

Ministry of Foreign Affairs

Poultry Sector Study Cote d'Ivoire

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Poultry Sector Study Cote d'Ivoire



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Forward by Embassy of the Kingdom of the Netherlands in Côte d'Ivoire

The Embassy of the Kingdom of the Netherlands in collaboration with the Dutch government is pleased to have worked with the Government of Cote d'Ivoire through PAPAN (Programme, Dáppui A La Production Avicole) to undertake this study. The number of stakeholders engaged during the study
affirms the widespread interest and basis upon which the findings of this study informs possible collaboration between our 2 countries.

It is in the spirit of collaboration and the aspiration to improve and increase trade relationships between the Kingdom of Netherlands and Côte d'Ivoire that this study was commissioned. It is a our desire and ambition that this study will pave way for increased collaboration and investments in Côte d'Ivoire's poultry sector by the Dutch private sector.

There are a number of Dutch companies already active in Côte d'Ivoire poultry sector. Companies such as Nutreco, Koudijs, Vencomatic and ISA Hendrixs among others are already doing in Côte d'Ivoire.

This study provides a basis for further investment in the poultry sector. It is also evidence of the confidence the Dutch government and Private sector has in not only in the prospects for growth in Côte d'Ivoire's poultry sector but also in relevance of Dutch technology and knowledge to support this growth. We look forward to working with all stakeholders private and public to grow Côte d'Ivoire's poultry sector to even greater heights.

Embassy of the Kingdom of the Netherlands.

Executive Summary

Rabobank's 2017 report (A Time for Africa) named Ghana, Nigeria, Côte d'Ivoire and Benin as the four West African countries that could realize the most development in the poultry sector in view of increasing local demand and the fiscal and non-fiscal incentives being applied to develop the sectors locally. Specifically Côte d'Ivoire as a country was set to grow its poultry sector by 6-10% year-on-year between 2015 and 2025 (Time for Africa, Rabobank 2017).

Following increasing interest in West Africa's poultry sector, the Dutch Government[1] in the interest of stimulating entrepreneurship, agricultural development and innovation commissioned this study. This study sought to gain better insights into Cote d'Ivoire's poultry sector; to understand the needs of both the public and private sectors, and to understand how these needs can be met by the Dutch private sector capabilities, knowledge sharing, technologies and skills.

Côte d'Ivoire's economy is based on agriculture, which accounts for 26% of GDP and 65% of external revenue. Before the 2002-2005 crisis, the livestock and fisheries sector contributed approximately 2.9% to agricultural GDP and 1% to national GDP. Poultry as a sector contributed 45% of the total livestock and fisheries contribution to GDP. Despite the challenges described above, the sector has made and is still making a lot of progress towards self-sufficiency in a highly protected market space.

The study looked at Production systems and processes; Policy and Regulatory environment; Capacity, knowledge, technology, training and education gaps; and Markets for poultry products and by products. Côte d'Ivoire's agricultural policies in recent decades, especially in relation to import regulation, have had a major impact on poultry production for the local market. The increase in import duties in 2005 spurred growth in the local poultry sector, however there are some issues that have arisen as a result of this rapid growth i.e.: *high production costs*; *poor bio-security conditions which contribute to disease outbreaks and limit export potential*, *where applicable*; *lack of, or poor, technical knowledge on production and processing*; *lack of breeders*; *poor access to and high cost of veterinary services*; and *weak marketing infrastructure*.

The Ministry of Animal and Fisheries Resources (MIRAH) is responsible for all livestock and aquaculture. Following the ban on imports and the tariff increase in 2005, the government introduced PAPAN (Programme, Dáppui A La Production Avicole) to stimulate and focus attention on steering growth in the poultry sector. Since 2005, a number of private sector entities and association have been formed as the sector strategizes on how to meet the local demand. As such Cote d'Ivoire's poultry sector has and continues to grow rapidly, driven by: Growing middle class; Rapid urbanization; Protectionism by national government; Investments in the sector; and Need for affordable source of animal protein. Following the formation of PAPAN the government in collaboration with the private sector developed the Strategic Plan for Revival of commercial Poultry Farming (PSRA) in 2009. Its objective is to significantly increasing poultry meat and egg consumption in the country.

At the national level, poultry competes as a source of animal protein with beef, fish and pork. Numerous investments have been made and the increase in demand warrants further investment in the sector. The government's objective is to ensure that they promote consumption of poultry products in both rural and urban areas. The reality for Cote d'Ivoire is that meat consumption, particularly chicken consumption, is growing fast. Since 2005, chicken consumption has grown rapidly across the country, but predominantly in urban areas.

[1] https://english.rvo.nl/about-us

Despite the progress made in improving poultry products production and reducing reliance on imports, the sector still has a number of challenges. An immediate and major concern is that bio-security measures across the board. Lack of training poultry specific training among the workforce is a major limitation for attempts to improve safety and bio-security practices. We observed few bio-security measures in use in the transport of live animals and eggs. Transition from backyard production to more commercial production will increase rapidly in the coming few years, given the demand and market forces, so it is imperative that these bio-security issues be addressed as a matter of urgency. This report identifies five key issues that would need to be addressed to secure continued growth for Cote d'Ivoire's poultry sector.

I. **Sector-specific training and education**: training especially practical poultry training that is closely linked or tied to the industry is a prerequisite for growth in the industry;
II. **Improving bio-security concerns on farms and in other poultry-related businesses** i.e. hatcheries, slaughterhouses, etc.;
III. **Availability of good quality and cost-efficient inputs, specifically**: feed and other ingredients for feed i.e. soya, maize etc. for feed manufacturing; veterinary inputs; good quality DOCs;
IV. **Improve access to finance for medium and small-holder farmers** practising intensive small-scale farming; and
V. **Develop market**: improvements and increased emphasis on production must be complimented with investments down stream i.e. at processing, distribution and marketing of poultry products.

There are a number of Dutch companies already active in Cote d'Ivoire and it is the Dutch Government's desire that their investments and those of other Dutch companies not yet active in Cote d' Ivoire will contribute to continued growth of the sector.

