjects with a body weight compatible with sexual maturity,
- Produce a large quantity and size,
- Delay sexual maturity,

	Energie (Kcal EM/Kg)	Crude protein (%)
Start-up: 1 day to 8 weeks	2800 à 2850	18 à 20
Growth: 9 to 18 weeks	2700 à 2750	15 à 16,5
Laying phase	2700 à 2900	15

Amount of feed required for the laying phase:

- Daily consumption from 17 to 18 S: $30\,700 \times 70 \text{ g} \times 10 \text{ j} = 15\,043 \text{ kg}$
- Laying consumption per hen: $110 \text{ g} \times 365 \text{ j} = 40.15 \text{ kg}$

Considering mortality rate 5 %

Total clutch consumption $(30700 - 5\%)* 40.15 = 1\,170\,975 \text{ kg}$

Total: $1\,186\,018 * 3.90 \text{ dh/kg} = 4\,625\,470 \text{ DH}$

Food expenses: 4,625,470 DH

2-Purchase of ready to lay hens

The purchase of 30,700 pullets aged 16 to 18 weeks at a cost of 54 DH per

1 657 800 DH

3-Labour and personnel requirements:

A batch of 30,000 caged hens will require three workers and one guard.

Age to reform after 52 weeks or 13 months including days of cleaning and disinfection,

- Labour expenditure: 13 months * 3,000 DH/month* 4 = 156,000 DH

Total personal expenses for 13 months: 156,000 DH

4- Service fee

The service charge for a cage farm includes electricity, transportation and other unanticipated costs and represents 3% of the cost price

5- Purchase of cells

The number of eggs per hen: 300 eggs up to 72 weeks

Total number of eggs laid: 29,200 * 300 eggs per hen = 8,760,000 eggs

The need for a tray of 30 eggs: 8,760,000/ 30 = 292,000

The unit price is 0.55 dh

Total: 0.55* 292,000 = 160 600 DH

6-Need for veterinary products (prophylaxis program)

- Veterinary products

Since the hen is bought ready to lay so the Prophylaxis program during the laying phase limit in the purchase of some vitamins and prevention products

Total: 20,000 DH

C-Investment characteristics:

	<u>Element</u>	<u>Total price (DH)</u>
Fixed assets	Construction and development	1 171 432
	Equipment and materials	1 811 162
Working capital	Compound feed	4 625 470
	Poulettes	1 657 800
	Staff	156 000
	Veterinary products	20 000
	Purchase of cells	160 600
	Service fee (+3% of cost)	171 357

D-Cost price calculation:

1-Summary table of charges:

Charges	Amount (DH)
Amortization	237 038
Compound feed	4 625 470
Poulettes	1 657 800
Staff	156 000
Veterinary products	20 000
Purchase of cells	160 600
Total	6 856 908
+ Service fee (3%)	205 707
Total	7 062 615 DH

2-Recipes

- Selling price of the reform hen:

-Considering the mortality rate is 5%

-Total live weight at harvest: 1,800 kg (average live weight) *29,000 hens = 52,200 kg live weight

-Total price = 52 200 Kg * 4 DH/Kg = 208 800 DH

- Manure sale: an estimate of 20,000 DH

Total receipts: 228,800 DH

3 - Cost Price Calculation

The number of eggs laid per hen:

The laying rate is not 100% in the laying phase, it can vary between

80% to 95% depending on the technician of the breeder and the performance achieved in the breeding phase, therefore to arrive at an approximate number of eggs laid in will not provide the mortality rate of two phases of the starting population;

The number of eggs per hen up to 72 weeks old is 300 eggs

Total eggs laid: 8,760,000

The cost price of an egg: (Total expenses - Receipts) / Number of eggs

$$(7\ 062\ 615 - 228\ 200) / 8\ 760\ 000 = 0.78\ \text{DH}$$

The production cost of a consumer egg is 0.78 DH/ Eggs

FINANCIAL STUDY

Characteristics of the investment

	<u>Element</u>	<u>Total price (DH)</u>
Immobilization	Construction and development	1 171 432, 00
	Cage equipment	1 792 162,00
	material	19 000,00
	Total: 2,982,594.00 DH	
Working capital (by Lot)	Food and Chickens	6 283 270,00
	Staff	156 000,00
	Miscellaneous	386 307,00

B - Investment financing:

INVESTMENT NEEDS	Amount (dh)	RESOURCES	Amount (DH)
Establishment costs (studies and authorizations)	10,000 DH	Share capital or equity contributions	10 000
Intangible assets - Right to lease		Own contribution
Immobilisations corporelles - Installation (aménagement du local)	1 171 432,00 DH		
- Divers matériel	1 811 162,00 DH	Bank credit
Besoins en fonds de roulement (achat de poulettes)	1 657 800 DH		
TOTAL	4 650 394 DH		4 650 394 DH

C- Prévision d'exploitation :

1-Estimation du chiffre d'affaire :

➤ Vente d'œufs

Capacité annuelle de production : Le nombre d'œufs par poule : 300 œufs à l'âge de 72 semaines

- Production annuelle : 8 760 000 œufs
- Prix de vente : puisque le prix de vente d'œufs fluctue au cours de l'année de 0.90 à 1.20

On estime le prix moyen de vente d'œufs en gros 0.95 DH

Donc le chiffre d'affaire estimé : 8 322 000 DH


Ce chiffre sera gardé pour les 3 années

➤ Vente de poules et fumier : 228 800 DH

Annexe 3

Some statistics

Statistics of avicole sector in 2023

		الفيدرالية المهنية لقطاع الدواجن بالمغرب FÉDÉRATION INTERPROFESSIONNELLE DU SECTEUR AVICOLE au MAROC MOROCCAN POULTRY FEDERATION					Référence : FM-03-05 Version : 01		
		Données chiffrées du secteur avicole moderne					Date d'application : 21/12/2021		
DONNEES CHIFFREES DU SECTEUR AVICOLE MODERNE EN 2023									
احصائيات قـقطاع الدواجن العصري لسنة 2023									
Rubrique	Filière	Produit	2019	2020	2021	2022	2023	Variation 2023/2022	
Production الإنتاج	Chair اللحم	POUSSINS CHAIR PRODUCTION ANNUELLE (millions d'unités) كتنايت صنف اللحم - الإنتاج السنوي (مليون وحدة)	480	380	425	470	480	2%	
		POUSSINS CHAIR PRODUCTION HEBDOMADAIRE (milliers d'unités) كتنايت صنف اللحم - الإنتاج الأسبوعي (ألف وحدة)	9231	7308	8173	9038	9231	2%	
		DINDONNEAUX PRODUCTION ANNUELLE (millions d'unités) كتنايت الديك الرومي - الإنتاج السنوي (مليون وحدة)	11,6	10,6	11,6	12,8	14,6	14%	
		VIANDES DE POULET (dont réforme) (milliers de tonnes) لحوم الدجاج (ألف طن)	625	535	525	535	560	5%	
		VIANDES DE DINDE (milliers de tonnes) لحوم الديك الرومي (ألف طن)	107	100	115	120	135	13%	
	Ponte البيض	POUSSINS PONTE (millions d'unités) كتنايت صنف البيض (مليون وحدة)	16	15	15	12	15,9	33%	
		ŒUFS DE CONSOMMATION (milliards d'unités) بيض الاستهلاك (مليار وحدة)	6,1	5,5	5,5	5	5,3	6%	
		ALIMENTS DE VOLAILLES (millions de tonnes) أعلاف الدواجن (مليون طن)	3,7	3	3,1	3	3,3	10%	
	Tonnage abattoirs industriels	المجازر الصناعية للدواجن	VIANDES POULET DE CHAIR (tonnes) لحوم الدجاج (طن)	55 494	46 710	51 800	65 926	68 360	4%
			VIANDES DINDE (tonnes) لحوم الديك الرومي (طن)	93 457	94 941	112 428	101 133	95 014	-6%
Importations التوريدات	Chair اللحم	POUSSINS REPRO. CHAIR (milliers d'unités) أمهات الكتنايت صنف اللحم (ألف وحدة)	3 739	4 160	3 536	3 935	3 769	-4%	
		ŒUFS A COUVER POULET DE CHAIR (milliers d'unités) بيض التحضين صنف اللحم (ألف وحدة)	-	-	-	-	-	-	
		POUSSINS CHAIR (milliers d'unités) كتنايت صنف اللحم (ألف وحدة)	-	-	-	-	-	-	
		DINDONNEAUX REPRO. CHAIR (milliers d'unités) أمهات الكتنايت صنف الديك الرومي (ألف وحدة)	111,5	106	112,5	130,4	158	21%	
		ŒUFS A COUVER DINDE CHAIR (milliers d'unités) بيض التحضين صنف الديك الرومي (ألف وحدة)	500	-	-	413	699,2	69%	
		DINDONNEAUX CHAIR (milliers d'unités) كتنايت الديك الرومي (ألف وحدة)	4 019	1 991	2693	1073	552	-49%	
	Ponte البيض	POUSSINS REPRO. PONTE (milliers d'unités) أمهات الكتنايت صنف البيض (ألف وحدة)	132	134	213	218	204,7	-6%	
		ŒUFS A COUVER PONTE (milliers d'unités) بيض التحضين صنف البيض (ألف وحدة)	-	-	-	-	-	-	
		ŒUFS DE CONSOMMATION (milliers d'unités) بيض الاستهلاك (ألف وحدة)	-	-	-	-	-	-	
		ŒUFS A COUVER POULET DE CHAIR (milliers d'unités) بيض التحضين صنف اللحم (ألف وحدة)	27 460	44 796	61 000	68 656	58 398	-15%	
Exportations الصناعات	Chair اللحم	POUSSINS CHAIR (milliers d'unités) كتنايت صنف اللحم (ألف وحدة)	10	175	3 000	2 900	770	-73%	
		VIANDES ET PRODUITS A BASE DE VIANDES DE VOLAILLES (tonnes) لحوم الدواجن ومشتقاتها (طن)	651	409	942	1 062	814	-23%	
		ŒUFS DE CONSOMMATION (milliers d'unités) بيض الاستهلاك (ألف وحدة)	33	17	-	18 815	9 327	-50%	
Consommation الاستهلاك	Chair اللحم	CONSOMMATION DE VIANDES DE VOLAILLES (kg/hab/an) استهلاك لحوم الدواجن (كلغ للفرد في السنة)	22,1	19,2	19,3	19,6	20,6	5%	
		CONSOMMATION D'ŒUFS DE CONSOMMATION (œuf/hab/an) استهلاك بيض الاستهلاك (بيضة للفرد في السنة)	195	177	176	161	169	5%	
Prix الأسعار	Chair اللحم	PRIX DE VENTE POULET (Dhs/Kg vif départ ferme) سعر بيع الدجاج (بالدرهم للكغ الحي انطلاقاً من الضيعة)	11,90	10,60	12,50	15,17	15,75	4%	
		PRIX DE VENTE DINDE (MOYENNE PONDEREE) (Dhs/Kg vif départ ferme) (*) سعر البيع المتوسط للديك الرومي (بالدرهم للكغ الحي انطلاقاً من الضيعة)	15,00	13,20	16,10	19,82	19,40	-2%	
	Ponte البيض	PRIX DE VENTE ŒUFS DE CONSOMMATION (Dhs/œuf départ ferme) سعر بيع بيض الاستهلاك (بالدرهم للوحدة انطلاقاً من الضيعة)	0,58	0,69	0,80	0,87	1,20	38%	
INVESTISSEMENTS CUMULES (en milliards de Dhs) الاستثمارات الإجمالية (مليار درهم)			13,5	13,7	13,8	13,9	14,1	1%	
CHIFFRE D'AFFAIRES (en milliards de Dhs) رقم المعاملات (مليار درهم)			32,5	27,4	32,4	36,9	41,7	13%	
EMPLOIS DIRECTS (en milliers) مناصب الشغل المباشرة (بالآلاف)			160	140	141	142	150	6%	
EMPLOIS INDIRECTS (en milliers) مناصب الشغل غير المباشرة (بالآلاف)			370	320	324	328	350	7%	
Production du secteur traditionnel en 2023 إنتاج القطاع التقليدي لسنة 2023			Œufs (millions unités) بيض (مليون وحدة)		800				
			Viandes de volailles (tonnes) لحوم الدواجن (طن)		50.000				

(*) Prix moyen pondéré de la dinde = 20% prix vif à la ferme + 80% prix vif abattoir