Table of Contents

Executive Summary **2**
List of Acronyms **6**
1. Introduction **8**
1.1 Background to the study 8
1.2 Methodology 9
1.3 West African Poultry Sector 10
2. Côte d'Ivoire Poultry sector **12**
2.1 Development of the poultry sector 13
2.2 Stakeholders in the poultry sector 15
2.2.1 Government Institutions 15
2.2.2 Private Sector Players 16
2.2.3 Sector Association (IPRAVI) 17
2.3 Challenges and opportunities 17
3. Inputs **19**
3.1 Feed 19
3.1.1 Feed ingredients 20
3.1.2 Quality of feeds 20
3.1.3 Vaccines and drugs 20
3.1.4 Cost of feeds 21
3.2 Housing and equipment 22
3.3 Hatcheries, Breeding and DOC's 23
3.4 Challenges and opportunities 23
4. Production systems **25**
4.1 Meat and Table egg production 26
4.2 Bio-security conditions for production 27
5. Policy and regulatory environment **29**
5.1 Policy framework and legislative agenda 29
5.2 Gaps and opportunities for improvement 30
6. Training, education and knowledge gaps **32**
6.1 Current status of poultry training and education 32
6.2 Existing gaps 34
7. Market **35**
7.1 Poultry value chain 36
7.2 Trade in poultry inputs 37
7.2.1 Feed 37
7.2.2 DOCs 38
7.4 Marketing poultry products 39

7.4.1 Trade in table eggs 39
7.4.2 Trade in poultry meat 40
7.5 Ban on imports and its effect on market 42
7.6 Waste and offal 44
8. Opportunities for Partnership 45
8.1 Prioritising the main challenges 45
8.2 Matching gaps with opportunities for partnership 46
Annexes 48
A1. Ministry of Animal Resources and Fisheries Republic of Cote dÍvoire, Decree no. 7/MIRAH/CAB, April 4 2017 48
A2. Law No. 2015-537 of July 20 2015, The Agricultural Orientation Act. 49
A3. Law/ Decree no. 065/ MIPARH/ of 21 October 2006 on the organization of the Veterinary services Directorate. 51
A4. Law/ Decree 19/MIPARH/CAB of 09 AVR 2009 setting out the procedure and conditions for granting health approvals to economic operators involved in the import, export and manufacture of feed 54
A5. Business cases 55

List of Acronyms

AFD	French Development Agency
ANADER	National Agency for Rural Development Support
ANAREV-CI	National Association of Poultry Dealers of Côte d'Ivoire
ANAVICI	National Association of Poultry Farmers of Côte d'Ivoire
APPORCI	Association of Pork Producers of Ivory Coast
APROCASUDE	Southeast Sheep and Goat Producers' Association
BAD	African development bank
CEDEAO	Economic Community of West African States
CNO	National Ovine Center
CNRA	National Center for Agronomic Research
DSRP	Poverty Reduction Strategy Paper
ECOWAP	Agricultural Policy of West Africa
Ex-CNO	Center, North and West
FAO	United Nations Food and Agriculture Organization
FCFA	Franc of the African Financial Community
FED	European Development Fund
FEDEK	Departmental Federation of Korhogo Breeders
FIRCA	Interprofessional Fund for Research and Agricultural Council
GIZ/GTZ	German Development Cooperation
INN	Illegal, unreported and unregulated fishing
INTERAVI	Union of Industrialists of the poultry sector
IPRAVI	Inter - Ivorian Poultry Profession
KG	Kilogram
LANADA	National Laboratory for Agricultural Development Support
MINAGRI	The Minister of Agriculture
MIRAH	Ministry of Animal and Fisheries Resources
NEPAD	New Partnership for Africa's Development
OIE	World Organization for Animal Health
OMD	Millennium Objectives for development
OPA	Agricultural Professional Organization
OPE	Professional Breeding Organization
PASA	Agricultural Structural Adjustment Program
PDDA	Agricultural Development Master Plan
PDDAA	Detailed Program for the Development of Agriculture
PIB	Gross domestic product

PID	Detailed Investment Program
PND	National Development Program
PNIA	National Agricultural Investment Program
PSE	Livestock Sector Program
PSRA	Strategic plan for the revival of poultry farming
SIGFIP	Integrated Public Finance Management System
SIVAC	Ivorian Slaughterhouse and Charcuterie Company
SODEPRA	Animal Production Development Company
TEC	Tonne Equivalent Carcass
TEL	Tonne equivalent milk
UACI	Union of Poultry Farmers of Ivory Coast
EU	European Union
UEMOA	West African Economic and Monetary Union
UNEGABY	Union of Southern Pig Breeders

1. Introduction

Commercial poultry farming in many African countries has grown strongly over the past 10 years. From mainly backyard-based systems with few medium-sized integrations and relatively small numbers of commercial farmers, poultry production in several African countries has now grown into a sizeable industry, well on its way to playing an ever-increasing role in food security in the country and across the continent. This increasing role in food security issues across the continent is of great importance since Africa as a continent currently hosts more than 15% of the global population (with an expected growth to 25% by 2025, World Bank data). Africa only accounts for 5% of global poultry meat and egg production, however. Production of poultry products differs greatly between countries; approximately 80% of the production is realised in ten countries, with South Africa taking the lead in the continent's poultry meat production.

An African consumes on average only one egg every 5 or 6 weeks, whereas in Japan average consumption is one egg per day. The situation is similar with poultry meat, as Africans consume on average only 3.3 kg per capita, compared to 28 kg for a French citizen. The world average per capita consumption is 14 kg. In many sub-Saharan African countries, the consumption of poultry products is still a luxury, with the need for animal protein continuing to grow.

Côte d'Ivoire was mentioned in Rabobank's report of 2017 as a country set to grow its poultry sector by 6-10% year-on-year between 2015 and 2025 (Time for Africa, Rabobank 2017). Related to this, Côte d'Ivoire's agricultural policies in recent decades, especially in relation to import regulation, have had a major impact on poultry production for the local market. The import duties increase in 2005 prompted growth in local poultry production, but numerous issues still challenge the local poultry industry. The main issue is the lack of knowledge and experience in how to run a professional poultry business in every part of the value chain.

The Netherlands is very active in poultry development in Africa. Private companies, educational and research institutes, NGOs and the Dutch government are all involved in various aspects of developing the poultry sector in many countries in Africa. The private sector is united in the Dutch Poultry Centre (http://www.dutchpoultrycentre.nl/) and is strongly represented in Africa through the activities of the Netherlands Africa Business Council (NABC) through the DAPP (Dutch Africa Poultry Platform).

1.1 Background to the study

The aim of this study is to gain better insight into one of the focus sectors of the Embassy of the Kingdom of the Netherlands in Abidjan; to understand the needs of both the public and private sectors, and to understand how these needs can be met by the Dutch private sector capabilities, knowledge sharing, technologies and skills.

As such the main objectives of this study are to:

- analyze the Ivorian poultry subsector;
- identify ways to strengthen the local private sector with Dutch knowledge, technology and expertise;
- identify potential market opportunities for Dutch businesses; and
- map effective ways of using the government's Private Sector Development (PSD) instruments managed by the RVO.

In order to realise the above objectives, sub-themes have been identified to support the research methodology and report structure, as shown in Table 1 below.

Table 1: Detailed description of the sub-themes selected.

No.	Theme	Description
1.	Production systems and processes	The objective here is to identify current practice and how it would relate to the available technology and knowledge in Netherlands. It includes the identification of the location of all major stakeholders with regard to poultry-related products production in East and Southern Africa.
2.	Policy and Regulatory environment	This question extends to import regulations and all duties due on any imported goods required for production and processing of poultry products. The challenge is to identify also what regulations exist and how they are enforced in the various economic blocks in both East and Southern Africa. At the national and regional levels, such regulations play a significant role as they can make or break a business.
3.	Capacity, knowledge, technology, training and education gaps	Better insight into these issues, i.e. available capacity, levels of skills across the value chain, technology currently in use, etc., would give a good indication of market maturity and the opportunities for developing the sector.
4.	Market	The question on markets extends from inputs to consumer, i.e. from farm to fork. There needs to be more reliable information on this to enable the Dutch private sector to better strategize its activities across Africa.