Weekly Market Prices for Table Eggs

	2019	2020	2021	2022	2023	2024
Semaines	C. Gros Dh /Unité	C. Gros Dh /Unité	C. Gros Dh /Unité	C. Gros Dh /Unité	C. Gros Dh /Unité	C. Gros Dh /Unité
1	0,71	0,62	0,77	0,78	0,92	1,30
2	0,71	0,63	0,78	0,78	1,01	1,33
3	0,67	0,62	0,80	0,77	1,11	1,31
4	0,67	0,64	0,80	0,75	1,17	1,28
5	0,71	0,66	0,83	0,76	1,24	1,31
6	0,68	0,67	0,87	0,81	1,25	1,30
7	0,65	0,67	0,87	0,85	1,17	1,32
8	0,61	0,66	0,87	0,89	1,17	1,35
9	0,60	0,67	0,86	0,96	1,21	1,37
10	0,61	0,71	0,87	1,04	1,25	1,44
11	0,60	0,73	0,86	1,03	1,29	1,46
12	0,60	0,81	0,88	1,03	1,32	1,38
13	0,62	0,66	0,91	0,91	1,34	1,28
14	0,68	0,65	0,91	0,91	1,32	1,33
15	0,75	0,69	0,92	0,84	1,35	1,16
16	0,77	0,74	0,90	0,85	1,34	1,14
17	0,78	0,75	0,93	0,82	1,24	0,96
18	0,71	0,75	0,95	0,79	1,23	0,88
19	0,68	0,66	0,93	0,74	1,23	0,96
20	0,55	0,71	0,89	0,66	1,12	0,91
21	0,61	0,74	0,80	0,64	1,11	0,86
22	0,58	0,71	0,74	0,67	1,05	0,88
23	0,54	0,65	0,71	0,75	1,05	0,86
24	0,56	0,62	0,72	0,74	1,14	0,86
25	0,57	0,58	0,67	0,79	1,16	0,86
26	0,54	0,59	0,67	0,84	1,15	0,77
27	0,54	0,53	0,71	0,85	1,01	0,76
28	0,53	0,51	0,70	0,85	0,96	0,76
29	0,52	0,50	0,70	0,83	0,93	0,78
30	0,52	0,50	0,66	0,83	0,94	0,80
31	0,54	0,51	0,66	0,82	1,01	0,99
32	0,54	0,52	0,66	0,88	1,05	1,15
33	0,53	0,58	0,63	0,99	1,17	1,17
34	0,52	0,64	0,64	0,98	1,21	1,14
35	0,52	0,64	0,70	1,02	1,29	1,10
36	0,53	0,67	0,72	1,03	1,35	1,15
37	0,61	0,71	0,76	1,05	1,35	1,16
38	0,67	0,76	0,79	1,05	1,34	1,14
39	0,64	0,80	0,82	1,05	1,32	1,15
40	0,65	0,77	0,85	1,07	1,29	1,13
41	0,68	0,81	0,87	1,08	1,31	1,11

42	0,68	0,82	0,84	1,14	1,32	1,11
43	0,72	0,82	0,85	1,14	1,33	1,10
44	0,77	0,80	0,85	1,14	1,35	1,13
45	0,78	0,81	0,85	1,02	1,35	1,20
46	0,78	0,83	0,85	1,00	1,35	1,22
47	0,79	0,82	0,87	0,86	1,35	1,24
48	0,79	0,80	0,85	0,86	1,31	1,26
49	0,78	0,81	0,85	0,90	1,34	1,28
50	0,78	0,80	0,83	0,89	1,31	1,29
51	0,72	0,80	0,79	0,91	1,33	1,31
52	0,70	0,77	0,80	0,92	1,32	1,30
Max.	0,79	0,83	0,95	1,14	1,35	1,46
Moy.	0,65	0,69	0,80	0,90	1,21	1,13
E.T.	0,09	0,10	0,09	0,13	0,13	0,20
C.V(%)	10,93	- 35,59	- 43,62	15,53	- 79,40	- 48,46

Weekly Market Prices for Broiler Chickens (Casablanca city region)

	2019	2020	2021	2022	2023	2024
Semaines	Prix Ferme Dh/Kg vif	Prix Ferme Dh/Kg vif	Prix Ferme Dh/Kg vif	Prix Ferme Dh/Kg vif	Prix Ferme Dh/Kg vif	Prix Ferme Dh/Kg vif
1	11,07	10,70	10,86	13,00	12,64	16,36
2	11,43	10,64	10,21	13,00	14,14	15,43
3	11,43	10,86	10,21	11,71	15,93	16,86
4	11,21	10,86	9,71	11,79	17,00	17,43
5	11,29	10,50	9,71	12,57	16,86	18,29
6	10,71	9,93	9,50	14,36	16,00	18,71
7	9,57	10,00	9,57	14,93	14,07	17,57
8	9,79	9,50	10,50	15,36	12,79	16,57
9	9,50	10,07	11,14	16,14	13,29	16,50
10	10,50	10,71	11,71	17,00	14,29	17,64
11	11,50	11,14	12,14	15,57	14,86	17,57
12	11,86	10,57	12,71	14,43	16,07	15,79
13	12,50	9,21	12,14	13,86	15,86	15,06
14	13,00	9,29	12,93	15,14	16,57	14,93
15	13,06	8,57	14,71	14,57	18,36	15,17
16	13,29	8,64	14,00	15,07	21,00	15,14
17	13,36	8,14	14,00	16,08	21,86	14,79
18	13,36	7,79	14,43	17,43	23,50	15,29

19	13,43	8,57	14,75	18,00	19,43	15,57
20	12,64	9,43	14,79	17,00	17,86	15,79
21	13,29	9,75	14,21	16,71	16,00	15,07
22	12,93	8,43	13,86	16,00	14,50	14,07
23	14,50	8,43	12,07	14,07	13,64	14,36
24	15,21	8,43	12,29	15,29	12,57	15,50
25	14,07	7,79	11,93	15,07	13,36	15,17
26	13,36	8,64	12,21	12,50	16,00	15,36
27	11,86	8,43	12,33	12,20	13,50	14,64
28	11,39	10,21	12,50	13,00	12,50	13,64
29	12,29	8,86	11,83	13,21	11,93	14,79
30	12,29	7,93	10,00	14,43	11,71	17,57
31	12,21	7,50	9,00	16,07	11,79	21,50
32	12,50	7,43	9,00	16,57	14,00	23,14
33	10,00	8,29	11,07	16,50	15,79	22,57
34	10,57	7,93	10,64	18,64	16,93	21,71
35	10,38	8,43	11,50	17,93	18,14	21,07
36	10,71	9,07	13,14	16,43	16,93	22,00
37	10,00	12,64	13,57	16,21	16,71	21,67
38	10,07	14,93	14,21	15,64	15,00	19,64
39	10,57	14,71	14,79	16,50	13,42	16,43
40	11,07	15,38	15,43	16,60	14,07	16,43
41	11,07	16,07	15,79	17,64	14,07	17,14
42	11,57	17,07	16,64	17,36	14,93	16,50
43	12,00	15,14	14,79	15,93	16,71	16,29
44	11,86	14,71	14,79	15,79	16,79	16,79
45	13,83	14,79	15,79	17,07	17,29	16,93
46	14,21	13,93	14,00	16,00	16,14	16,50
47	14,07	11,79	12,57	15,21	16,29	16,00
48	12,00	10,86	12,50	15,07	17,00	17,36
49	11,57	11,86	12,14	14,57	18,00	18,71
50	10,71	11,86	11,93	13,00	18,14	20,86
51	10,14	12,21	12,00	11,93	17,64	20,07
52	10,43	12,07	12,70	12,58	16,79	20,43

	2019	2020	2021	2022	2023	2024
Moy.	11,87	10,59	12,52	15,17	15,78	17,24
Evolution	#DIV/0!	-10,8%	18,2%	21,2%	4,0%	9,2%

Max.	15,21	17,07	16,64	18,64	23,50	23,14
Min.	9,50	7,43	9,00	11,71	11,71	13,64
E.T.						