1.2 Methodology

This study was undertaken over a period of three months and consisted of two main parts.

The first phase of data gathering was carried out in June 2019. During that period, data on production and major players was gathered in the countries involved. This was followed by discussions with stakeholders in the Netherlands and further literature research. Following the desk review, a field visit was conducted in July 2019 by a combined team of four Dutch and Ivorian team members. The team visited a number of farms, speaking to a number of private and public poultry sector stakeholders, whose sentiments and comments are reflected in the report.

Unfortunately, some of the private sector players interviewed were not very willing to share data, especially that concerning the exact installed production capacity, for good reasons. In some cases, there were misunderstandings regarding our intent in conducting this study, but we provided clarifications at every given opportunity.

It is important to note that the analysis included in this report is an amalgamation of several sources of data. Whilst private companies were not always willing to share all their information, for understandable reasons, the willingness to cooperate in general was rather positive. We applied the following classification for farmers in this study:

- **Small-scale farms**: capacity of 50 to 1,000 birds
- **Medium-scale farms**: capacity of 1,000 to 10,000 birds

- **Large-scale farms**: capacity of over 10,000 birds

The preliminary findings of the study were presented to The Royal Dutch Embassy in Abidjan and PAPAN on September 11, following which a stakeholders meeting was held in Abidjan on September 12 to validate the report findings. This was followed by one validation workshop in the Netherlands - to a wider audience interested in opportunities in the Côte d'Ivoire poultry sector - on September 18 including DAPP members.

1.3 West African Poultry Sector

Rabobank's 2017 report (A Time for Africa) named Ghana, Nigeria, Côte d'Ivoire and Benin as the four West African countries that could realize the most development in the poultry sector in view of increasing local demand and the focus on both fiscal and non-fiscal incentives being applied to develop the sectors locally. West Africa's poultry sector is generally characterized by:

- high production costs;
- poor bio-security conditions which contribute to disease outbreaks and limit export potential, where applicable;
- lack of, or poor, technical knowledge on production and processing;
- lack of breeders;
- poor access to and high cost of veterinary services; and
- weak marketing infrastructure.

Despite these challenges, the sector has made and is still making a lot of progress towards self-sufficiency in a highly protected market space.

The Economic Community of West African States (ECOWAS) seeks to promote trade amongst West African states. In poultry specifically, West Africa's biggest live poultry exporters, from largest to smallest exporter, are Mali, Senegal, Côte d'Ivoire, Burkina Faso, Benin and Niger. Mali is by far the largest exporter in the region, contributing more than 90% of the region's poultry exports. Poultry exports from ECOWAS regions amounted to about EUR 2.1 million in 2017, of which Mali exported EUR 1.9 million. The biggest importers of live poultry in ECOWAS, from largest to smallest, are Ghana, Côte d'Ivoire, Mali, Guinea and Senegal. The ECOWAS region imported about EUR 17 million worth of live poultry in 2017, of which Côte d'Ivoire imported about EUR 3.3 million worth.

Cote d'Ivoire's poultry sector is growing rapidly, driven by:

- **Growing middle class**: West Africa's middle class is growing in number as well as in purchasing power. As such, the growth in consumption for most West African countries is increasing. This is also demonstrated by the growing number of quick service restaurants (QSR) in Western Africa. In addition to demands on availability, there are also concerns regarding food safety and quality, as the middle class are often conscious of the health concerns around food;

- **Rapid urbanization**: Rural urban migration and the modernization of peri-urban areas is also building demand for poultry products in Western Africa. As cities grow, so does the demand for poultry products. Western Africa currently has seven cities with populations over one million, i.e. Lagos, Abidjan, Accra, Ibadan, Darkar, Kano and Kumasi. Feeding those cities and the tier 2 cities whose populations are also increasing rapidly is a major concern for governments in the region;

- **Protectionism by national governments**: Due to national interests, governments in the region, i.e. Benin in 2015, Côte d'Ivoire in 2005, Nigeria in 2015 and Ghana in 2016, either banned or started more stringent controls of poultry imports into their countries, in order to allow the local industries time and space to develop and grow. Such tariff and non-tariff barriers made the sector more attractive to both local and international investors, hence the growing number of large integrated poultry businesses in Africa;

- **Investments in the sector**: The bans on imports and the other factors mentioned above have spurred investments in the sector in both hardware and soft skills. Commercial poultry farms have been developed across Western Africa with an eye for satisfying local and increasing export demand for poultry products; and

- **Need for affordable source of protein**: The need for a cheaper source of protein is also driving development in the sector. Western Africa is traditionally reliant on fish and red meat for protein, but as populations grow asymmetrically to the production capacity, more cost-effective alternative protein sources are being sought.

The potential for poultry as a sector in Western Africa is great. Comparing the poultry sectors in West Africa's six main economies, i.e. Nigeria, Ghana, Côte d'Ivoire, Mali, Burkina Faso and Senegal, paints an interesting picture with regard to the competitive landscape.

Table 2: West African Poultry Market Comparison

Definitions		Western Africa[2]	Senegal	Nigeria	Côte d'Ivoire	Burkina Faso	Ghana	Mali
Demographic Overview								
Population (000)[3,9]	2008	291,266,000	12,211,200	151,212,300	20,591,300	15,234,000	23,351,000	12,705,700
	2018	381,202,446	15,854,323	195,874,323	25,069,230	19,751,466	29,767,102	19,077,749
% Rural population.[4,9]	2008	59%	58%	53%	51%	80%	50%	68%
	2018	54%	52%	49%	49%	70%	54%	47%
GDP per capita[10]	2008	$807	$1,087	$1,370	$1,137	$522	$713	$688
	2018	$1,632	$1,522	$2,028	$1,716	$731	$2202	$901
% annual GDP growth[10]	2008	4.9%	3.3%	6.0%	2.2%	4.5%	7.3%	5.0%
	2018	3,8%	3,8%	-0,7%	4,7%	3,5%	4%	1,8%
Consumer Preferences								
Per Capita Consumption[5]	2008	5.10 kg	5.84 kg	5.39 kg	2.37 kg	5.50 kg	6.00 kg	3.94 kg
	2018	6.50 kg	4,62kg	2,40kg	1,99 kg	2.26 kg	8,63kg	3,07 kg
% of daily calories from poultry & eggs[6]	2008	0.78%	1.00%	0.83%	0.57%	0.89%	0.60%	0.69%
	2018	0.84%	0.63%	0.59%	0.6%	0.63%	1.08%	0.5%
Domestic production								
% of small holder production	2008	**[7]	47%	69%	70%	**	**	96%
	2018	**	**	**	**	98%	**	**
% of consumption supplied by domestic production[8]	2008	86.3%	98.6%	99.9%	97.7%	99.9%	41.7%	99.7%
	2018					**		

Source: Evans School of Public Affairs, University of Washington, EPAR, Poultry market in West Africa: Côte d'Ivoire, June 2010[9] and NABC Analysis

[2] Includes: Benin, Burkina Faso, Cape Verde, Cote dÍvoire, Gambia, Ghana, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo
[3] World dev. Indicators 2008
[4] World dev. Indicators 2008
[5] FAOSTAT, 2007, 2013
[6] World food program 2004 – 2006, FAOSTAT 2004 - 2006
[7] Indicates no information is available
[8] FAOSTAT, 2007
[9] https://evans.uw.edu/sites/default/files/Evans_UW_Request%2088_Poultry%20Market%20Analysis%20Cote%20d%27Ivoire_June-16-2010.pdf
[9] Worldometers

2. Côte d'Ivoire Poultry sector

Côte d'Ivoire currently has a population of approximately 24 million people, 51% of which live in urban areas and 49% in rural areas. The poverty rate is estimated at more than 40% (a majority of which are young people and women). That poverty manifests itself in profound regional disparities: it is more marked in rural areas (49%) than in urban areas (24%). The rate is about 54% in the rural savanna zones. It affects rural farmers and informal non-farm sector operators more.

Table 3: Côte d'Ivoire's population

Year	2000	2005	2010	2015	2020	2025	2030
National[10]	16,327,886	17,967,609	19,908,308	22,429,332	26,171,752	29,590,620	33,337,311
Urban (%)[11]	43.8%	45.2%	47.0%	49.2%	51.3%	53.6%	56.1%
Rural (%)[12]	56.2%	54.8%	53.0%	50.8%	48.7%	46.4%	43.9%
Growth rate (%)[13]	2.48%	1.82%	2.23%	2.46%	3.21%	13.06%	12.66%

Source: World Bank and NABC Analysis of world bank population data, 2019

In Côte d'Ivoire, the average household size is 7.2 and the percentage of children under 5 who are underweight is 24% in rural areas, compared with 13% in urban areas. According to the national human development report (UNDP 2014), the human development indicator was 0.422 in 2010. Despite the trend of improvement in this indicator (0.374 in 1975, 0.416 in 2000 and 0.422 in 2010), significant progress is still needed in economic and social matters to improve the population's well-being.

Figure 1: Côte d'Ivoire has 14 provinces



Source: Google

The government's development of poverty reduction strategy documents (DSRP) is part of this effort to improve the level of human development in the country as a whole. It is the

[10] Worldbank
[10] https://countrymeters.info/en/Cote_d'Ivoire
[11] https://www.worldometers.info/world-population/cote-d-ivoire-population/
[12] https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=CI
[13] https://countrymeters.info/en/Cote_d'Ivoire

government's objective also to promote consumption in rural areas. Côte d'Ivoire has 14 provinces, with both production and consumption centred around Abidjan.

Table 4: Côte d'Ivoire's population breakdown by province, 2019

No.	Province	Population	As % of total
1.	Abidjan	4,707,404	21%
2.	Bas-Sassandra	2,280,548	10%
3.	Comoe	1,203,052	5%
4.	Denguele	298,779	1%
5.	Goh-Djiboua	1,605,286	7%
6.	Lacs	1,258,604	6%
7.	Lagunes	1,478,047	7%
8.	Montagnes	2,371,920	10%
9.	Sassandra-Marahoue	2,293,304	10%
10.	Savanes	1,607,497	7%
11.	Vallee du Bandama	1,440,826	6%
12.	Woroba	845,139	4%
13.	Yamoussoukro	335,573	1%
14.	Zanzan	934,352	4%
	Total	**22,660,331**	

Source:https://www.citypopulation.de/en/ivorycoast/, 2019

Côte d'Ivoire's economy is based on agriculture, which accounts for 26% of GDP and 65% of external revenue. Before the 2002-2005 crisis, the livestock and fisheries sector contributed approximately 2.9% to agricultural GDP and 1% to national GDP. Poultry as a sector contributed 45% of the total livestock and fisheries contribution to GDP. The sector's turnover was almost FCFA 250 billion and created 200,000 jobs, of which 70,000 were direct jobs and 130,000 indirect jobs. Commercial poultry production has been particularly developed in the southern region, in the outskirts of Abidjan and the main agglomerations bordering Abidjan, Lagunes and Comoé (IPRAVI, 2016).

Table 5: Côte d'Ivoire's GDP growth (USD)[14]

Year	GDP (USD)	GDP real growth rate (%)[15]	GDP Per capita (USD)
2000	22,327,480,641	-2.07%	1,355
2005	22,300,767,039	1.72%	1,215
2010	24,884,505,035	2.02%	1,212
2015	33,963,218,674	8.84%	1,462
2020	46,314,500,136	**[16]	1,770
2025	63,157,527,659	**	2,134
2030	86,125,798,365	**	2,583

Source: World Bank, CIA Fact Book and NABC analysis of the same, 2019

2.1 Development of the poultry sector

Development of the poultry sector in Côte d'Ivoire is largely defined in three different phases. The phase prior to introduction of the import ban in 2005; the phase when the import ban was active i.e. 2005 to 2020; and, lastly, the next phase from 2020 to 2030. The introduction of the Common External Tariff (CET) in West Africa reduced the tariff rate applied in most countries, facilitating an influx of cheap poultry imports from Europe and decreasing the ability of the regional sector to compete with imported products. Côte d'Ivoire experienced an

[14] https://tradingeconomics.com/ivory-coast/gdp-growth-annual Estimates the growth rate for the next five years at between 7 and 10% - for forecasting NABC assumed a growth rate of 6.42% based on the CAGR for GDP growth between 20110 and 2015

[15] https://www.worldometers.info/gdp/cote-d-ivoire-gdp/

[16] Means no data available

influx of cheap poultry products between 2000 and 2005, contributing to a significant increase in poultry consumption during those years.

A Food and Agriculture Organization (FAO) review found that production in 2003, at 7,500 tonnes, was a third lower than production in 1997, whilst imports grew in the same period from 1,815 tonnes to 17,226 tonnes. The Poultry Industry Association (IPRAVI) noted that 1,500 producers went out of business and over 15,000 jobs were lost during the 2002 to 2005 period. In 2005, Côte d'Ivoire banned imports from countries affected by avian influenza and increased taxes on all imported poultry products. This drove the price per kilo up for products imported from Europe and Latin America, from FCFA 500 to 1,000 (almost doubling the price per kg to USD 2 per kg)[17].

Introduction of this tariff saw local production rise from 9,000 tonnes in 2005 to 20,000 tonnes in 2009 (with a total value of USD 110 million). Egg production reached 800 million units in 2009 versus 435 million in 2005. The industry also created approximately 39,000 new jobs[18]. By combining tariff barriers with a very specific focus on poultry development, such as the formation of PAPAN, Côte d'Ivoire has improved its poultry sector significantly over the past 15 years. Each phase has been characterized by certain features, as is shown in the table below.