	1,41	2,52	1,93	1,79	2,49	2,45
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	J	F	M	A	M	J	JT	A	S	O	N	D
2003	14,60	14,20	14,00	14,20	14,40	14,50	14,60	14,80	14,20	14,40	14,55	14,60
2004	15,00	14,34	13,95	13,90	14,20	14,37	14,70	14,94	14,20	14,25	14,00	14,60
2005	14,60	14,30	14,10	14,00	13,00	12,76	12,40	13,30	14,96	14,12	13,42	11,55
2006	11,25	9,00	9,46	13,20	14,28	16,20	15,80	17,89	18,40	17,65	17,48	17,52
2007	15,74	13,50	13,80	16,08	16,20	16,24	16,10	15,92	16,48	16,72	15,50	15,60
2008	14,90	11,70	12,15	15,60	17,65	15,99	15,52	14,30	14,10	14,50	14,50	14,62

C.V (%)	31,31	92,32	3,06	- 29,77	72,21	89,66
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Weighted Average Turkey Price (Dhs / kg live weight) (20% live and 80% slaughterhouse)

2009	14,50	14,16	16,58	18,05	19,68	19,40	17,95	18,44	18,20	17,37	16,00	14,97
2010	11,80	11,90	13,20	15,48	15,12	16,15	16,15	16,62	17,00	13,68	12,94	14,15
2011	15,73	16,18	17,76	19,78	18,53	15,13	15,34	15,55	15,07	14,03	13,73	12,85
2012	14,68	14,66	15,54	16,95	19,88	19,18	21,20	21,16	20,50	18,33	17,44	15,15
2013	15,88	17,73	17,49	18,26	19,88	19,36	17,75	18,28	14,75	13,31	16,34	16,95
2014	16,66	17,38	16,06	18,13	17,28	18,28	18,60	16,62	13,80	15,18	15,33	15,65
2015	14,26	13,20	14,43	13,72	15,16	14,58	15,80	15,30	14,20	14,48	16,10	18,33
2016	18,92	18,45	20,98	19,25	19,54	22,60	22,96	22,00	21,93	19,30	13,18	14,37
2017	12,90	13,50	14,63	15,65	15,10	15,22	15,14	15,47	15,40	15,22	16,92	18,40
2018	18,10	17,80	16,48	14,95	15,54	17,13	14,06	14,00	14,95	14,00	16,48	16,00
2019	15,65	15,30	17,20	18,50	18,75	16,25	14,50	14,50	13,70	12,00	11,75	12,35
2020	13,00	13,00	13,00	11,80	10,50	9,75	8,75	11,00	15,50	17,25	16,85	18,00
2021	17,75	14,00	13,40	14,60	16,70	17,20	16,15	15,50	14,40	16,60	19,25	17,60
2022	17,25	17,35	20,15	20,30	20,50	19,55	19,40	20,40	21,30	20,80	20,55	20,35
2023	20,10	20,45	21,55	23,35	22,80	18,70	15,50	13,70	18,65	17,65	19,00	21,25
2024	23,00	23,15	24,10	19,95	18,10	19,12	18,90	22,65	23,80	19,10	19,10	20,35

Import of Breeding Turkeys

	2023			2024		
	1ère Qz.	2ème Qz	Total Mois	1ère Qz.	2ème Qz	Total Mois
Janvier	9 270	23 740	33 010	-	19 346	19 346
Février	-	-	-	5 350	16 460	21 810
Mars	9 270	17 320	26 590	-	-	-
Avril	-	-	-	9 860	-	9 860
Mai	14 620	9 250	23 870	9 860	-	9 860
Juin	-	7 400	7 400	-	19 340	19 340
Juillet	9 270	-	9 270	13 140	7 250	20 390
Août	15 680	-	15 680	9 260	-	9 260

Séptembre	-	-	-	10 080	-	10 080
Octobre	9 266	6 425	15 691	9 248	7 182	16 430
Novembre	-	19 260	19 260	-	17 217	17 217
Décembre	7 200	-	7 200	-	-	-

Total	74 576	83 395	157 971	66 798	86 795	153 593
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Source :
DDFP

Importation of Ducklings

	2019	2020	2021	2022	2023	2024
Janvier	6 330	7 089	-	-	-	-
Février	2 040	3 468	-	-	-	-
Mars	9 546	8 823	-	-	-	2 514
Avril	5 520	-	-	-	-	5 100
Mai	4 488	-	-	-	-	2 450
Juin	5 720	-	-	-	-	1 500
Juillet	11 073	2 450	10 407	-	-	-
Août	6 385	6 530	12 930	-	-	-
Septembre	12 732	7 550	10 199	-	-	-
Octobre	5 610	4 270	6 536	-	5 150	-
Novembre	18 621	6 300	8 448	-	-	-
Décembre	8 007	-	4 998	-	-	-
Total	96 072	46 480	53 518	-	5 150	11 564

Source :

Cumulative Production and Import of Turkey Poults

	2019	2020	2021	2022	2023	2024
Janvier	1 355 006	1 358 960	1 005 078	1 236 688	1 165 662	1 427 451
Février	1 259 490	1 244 318	1 220 781	1 144 983	1 148 246	1 251 090
Mars	1 413 262	1 112 574	1 077 585	1 129 332	1 253 030	1 115 410
Avril	1 002 875	954 718	774 610	896 529	1 068 925	1 298 409
Mai	986 791	623 864	1 369 209	1 266 688	1 172 377	1 694 469
Juin	1 336 150	1 018 730	1 277 050	1 165 963	1 202 784	1 335 241
Juillet	1 400 200	971 739	1 120 861	1 052 003	1 441 122	1 503 770
Août	1 327 135	1 135 539	1 323 950	1 071 019	1 135 710	1 484 062
Septembre	1 418 410	912 849	1 142 048	1 132 137	1 195 253	1 559 550
Octobre	1 335 670	1 122 050	1 148 128	1 212 866	1 481 606	1 636 292
Novembre	1 353 026	1 152 820	1 305 292	1 286 412	1 538 201	1 798 404
Décembre	1 512 750	955 635	1 558 568	1 300 252	1 336 246	1 701 287
Moyenne	1 308 397	1 046 983	1 193 597	1 157 906	1 261 597	1 483 786
Total	15 700 765	12 563 796	14 323 160	13 894 872	15 139 162	17 805 435

Source : DDFP

Import of Turkey Hatching Eggs

	2021	2022	2023	2024
Janvier	-	-	86 000	60 000
Février	-	-	127 200	-
Mars	-	-	-	60 000
Avril	-	-	36 000	-
Mai	-	-	50 000	-
Juin	-	-	-	-
Juillet	-	-	-	-
Août	-	-	-	-
Septembre	-	-	-	-
Octobre	-	-	120 000	-
Novembre	-	200 000	180 000	-
Décembre	-	213 400	100 000	32 600
Total	-	413 400	699 200	152 600

Source :
DDFP

Import of Chicken Hatching Eggs

	2008	2009	2015	2016		
				Type Chair	Type Ponte	Total
Janvier	-	-	-	-	-	-
Février	-	-	-	-	-	-
Mars	-	-	-	-	-	-
Avril	-	-	-	240 354	600 000	954 240
Mai	-	189 000	-	735 966	-	966 735
Juin	-	-	-	845 1 147	-	1 147 845
Juillet	-	-	-	-	360 407	407 360
Août	-	200 000	-	-	200 000	200 000
Septembre	-	-	-	000 360	-	360 000
Octobre	-	-	-	-	-	-
Novembre	-	-	-	-	-	-
Décembre	-	-	-	-	-	-
Total	-	389 000	-	2 828 820	1 207 360	4 036 180