Table 6: Characteristics of the phased development of Côte d'Ivoire's poultry sector

Phase	Years	Characteristics defining the period
	Before 2005	• The most significant effect of the civil war from 2002 to late 2004 was that imports were allowed to the detriment of local farmers. • Cereal farmers i.e. maize and cotton farmers were also severely affected, as the poultry farmers couldn't buy from them anymore. • Low(er) prices for poultry products and high import bill. • Stagnation of the sector's development locally. • Higher per capita consumption due to cheaper poultry products. • Loss of jobs amongst poultry and cereal farmers.
I	2005 – 2010	• Increased investment by both local and international companies in the poultry sector. • Growth and development of the feed and inputs sectors. • Slight drop in the per capita consumption due to the price of poultry products. • Focus on production to meet local demand.
II	2010 – 2020	• Rise of large integrations that are vertically integrated into the poultry value chain from farming to retail. • Growth of mid-level value chain actors, i.e. smaller feed suppliers, extension service providers. • Increased demand for well-trained and educated workers for the sector. • Increased sophistication in the value chain, i.e. breeder farms and a testing lab being set up, etc. • High production costs. • Outbreak and prevalence of avian influenza H9N2 virus.
III	2020 – 2030	• Focus on improving bio-security. • Improving cold chain logistics. • Improving processing. • Improvement in access to finance. • Legislative support and fiscal incentives to lower the cost of feed and feed inputs to, in turn, reduce the cost of production. • Improvements in practical training and tertiary education specific for poultry practitioners. • Increased significance to the country's GDP.

[17] http://www.ipsnews.net/2010/02/cote-divoire-policy-changes-revive-poultry-industry/
[18] http://www.ipsnews.net/2010/02/cote-divoire-policy-changes-revive-poultry-industry/

Phase	Years	Characteristics defining the period
		• Increased specialization in the value chain.

Source: NABC analysis of FAO, IPRAVI, UN and other online sources on Côte d'Ivoire's poultry sector

2.2 Stakeholders in the poultry sector

The Ministry of Animal and Fisheries Resources (MIRAH) is responsible for all livestock and aquaculture. Following the ban on imports and the tariff increase in 2005, the government introduced PAPAN (Programme, Dáppui A La Production Avicole) to stimulate and focus attention on steering growth in the poultry sector. Since 2005, a number of private sector entities and association have been formed as the sector strategizes on how to meet the local demand.

2.2.1 Government Institutions

The **Ministry of Animal and Fisheries Resources** is organized around eight Directorates, i.e.:

- Directorate of Administrative and Financial Affairs (DAAF);
- Directorate of Planning and Programs (DPP);
- Directorate of Training, Extension and Product Development (DF2VP);
- Directorate of Professional Organizations and Financing Support (DOPAF);
- Directorate of Animal Nutrition and Pastoral Space Management (DNAGEP);
- Veterinary Services Department (DSV);
- Directorate of Livestock Production (DPE); and
- Department of Aquaculture and Fisheries (DAP).

In terms of external services, the Ministry of Animal and Fisheries Resources is divided into 19 Regional Directorates, 58 Departmental Directorates and 174 Livestock and Fish Resources Positions and three **Technical Representations** in France / Paris, Italy / Rome and Brazil / Brasilia[19].

LANADA (National Laboratory for Agricultural Development Support) is an administrative government institution, integrating research laboratories and support for the development and promotion of animal and plant production, attached to the ministry for preserving and improving the quality and conditions of animal and vegetable production. Its objective is to:

- provide logistical support for promotion and control actions carried out by the government services;

- execute or participate in public or private research programs;

- bring its expertise to the private sector in the form of services. In this capacity, it is responsible for studying, developing and implementing the necessary methods and means; and

- provide the competent authorities with the technical elements necessary for the performance of their tasks as regards the application of the texts relating to:

    - Hygiene and quality of food products,
    - The quality of agricultural products,

[19] http://www.ressourcesanimales.gouv.ci/organisation.php

- Animal health, nutrition and reproduction,
- Veterinary pharmacy and, phytosanitary products,
- Plant protection and crop production,
- Protection of the environment.

PAPAN (Programme, Dáppui A La Production Avicole) was established to stimulate and focus attention on steering growth in the poultry sector. Its main objective is to steer the government's poultry sector revitalization strategy. It also ensures that the sector takes full advantage of the tariff barriers in place to grow and is responsible for developing PPPs in the poultry sector.

2.2.2 Private Sector Players

The private sector is growing rapidly in terms of diversity, maturity and the number of players setting up to provide very specific products and or services, i.e. breeding, feed, vaccines, machinery, etc. The more the sector develops, the more businesses will increase specialization to ensure they serve a specific niche in the market.

Table 7: Sector stakeholders

No.	Category	Stakeholders
1.	Veterinary products and medicine providers	• PROVETO • SN.PROVECI • Grande pharmacie vétérinaire • Centrale de prophylaxie Vétérinaire • CODIVET • FACI • IVOGRAIN • ALL-VET • Pharmacie Ste Hermann • Pharmacie du lycée technique • FOANI Services
2.	Feed producers	• IVOGRAIN • FOANI • FDCI • KDS (Koudijs) • Maridav • Proveto • Mailvage • SIFAAP Sarl
3.	Equipment suppliers	• Vencomatic • VDL • Big Dutchman • Tuffigo Rapidez • Petersime
4.	Service Providers	• Team of Experts (Sarl) • Nextkci • Kassann • Volaille Dór
5.	Processors	• FOANI • SIPRA • NEXTEK
6.	Hatcheries	• SIPRA • FCDI • SIFAAP Sarl • KDS (Koudijs)

No.	Category	Stakeholders
7.	Laboratories	• LANADA (Laboratory for Agricultural Development Support) • DIMEVA (Private lab) • SIPRA
8.	DOC production/ import	• IVORY CHICKS (IVOIR - POUSSIN) • FACI • PROVETO • FOANI
9.	Slaughter houses	• SIPRA • FOANI • NEXTEK

2.2.3 Sector Association (IPRAVI)

The Ivory Coast Poultry Inter-professional association (IPRAVI) consists of four sub-associations active in the poultry sector, which are:

- **INTERAVI** (Association of Industrialists of the Ivory Coast poultry sector) was created in 1989. Its members carry out hatching, manufacturing, slaughter or egg processing activities;

- The **UACI** (Union of Poultry Producers of Ivory Coast) was also created in 1989 to bring together individual poultry farmers and egg producers;

- **ANAVICI** (National Association of Poultry Farmers of Côte d'Ivoire) was created in 2005. It includes individual poultry farmers and egg producers.

- **ANAREV CI** (National Association of Resellers of Poultry Products of Côte d'Ivoire) was created in 2008. It has been a member of IPRAVI since 2010, with its membership including poultry and egg retailers.