Source :
DDFP

Import of Laying Hens

	1995	1996	1997	1998	1999	2000	2004	2021
Janvier	63 280	8 330	36 000	55 000	-	-	-	-
Février	18 750	42 000	-	-	42 640	-	-	-
Mars	-	-	69 900	-	54 000	63 000	-	-
Avril	-	-	-	-	-	-	-	-
Mai	-	32 760	-	115 180	-	-	75 000	-
Juin	99 000	-	30 000	-	55 700	-	61 000	-
Juillet	-	-	-	-	-	12 000	-	-

Août	73 112	47 000	-	-	27 700	-	-	-
Septembre	11 900	-	30 200	-	-	45 000	-	-
Octobre	-	-	-	55 000	-	64 000	-	15 300
Novembre	-	69 200	-	20 400	-	-	-	-
Décembre	58 484	-	-	-	-	-	-	-
Total	324 526	199 290	166 100	245 580	180 040	184 000	136 000	15 300

Source :
DDFP

After that, Morocco ceased importing and achieved self-sufficiency, and it now also exports.

Import of Broiler Chicks

	1999	2000	2001	2002	2016
Janvier	255 000	616 800	381 200	534 400	-
Février	91 800	508 800	290 200	319 600	-
Mars	114 800	815 000	401 800	108 580	-
Avril	335 600	453 300	447 100	-	-
Mai	2 402 700	459 400	1 000 200	-	-
Juin	2 765 100	1 742 800	883 600	-	455 000
Juillet	601 600	2 357 760	906 600	-	755 312
Août	209 100	1 186 900	517 900	-	-
Septembre	598 200	967 600	377 800	-	-
Octobre	2 227 200	1 191 400	1 373 200	-	-
Novembre	1 638 840	1 068 700	1 633 000	-	-
Décembre	1 317 740	931 100	460 000	-	-
Total	12 557 680	12 299 560	8 672 600	962 580	1 210 312

Source :
DDFP

After that, Morocco ceased importing and achieved self-sufficiency, and he is exporting also.

Import of Broiler Breeders

	2019	2020	2021	2022	2023	2024
Janvier	213 428	248 650	231 549	482 480	378 860	400 486
Février	315 686	449 483	303 610	258 650	59 660	246 650
Mars	334 705	399 229	233 875	343 578	333 100	326 400
Avril	198 486	483 208	340 330	188 290	442 187	488 600
Mai	384 370	215 318	292 813	381 146	443 410	346 700
Juin	357 269	391 820	374 473	185 960	262 970	174 330
Juillet	323 450	192 654	248 076	399 612	449 530	508 930
Août	407 767	411 036	244 450	273 990	227 530	265 190
Septembre	264 900	245 466	347 350	364 775	216 948	300 262
Octobre	242 810	357 414	330 482	373 234	236 698	410 499
Novembre	288 760	346 870	417 832	371 587	343 250	320 966
Décembre	408 216	419 782	171 190	311 860	375 056	445 005
Total	3 739 847	4 160 930	3 536 030	3 935 162	3 769 199	4 234 018

Source :
DDFP

Import of Laying Hens Breeders

	2019	2020	2021	2022	2023	2024
Janvier	44 915	-	-	-	-	-
Février	-	43 590	-	-	36 450	52 700
Mars	-	-	45 640	48 214	87 090	83 280
Avril	-	45 540	40 000	39 500	-	-
Mai	-	-	42 080	42 870	-	-
Juin	-	-	-	-	-	-
Juillet	-	-	-	-	15 770	-
Août	41 220	-	-	-	25 980	40 750
Septembre	-	44 915	-	87 095	-	47 080
Octobre	45 550	-	39 424	-	39 424	43 857
Novembre	-	-	45 760	-	-	-
Décembre	-	-	-	-	-	-
Total	131 685	134 045	212 904	217 679	204 714	267 667

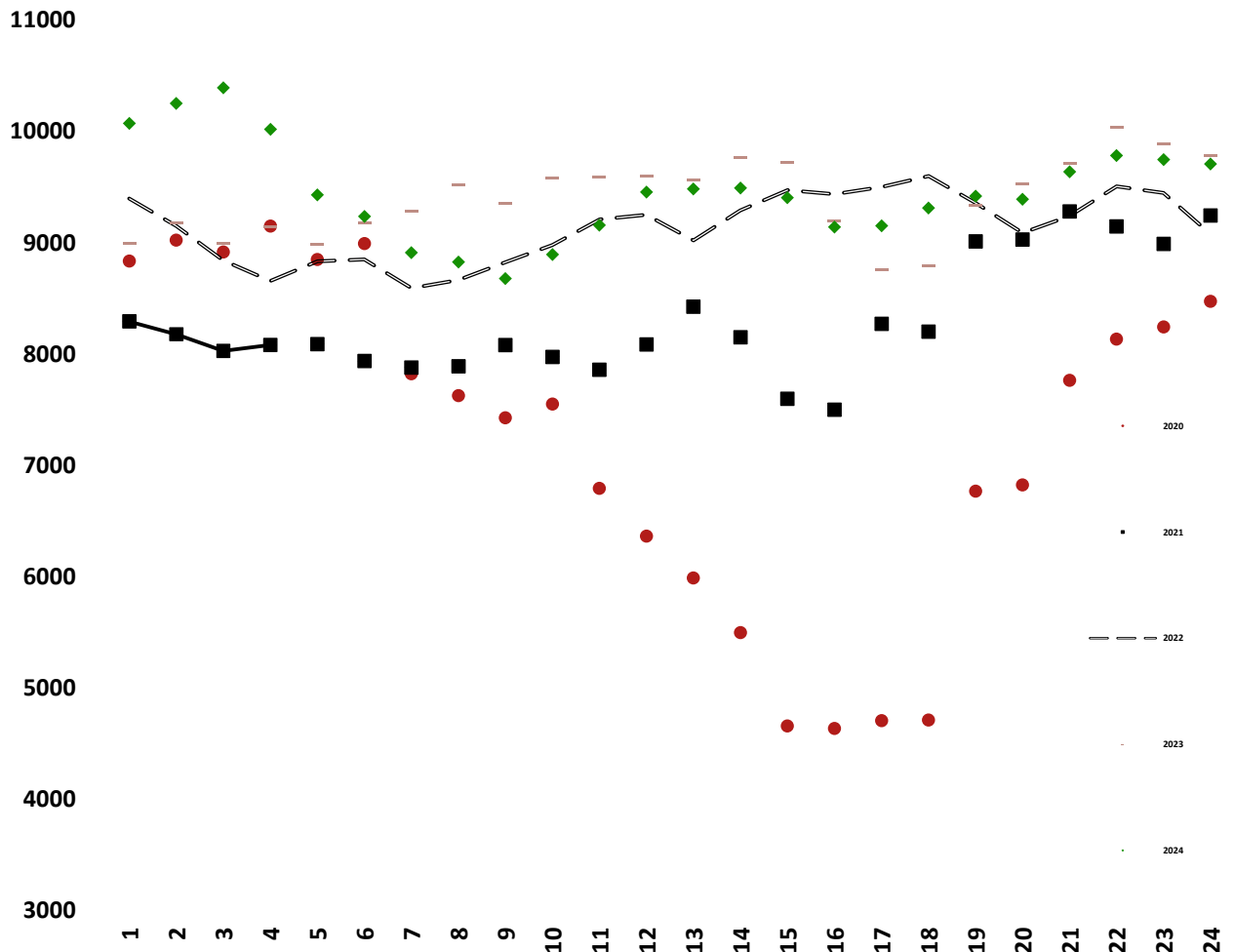
Source :
DDFP

National Production of Turkey Poults

	2019	2020	2021	2022	2023	2024
Janvier	1 063 236	1 075 710	781 053	1 056 938	1 111 162	1 427 451
Février	947 635	957 978	881 689	1 019 323	1 046 946	1 251 090
Mars	1 036 000	925 625	813 493	995 962	1 163 170	1 115 410
Avril	812 043	794 038	673 670	872 609	968 485	1 144 409
Mai	677 787	572 364	1 151 879	1 194 928	1 142 377	1 417 531
Juin	938 849	946 630	1 079 290	1 165 963	1 202 784	1 219 881
Juillet	998 670	899 639	1 015 801	996 923	1 335 032	1 395 620
Août	962 000	938 809	1 093 228	1 071 019	1 135 710	1 215 862
Septembre	958 000	912 849	1 015 872	1 109 437	1 169 335	1 238 270
Octobre	945 000	966 390	1 006 503	1 096 306	1 437 624	1 244 826
Novembre	1 078 050	826 780	968 508	1 102 812	1 538 201	1 277 484
Décembre	1 155 340	749 120	1 149 289	1 139 852	1 336 246	1 176 135
Moyenne	964 384	880 494	969 190	1 068 506	1 215 589	1 260 331
Total	11 572 610	10 565 932	11 630 275	12 822 072	14 587 072	15 123 969

Source :
DDFP

Weekly National Production of Broiler Chicks (in thousands)



Export of Day-Old Broiler Chicks

	2021	2022	2023	2024
Janvier	NC	264 259	99 960	202 572
Février	NC	358 567	55 488	103 820
Mars	NC	514 714	79 016	55 975
Avril	NC	437 170	-	81 062
Mai	195 535	261 505	21 816	106 438
Juin	212 770	658 065	13 200	210 620
Juillet	245 810	116 710	113 304	183 770
Août	267 706	217 920	78 896	150 100

Septembre	288 111	39 120	36 872	140 840
Octobre	341 342	24 860	171 474	168 300
Novembre	400 710	-	73 872	219 000
Décembre	405 900	-	26 274	112 200
Total	2 357 884	2 892 890	770 172	1 734 697

Source : ONSSA

Export of Broiler Hatching Eggs

	2021	2022	2023	2024
Janvier	NC	6 761 630	5 648 000	6 359 760
Février	NC	9 892 567	5 753 520	6 696 000
Mars	NC	5 841 720	4 476 580	5 404 910
Avril	NC	5 772 240	3 642 440	5 563 080
Mai	5 365 800	5 074 560	4 845 600	5 998 392
Juin	6 015 240	5 952 185	3 547 720	5 534 640
Juillet	5 505 840	4 906 200	4 742 640	5 869 440
Août	3 925 080	5 159 920	6 006 000	5 603 680
Septembre	4 745 960	5 071 320	5 530 680	4 602 600
Octobre	4 938 120	5 005 080	5 190 120	4 959 000
Novembre	5 785 440	4 490 280	4 250 160	5 011 920
Décembre	6 510 600	4 728 960	4 764 960	5 575 320
Total	42 792 080	68 656 662	58 398 420	67 178 742

Source : ONSSA

Annexe 4

Laws and regulations

There is a lot of decrees and text of regulations, like those titles below, but we translated to English just the **Law No. 49-99 (because all of the other text are too long)**:

Laws and Decrees:

- Law No. 49-99 related to the sanitary protection of poultry farms, the control of production, and marketing of poultry products, promulgated by Dahir No. 1-02-119 of 1 Rabii II 1423 (June 13, 2002).
- Décret n° 2-04-684 of 14 Kaada 1425 (December 27, 2004) adopted for the application of Law No. 49-99 related to the sanitary protection of poultry farms, the control of production, and marketing of poultry products.
- Law No. 28-07 on the Sanitary Safety of Food Products and its Implementing Regulations.
- Law No. 03-12 on Agricultural and Fisheries Interprofessional Organizations
- Decree No. 2-12-602 of 9 Rajab 1434 (May 20, 2013), adopted for the implementation of Law No. 03-12 on Agricultural and Fisheries Interprofessional Organizations
- Law No. 04-12 on Agricultural Aggregation
ADA Brochure: Agricultural Aggregation
- Law No. 39-12 on Organic Production of Agricultural and Aquatic Products, promulgated by Dahir No. 1-12-66 of 4 Rabii I 1434 (January 16, 2013) (Arabic version)
- Decree No. 2-13-358 of 8 Jumada I 1435 (March 10, 2014) establishing the composition and operating procedures of the National Commission for Organic Production (Arabic version)
- Decree No. 2-13-359 of 8 Jumada I 1435 (March 10, 2015) issued for the implementation of Law No. 39-12 on Organic Production of Agricultural and Aquatic Products (Arabic version)

Ministerial Orders:

- Ministerial Order No. 2124-05 of the Minister of Agriculture, Rural Development, and Maritime Fisheries of 13 Kaada 1426 (December 15, 2005) specifying the documents required for the authorization to carry out poultry farming activities, egg incubation, live poultry transport and distribution, and the establishment of packaging or egg processing centers, poultry slaughterhouses, cutting establishments, meat processing, packaging, freezing poultry meat, and marketing of these poultry meats and eggs for consumption.
- Ministerial Order No. 2125-05 of the Minister of Agriculture, Rural Development, and Maritime Fisheries of 13 Kaada 1426 (December 15, 2005) setting the health requirements for day-old chicks marketed.
- Ministerial Order No. 2126-05 of the Minister of Agriculture, Rural Development, and Maritime Fisheries of 13 Kaada 1426 (December 15, 2005) specifying the form and content of the health monitoring register for poultry farms and hatcheries.
- Ministerial Order No. 2127-05 of the Minister of Agriculture, Rural Development, and Maritime Fisheries of 13 Kaada 1426 (December 15, 2005) setting the common and specific

sanitary and hygienic requirements for the premises, equipment, and operations of poultry farms and/or hatcheries.