The Ivorian Poultry Association (IPRAVI) has three colleges of activities for which it has mapped its members - national players involved in the poultry production and distribution.

- The College of Producers. This college brings together commercial poultry farmers. These members come mainly from ANAVICI and the UACI. At the national level, there are at least 2,200 operators in the College of Producers.

- The College of Agro-Industrialists in the poultry sector. Its members are hatchers, importers of DOCs, poultry feed manufacturers, slaughterhouses, and egg and meat packaging centers. This college's members come from INTERAVI. At the national level, about thirty operators work within this business group.

- The College of Poultry Resellers. This college includes resellers of commercial poultry products and eggs meant for consumption. Members of the Poultry Reseller College come from their base association, ANAREV CI. At the national level, there are approximately 1,500 poultry product resellers (Interview with Mr Ouattara Yelorssigue from IPRAVI on 02/07/2019).

2.3 Challenges and opportunities

In 2012, following a consultative general assembly of IPRAVI members supported by PAPAN and the MIRAH, a number of challenges and opportunities were identified. The

opportunities identified were also defined as the strategic focus for the sector for the period 2012 to 2021. Table 8 below summarizes those challenges and opportunities.

Table 8: Challenges and opportunities for Côte d'Ivoire's poultry sector

Challenges	Opportunities
• Lack of, or poor, enforcement of existing laws and regulations; • Low application and use of technology; • Poor quality of feed that is also not always available; • Low level of investment; • An unskilled labour force; • Low productivity (broilers and layers); • Poor access to and poor quality of inputs; • Inconsistency in the price of raw materials; • Influence of imports from neighbouring countries; • A taxation system that is not supportive of the poultry sector; • Poor access to finance for farmers and poultry sector businesses; • Low level of organization of sector operators in cooperatives; • Poor water quality and high cost of drinking water and energy; • Land issues.	• Improve the legislative and regulatory environment; • Strengthen / improve biosecurity; • Improve access to finance; • Improve competitiveness; • Build capacity.

Source: IPRAVI[20]

[20] http://www.ipravi.ci/presentation/36/activites

3. Inputs

Côte d'Ivoire's commercial, medium and large-scale farms' inputs are often imported. The main imports are DOC, hatching eggs and feed ingredients, e.g. soya, substrate, etc. Transition from backyard production to more commercial production in Côte d'Ivoire will increase rapidly in the next few years, so the need for a consistent supply of good quality inputs will become a norm, not just for the commercial farms.

In addition to the aforementioned inputs, the market is becoming increasingly aware of the health hazards associated with the consumption of poor quality poultry products. As such biosecurity and other public health issues are becoming more and more of a factor in production. The sector will need stricter regulation and enforcement for it to thrive and reduce the prevalence and recurrence of dangerous strains of avian influenza, outbreaks of which would limit Côte d'Ivoire's ability to export. The success of commercial poultry products production in Côte d'Ivoire with reference to inputs will be dependent largely on the following factors:

- **Proper housing**: Improved housing system allowing for efficient daily management of the flock, both layers and broilers;

- **Installation of proper biosecurity measures**: Control (prevention and cure) of disease within each farm and in the country. During the field visits, our observation was that even for large farms (flock size of >10,000) biosecurity was poorly managed, if at all. Biosecurity is more about education and knowledge than it is about vaccines;

- **Day old chicks**: The availability of affordable and good quality DOCs starts with good genetics; and

- **Feed**: Affordable good quality feed is required for the sector to thrive. Over 80% of the total cost of production is attributed to feed. As such, driving down the cost of feed and feed ingredients would go a long way toward making the sector more competitive.

In addition to the inputs, external factors such as rules and regulations, knowledge and skills strongly influence the possibilities for producing good quality poultry products in Côte d'Ivoire. All factors considered, Côte d'Ivoire's competitiveness in the region will depend on getting the right mix of the above factors.

3.1 Feed[21]

There are few commercial feed producers (with all integrations in the poultry value chain) that produce specialist poultry feed in the country; SIPRA, Foani, FASI, Provato and Koudijs. Feed mills generally use locally-produced raw materials (i.e. cereals, maize and cotton seed cake). Premixes and concentrates are imported, however, since the country has no production. Distributors of premixes and concentrates include Koudijs, Maridav, Proveto, Mailvage and Sifaal.

[21] https://agriculture.gouv.fr/cote-divoire
http://cotedivoire.opendataforafrica.org/vxncqrf/cote-d-ivoire-agriculture-sheet
https://evans.uw.edu/sites/default/files/Evans_UW_Request%2088_Poultry%20Market%20Analysis%20Cote%20d%27Ivoire_June-16-2010.pdf
http://www.ipravi.ci/presentation/27/Aliments
https://agriculture.gouv.fr/cote-divoire
https://www.jeuneafrique.com/mag/581547/economie/export-la-filiere-avicole-prend-son-envol?

3.1.1 Feed ingredients

The main part of feed consists of energy-containing raw materials, which in most poultry feeds comes mainly from maize. Maize is a major staple food crop grown in diverse agro-ecological zones and farming systems, consumed by people with varying food preferences and socio-economic backgrounds in sub-Saharan Africa (SSA). The central role of maize as a staple food in SSA is comparable to that of rice or wheat in Asia. Of the 22 countries in the world where maize forms the highest percentage of calorie intake in the national diet, 16 are in Africa, with Côte d'Ivoire being one of them.

Cereal imports constitute 38% of Côte d'Ivoire's total import bill. The main cereal suppliers to Côte d'Ivoire are France (the leading supplier, particularly wheat), Thailand and Vietnam (rice). Large-scale production of maize and soya is needed, as there are often shortages of these in the country. There are, therefore, opportunities in the corn business, but the lack of financing affects the development of this sub-sector. Ivory Coast does not produce soya or wheat, which are imported from countries such as Brazil and Argentina. Besides maize and soya, fish, wheat bran, shells, cotton seed cake and palm oil are used in poultry feed in Côte d'Ivoire. Côte d'Ivoire's palm oil plantations are sufficient for national consumption needs and even provide production for export.

3.1.2 Quality of feeds

The main concern for most of the farmers interviewed was the availability and cost of feed. Though feed quality has direct implications for productivity / yield, profitability considerations were secondary to cost. Inspections carried out during the field visits showed significant variations in the texture, color and smell of the feed available on the farms. In some cases, impurities (stones, sand, small metal objects) were visible. Most farmers take advice on feed regimes from the feed suppliers and, sometimes, from extension officers who do not visit the farms frequently.

In order to speak to the quality of feed available, testing would be required by the government laboratory. Development of a common standard is also needed for the market, especially for complete feed. That would allow medium- and small-holding farmers to get the most out of the feed they use. Commercial farms often employ an in-house vet, who develops the feeding regime and rations, optimised for the bird development stage, be they broilers or layers. Such vets also often prepare their own feeds, so quality is maintained and checked at every single juncture. That is not the case for medium- and small-scale farmers.