- Ministerial Order No. 2129-05 of the Minister of Agriculture, Rural Development, and Maritime Fisheries of 13 Kaada 1426 (December 15, 2005) specifying the minimum distances to be observed between a poultry farm and another, or between a poultry farm and a hatchery, or between two hatcheries.
- Ministerial Order No. 2130-05 of the Minister of Agriculture, Rural Development, and Maritime Fisheries of 13 Kaada 1426 (December 15, 2005) establishing a list of contagious poultry diseases and special measures for combating these diseases.
- Ministerial Order No. 445-06 of the Minister of Agriculture, Rural Development, and Maritime Fisheries of 7 Safar 1427 (March 8, 2006) establishing the hygienic and sanitary conditions for egg processing centers.
- Ministerial Order No. 446-06 of the Minister of Agriculture, Rural Development, and Maritime Fisheries of 7 Safar 1427 (March 8, 2006) establishing specific provisions for certain poultry species.
- Ministerial Order No. 447-06 of the Minister of Agriculture, Rural Development, and Maritime Fisheries of 7 Safar 1427 (March 8, 2006) establishing the sanitary and hygienic requirements for the design, equipment, and operation of establishments for cutting, processing, freezing, and packaging poultry meat.
- Ministerial Order No. 448-06 of the Minister of Agriculture, Rural Development, and Maritime Fisheries of 7 Safar 1427 (March 8, 2006) establishing the sanitary and hygienic requirements for the design, equipment, and operation of poultry slaughterhouses.
- Ministerial Order No. 449-06 of the Minister of Agriculture, Rural Development, and Maritime Fisheries of 7 Safar 1427 (March 8, 2006) establishing the sanitary, hygienic, and equipment requirements for the marketing of poultry meat.
- Ministerial Order No. 450-06 of the Minister of Agriculture, Rural Development, and Maritime Fisheries of 7 Safar 1427 (March 8, 2006) establishing the sanitary and hygienic conditions for egg packaging centers.
- Code de procédures pour l'importation de poussins d'un jour et des œufs à couver de l'espèce poule
"Procedures Code for the Import of Day-Old Chicks and Hatching Eggs of the Chicken Species"
- Déclaration sur l'honneur
"Affidavit" ou "Declaration on Honor" (selon le contexte juridique)
- Nouveau contrat d'encadrement et de suivi sanitaire des unités avicoles
"New Contract for the Supervision and Sanitary Monitoring of Poultry Units"
- Code de procédures pour l'importation de poussins d'un jour et des œufs à couver de l'espèce dinde
"Procedures Code for the Import of Day-Old Chicks and Hatching Eggs of the Turkey Species"
- Code de procédures pour l'obtention de l'autorisation d'exercice de l'activité de transport de volailles vivantes et des œufs
"Procedures Code for Obtaining Authorization for the Transport of Live Poultry and Eggs"
- Demande d'autorisation de transport
"Transport Authorization Application"
- "Transport License Application"
- Code de procédures pour l'obtention de l'autorisation d'exercice de l'activité d'élevage avicole et de couvain

"Procedures Code for Obtaining Authorization for Poultry Farming and Incubation Activities"

- "Application for Authorization to Carry Out Poultry Farming or Incubation Activities"
- REGISTRE DE SUIVI SANITAIRE SPÉCIFIQUE AUX FERMES D'ÉLEVAGE DE VOLAILLES DE CHAIR
"Health Monitoring Register Specific to Broiler Poultry Farms"
- REGISTRE DE SUIVI SANITAIRE SPÉCIFIQUE AUX FERMES D'ÉLEVAGE DE REPRODUCTEURS
"Health Monitoring Register Specific to Breeder Poultry Farms"
- REGISTRE DE SUIVI SANITAIRE SPÉCIFIQUE AUX COUVOIRS
"Health Monitoring Register Specific to Hatcheries"
- Order of the MAPMDREF No. 2974-17 of 18 Safar 1439 (November 7, 2017) repealing the Order of MADRPM No. 2128-05 of 13 Kaada 1426 (December 15, 2005) establishing specific conditions for organic poultry farming methods
- Order of the Minister of Agriculture, Maritime Fisheries, Rural Development and Water and Forests No. 2986-17 of 18 Safar 1439 (November 7, 2017) approving and publishing the model specifications for the organic production of livestock animals and apicultural products
- Order of the Minister of Agriculture, Maritime Fisheries, Rural Development and Water and Forests No. 3206-17 of 3 Rabii I 1439 (November 22, 2017) approving and publishing the model specifications for food products and animal feed prepared under organic production methods
- Cooling System for Livestock Units (Misting Equipment and Pad Cooling System): Joint Order No. 3380-15 of October 22, 2015, establishing the terms of State aid for the intensification of animal production
- Specifications Relating to the Requirements for Local Poultry Slaughter Units Intended for Household Consumption

LAW 49-99 : Concerning the sanitary protection of poultry farms, the regulation of production and marketing of poultry products, and the relevant implementing regulations in Morocco.

Ministerial Decree of the Minister of Agriculture, Rural Development, and Maritime Fisheries No. 2127-05 of 13 Kaada 1426 (December 15, 2005) establishing the common and specific health and hygiene requirements that must be met by the premises, equipment, and operation of poultry farms and hatcheries.

The Minister of Agriculture, Rural Development, and Maritime Fisheries,

Considering Decree No. 2-04-684 of December 27, 2004, implementing Law No. 49-99 concerning the sanitary protection of poultry farms, the control of poultry production, and the marketing of poultry products, particularly Article 8,

Decrees:

Article 1: The premises, equipment, and operations of poultry farms and/or hatcheries must meet the sanitary and hygiene requirements set forth in this decree.

Chapter I: Common Requirements for Poultry Farms and Hatcheries

Article 2: Poultry farms and hatcheries must:

- Be surrounded by a fence with a gate to prevent the passage of small animals, with a minimum height of 1.5 meters;
- Have:
 - An autoclave at the entrance of the unit and a fixed or mobile footbath at the entrance of each building;
 - A sanitary airlock at the entrance to the operation, designed according to the principle of forward flow, including two changing rooms, one in the dirty area and one in the clean area, separated by showers with doors. This airlock must have a wastewater drainage system;
 - Toilets with a washbasin inside the premises;
 - A system for disposing of poultry carcasses, which may be either an incinerator, a concrete pit with a sealed cover, or any other means approved by the Ministry of Agriculture;
 - An effective rodent and insect control program;
- Be regularly cleaned and disinfected using approved disinfectants, according to a pre-established plan.

The water used for feeding poultry farms and hatcheries must meet the criteria set by the Moroccan standard NM 08.6.301 entitled "Recommended hygiene code for the design and operation of hatcheries and breeder farms," approved by the joint decree of the Minister of Industry, Trade, and Telecommunications and the Minister of Agriculture and Rural Development No. 1737-03 of September 12, 2003. If water from a well is used, the facility manager must conduct bacteriological and chemical testing of this water at least twice a year, after the first rains and during the summer period.