3.1.3 Vaccines and drugs

Veterinary vaccines and medicines are not produced in Côte d'Ivoire. Veterinary drug industry liberalization has led to an explosion in their trade from different origins, with diverse, often doubtful, quality. More than thirty veterinary pharmaceutical companies from Africa, America, Asia and Europe export veterinary drugs every year to the Ivory Coast, for an estimated total turnover of FCFA 2.2 billion in 2008. In Cote d'Ivoire, a study conducted in 2009 on the quality of veterinary medicinal products in the Abidjan, Anyama and Bingerville areas by Dr ASOUMI Abdou Moumouni for a veterinary doctorate thesis, showed a rate of non-conformity of 41.8% of the veterinary drugs in circulation. Some of the most important current suppliers of veterinary products are:

- CODIVET (Import Vaccines and Antibiotics);
- Standard Pharmacies (those with veterinary medicine departments buy from CODIVET);
- SN PROVECI (Import Vaccines and Antibiotics);
- IVOGRAIN (SIPRA) (Import Vaccines and Antibiotics);

- FACI (Import Vaccines and Antibiotics); and
- ALL-VET (Import Vaccines and Antibiotics).

Côte d'Ivoire has two animal disease analysis laboratories, LANADA (Laboratory for Agricultural Development Support) and DIMEVA.

3.1.4 Cost of feeds

For the past 10 years, feed ingredients such as corn (for energy), soybean meal (for protein) and phosphorus have become increasingly expensive and less accessible for most SSA farmers. Insects such as black solider flies are being tested in Europe and Africa as an alternative source for protein for feed. This option is said to be cheaper and Côte d'Ivoire's poultry sector should follow or engage in research that would test its viability for the local market. Maize is a major source of energy for animal feed. Across Africa, maize is the main crop grown predominantly for human consumption (see Table 9 below). Despite the amount of its land under cultivation, Africa is still a net importer of maize.

Table 9: Major crops grown in Africa

No.	Crop	Area (ha)	Production (t)	% of total production
1.	Maize	34,075,972	70,076,591	43%
2.	Millet	19,998,008	16,008,838	10%
3.	Rice, paddy	11,206,813	28,798,202	18%
4.	Sorghum	23,142,595	23,350,064	14%
5.	Wheat	10,224,952	24,704,201	15%
	Total	**98,648,340**	**162,937,896**	**100%**

Source: FAO stats, FAO Statistics Division, 04 October 2015

Maize prices in Côte d'Ivoire are the highest in the capital and the markets in Agnibilekrou (North of the Comoé department, in the South-East of the country), and in Soubre (centrally located in Bas-Sassandra, in the South-West of the country). 2019 cereal import requirements are estimated at 2.1 million tonnes, which is over and above the approximately 3.2 million tonnes of cereal produced locally. The increase in demand for cereals is being driven by demand for both human and industrial use (poultry sector predominantly). Table 10 below shows a summary of cereal production in Cote d'Ivoire between 2013 and 2018.

Table 10: Cereal production Cote d'Ivoire

Cereal	2013 – 2017 average	2017	2018	% of total cereal production
Rice (Paddy)	2,063,000	2,119,000	2,007,000	62%
Maize	802,000	1,025,000	1,055,000	33%
Sorghum	55,000	63,000	66,000	2%
Others	73,000	82,000	87,000	3%
Total	**2,993,000**	**3,289,000**	**3,215,000**	

Source: FAO[22]

Compared to the other countries, Côte d'Ivoire's selling price of maize is the cheapest. However, table 11 below also shows that local production is very low and insufficient for the national demand for human food and animal feed.

Table 11. Production and prices of Palm oil and Maize

Raw Materials Production and Prices	2005	2006	2008	2009	2010	2011	2012	2013	2014
Palm Oil (1000xTonnes)	236	297	302	371	360	371	418	392	420

[22] http://www.fao.org/giews/countrybrief/country.jsp?code=CIV

Raw Materials Production and Prices	2005	2006	2008	2009	2010	2011	2012	2013	2014
Average Price in FCFA/Kg	305	305	395	390	393	433	413	453	469
Corn (1000x Tonnes)	640.2	638.8	630.2	637.4	6416	621.8	654.7	848.6	960.8
Average Price in FCFA/Kg	237	237	276	281	296	317	324	331	318

Source: INS, ANADER, DSDI

During the field visit we collected prices for various feed (shown in table 12 below). Variance in price was relatively significant which is testament to the strategy applied by various feed producers. The main factor affecting price is the cost of ingredients and that varies from one supplier to the next. In addition, due to the lack of standards or definition of quality, the formulation can differ and that affects the final price for the farmers as well as eventually their performance.

Table 12: Spot prices of poultry feed July 2019

Type of feed	Min		Max	
	FCFA/Kg	EUR/Kg	FCFA/Kg	EUR/Kg
Broiler starter Feed	290	0.44	304	0.46
Broiler grower Feed	260	0.40	288	0.44
Pullet Feed	236	0.36	260	0.40
Layer Feed	250	0.38	286	0.44

Source: Field research NABC and Team of Experts, July 2019

3.2 Housing and equipment

Poultry farm equipment is available through several farm equipment distributors. The distributors have close relationships with several companies abroad. Customers are small, medium, large and commercial farmers. In Côte d'Ivoire, except for the large integrations, most farmers do not have access to the electricity grid. This slows down the mechanization or automation of production methods, so most of the equipment used is manual. Local farm equipment suppliers include:

- Team of Experts Sarl (importer and distributor of feeding and drinking equipment, nests and eggs handling machines);
- Nextekci (importer and distributor of feeding and drinking equipment);
- Kassann (importer and distributor of feeding and drinking equipment);
- Volaille D'or (importer and distributor of feeding and drinking equipment).

Working together with:

- Vencomatic group / Prinzen (Netherlands)
- VDL (Netherlands)
- Big Dutchmann (German)
- Tuffigo Rapidex (France)
- Petersime (Belgium)

It is important to note that, due to challenges regarding consistent access to the national energy grid, most drinking systems in farms are open drinking systems. The quality of water is not guaranteed and, as such, the birds' performance is negatively affected. Improvements

in housing must also include investment in energy to allow for automation that would go a long way toward improving the quality of water delivered and reducing diseases.

3.3 Hatcheries, Breeding and DOC's

In 2016, the breeding stock in Côte d'Ivoire consisted of more than 700,000 birds. In the same year, 45.3 million DOCs were produced (number reflects production from privately owned and registered hatcheries in the country), of which 38.5 million were broilers and 6.8 million layers (see Table 13 below for more details). These hatcheries have an annual production capacity of approximately 70 million DOCs.