Chapter II: Specific Requirements for Hatcheries

Article 3: In addition to the requirements outlined in Chapter I above, every hatchery must meet the following requirements:

- The hatchery building must comply with the provisions of the Moroccan standard NM 08.6.301 mentioned above;
- It must have several distinct rooms, arranged according to the principle of forward flow in a one-way direction without crossing, in the following order:
 - A first area: including a reception room, sorting, disinfection, and egg storage;
 - A second area: including one or more incubation rooms;
 - A third area: including one or more transfer and hatching rooms;
 - A fourth area: including a room for sorting, preparing, packaging, and shipping chicks;
 - A fifth area: including at least one room for cleaning and disinfecting equipment;
- A sanitary airlock must be provided in the fourth area;
- The different work areas must be physically separated;
- Waste, debris of all kinds, and outdated equipment must never be stored around the hatchery;
- All hatchery equipment and premises must be regularly cleaned and disinfected with an approved product from the Ministry of Agriculture. Incubators must be cleaned and disinfected after each hatching;
- Clean overalls or lab coats, caps, and shoes must be provided to all staff and visitors to the hatchery;
- Cardboard egg cartons or chick packaging must not be reused; those made of materials allowing cleaning, washing, and disinfection may be reused after these operations;
- The introduction of harmful insects must be prevented by installing mosquito nets on all openings of the hatchery.

Chapter III: Specific Requirements for Poultry Farms

Article 4: In addition to the requirements outlined in Chapter I above, poultry farms must comply with the following requirements:

- Buildings must:

- Be constructed with materials that are non-decomposing and suitable for cleaning, washing, and disinfection;
- Have a concrete floor (this requirement does not apply to deep pit floors);
- Have lateral walls at least 60 cm high;
- Have hard end walls (gable ends);
- Have a hard or flexible ceiling. Flexible ceilings must have double coverage on both sides of an inert thermal insulating material. The outer cover must be made of an impermeable woven tarp, while the inner cover may be made of solid polyethylene;
- Have a service airlock;
- Have concrete surroundings with a slope to allow drainage of wash water and rainwater, with a minimum width of 50 cm;
- Have paved areas for waste removal;
- Be equipped with a closed wash water drainage system;
- Have openings with netting or mesh to prevent birds and rodents from entering the buildings.
- Laying hen farms must have, among other things, a storage room for eggs outside the poultry buildings and an area for storing manure from this production. Manure removal must be carried out by sealed trucks to prevent any loss during transport;
- Manure spreading must only be done at least 500 meters away from any poultry farm or hatchery, except for composted manure;
- A sanitary break of at least twenty days must be implemented between two successive batches on each farm, except for egg production farms, where the sanitary break may be implemented for each building;
- As soon as the animals are removed, the manure must be moistened inside the poultry building before removal, and cleaning, washing, and disinfection operations must be carried out immediately;
- The presence of other livestock must be excluded from the farm;
- Staff housing must be isolated with clean access from outside the farm.

Article 5: The Director of Livestock is responsible for implementing this decree, which will be published in the Official Bulletin.

Done in Rabat / The Minister of Agriculture, Rural Development

LAW 49-99

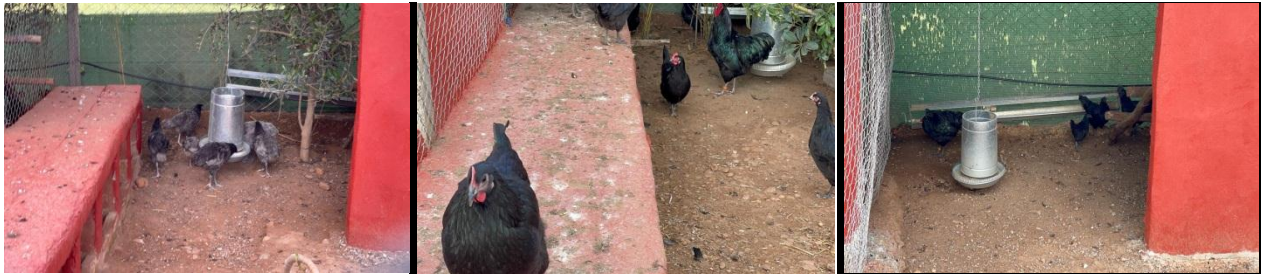
Annexe 5

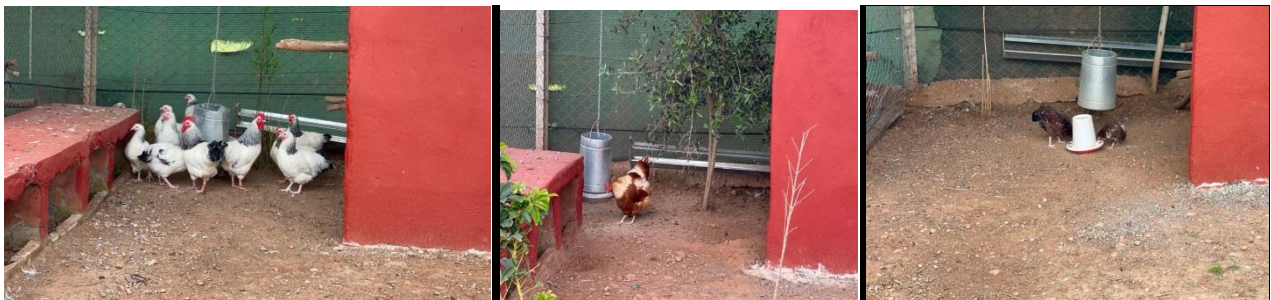
Some pictures





Battery cage poultry farming in the region of Rabat city around the capital





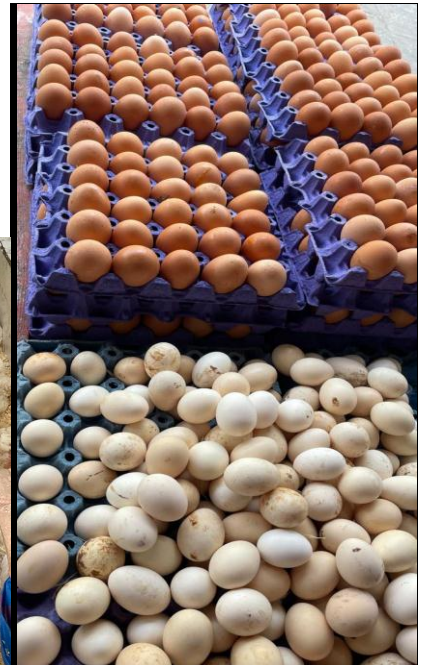
Other Poultry production system around Rabat



Cage of transport : Standard size: length 96 cm, width 56 cm, and height 24 cm. The cage can hold between 10 and 22 chickens, depending on their weight (the heavier the chickens, the fewer fit in the cage).



Local / nearby shops





Gathering input from different stakeholders



An example of a farmer

An example of Questioning a vet





Free-range hens, a farm in the Souss region in southern Morocco.



Battery cage poultry farming in Laayoune, Moroccan Sahara



Broiler chicken farm in the Agadir region,
in the south of the Kingdom of Morocco.