Table 13: Hatchery production in Côte d'Ivoire (broilers and layers)

	2009	2010	2011	2012	2013	2014	2015	2016
Broiler chicks (,000)	13,200	17,312	16,877	25,290	28,604	35,861	33,893	38,375
Layer chicks (,000)	3,200	3,433	3,182	3,703	4,234	4,465	6,412	6,831
Total	**16,400**	**20,745**	**20,059**	**28,993**	**32,838**	**40,326**	**40,305**	**45,206**

Source: field research Team of Experts and NABC, July 2019

According to several stakeholders, there are over 30 hatcheries in Côte d'Ivoire, but fewer than 10 produce on a professional level (Interview with Mr Kenge B. Jeanot, Koudijs, July 2 2019). The Côte d'Ivoire poultry integrations' breeder farms do not produce enough eggs to meet local demand. Hatching eggs are imported from France, Morocco, Brazil, South Africa and the Netherlands.

Besides the 32 registered hatcheries, there are many other hatcheries that are unknown to MIRAH (Ministry of Animal and Fish Resources). These hatcheries buy hatching eggs from licensed hatching egg importers and use them for their hatcheries, which often do not comply with basic biosecurity rules.

The input of DOCs shows a similar structure for both broiler and layer value chains. Several large-scale commercial farms producing DOCs have their own hatching and feed production facilities. They mainly operate for their own production facilities, but also supply medium and small-scale farmers. During the field visits in July 2019, the average price for broiler DOCs was FCFA 500 (EUR 0.76) and FCFA 700 (EUR 1.07) for layers (price per bird).

3.4 Challenges and opportunities

Despite the favourable[23] regulatory environment, the poultry sector still faces some challenges that inhibit its growth and ability to become more efficient. Inputs are a critical part of the production process, as the price, quality and availability of these inputs, as well as the knowledge and capacity to apply them effectively, are key to the development and growth of Cote d'Ivoire's poultry sector. Table 14 below mentions a few of the challenges the study uncovered regarding inputs.

Table 14: Opportunities and challenges, inputs

Challenges	Opportunities
• **Enforcement of laws, standards and regulation:** Poor or the lack of stringent enforcement of laws in and around hatcheries, breeders and other input service providers weakens the sector's ability to	• **Education and training**: There is a need for a practical training institute, certified and accredited, to offer poultry-specific training suited for modern farming. Such an institute must be linked to the industry to encourage

[23] Decree that raised the tariff on poultry products and by-products.

Challenges	Opportunities
provide the quality inputs necessary for better performance. • **Tax on raw materials / ingredients for feed production:** The sector is reliant on imports of soya and maize for feed production. Growth of the sector will rely on bringing the cost of feed down, which will reduce production costs. • **Land Use:** Most of the cereal farmed is rice for human consumption (over 60% of the cereal produced in Cote d'Ivoire is paddy rice for human consumption), with about 30% of the total cereal production being maize also consumed by humans, so the volume of land available purely for poultry-related production is limited. • **Management of inputs:** Almost all the farms visited during the field visit had no visible management system that allowed them to measure inputs versus their production. One can only improve what is measured, such management systems becomes critical to any improvement agenda. • **Dominance of large integrations in input supply:** Given the size of their business, most large integrations, which are all vertically integrated, also dominate the inputs market. Most small- and medium-scale farmers rely on the larger integrations for most of their inputs. • **Energy:** Reliable energy from the grid is often unavailable, which inhibits farmers' ability to improve the technology they have to manage their inputs better. • **Knowledge, training and education:** Most farm managers are self-taught or were apprentices in other farms. Practical poultry training is almost non-existent, so it becomes difficult to address better management of inputs in circumstances where the knowledge is lacking. • **Access to finance:** Most medium- and small-scale farmers have to pre-finance their inputs in cash. Depending on whether they are layer or broiler farmers, this can weigh heavily on cash flows, as the production cycles are relatively long. Most small- and medium-scale farmers do not have access to finance for their inputs, whereas for large integrations it is often relatively easy to get financing for inputs.	and ensure that the courses and education offered meet industry standards. This would also improve the employment prospects for all graduates. Such a practical college should also be linked to tertiary education systems that offer veterinary training courses. • **Feed quality standards**: There is a need to define feed quality standards that would protect small- and medium-scale farmers from unscrupulous feed mill owners. These standards should in turn be enforced and checked regularly. • **Feed testing**: The government should, following the definition of the feed standards, engage in random testing to ensure industry players stay honest. • **Input service providers:** There is a need for diversification of input service providers. More independent importers, i.e. not linked to larger integrations, would also allow the industry to benefit from competitively priced feed ingredients and products. • **Financing:** The financial sector needs better education with regards to poultry financing, especially in relation to financing medium- and small-scale farmers. It is unclear what influence financial education for bankers and financiers in Cote d'Ivoire would have on access to finance, but awareness of the cash flows and the challenges farmers face might enable local banks to develop products suitable for the sector.

4. Production systems

The poultry sector in Africa was until recently dominated by two production systems: local backyard system (low input – low output) and a commercial production system (high input – high output) based on the use of hybrid birds from international breeding companies and using professional housing, feeding and veterinary control systems. The ratio of backyard versus commercial has slowly shifted in favour of more commercial production in Côte d'Ivoire, but a majority of farmers still operate small- and medium-sized farms.

Due to the increasing demand for poultry products, the contribution of the more commercially oriented production system is growing in Côte d'Ivoire. This growth is expected to accelerate even more in the coming decades, with growing population and urbanisation, and rising income. Another form of production is medium input - medium output, which is slowly growing in popularity in Côte d'Ivoire. This production system offers good opportunities for smallholders to grow gradually from an extensive backyard production system to a more market-oriented approach.

Poultry, irrespective of the production system, offers good opportunities for small, even virtually landless farmers, to get engaged in market-oriented poultry production providing additional income for households. A poultry unit with commercial birds can be started with minor investments in (simple) housing systems, some feed and drinking utensils for a small number of birds. The minimum number to make even the smallest investment viable differs from situation to situation, but operations starting with at least 100 birds (layers or broilers) can already be made profitable in Côte d'Ivoire and many other African countries.

Table 15: FAO definitions of poultry production systems

Sectors (FAO/ definition)	**Systems**			
	Industrial and integrated	**Commercial poultry production**		**Village or backyard**
		Bio-security		
		High	**Low**	
	Sector 1	**Sector 2**	**Sector 3**	**Sector 4**
Biosecurity	High	Mod-High	Low	Low
Market outputs	Export and urban	Urban/rural	Live urban / rural	Rural / urban
Dependence on market for inputs	High	High	High	Low
Dependence on goods roads	High	High	High	Low
Location	Near capital and major cities	Near capital and major cities	Smaller towns and rural areas	Everywhere. Dominates in remote areas
Birds kept	Indoors	Indoors	Indoors / Part-time outdoors	Out most of the day
Shed	Closed	Closed	Closed / Open	Open
Contact with other chickens	None	None	Yes	Yes
Contact with ducks	None	None	Yes	Yes
Contact with other domestic birds	None	None	Yes	Yes
Contact with wildlife	None	None	Yes	Yes

Veterinary service	Own Veterinarian	Pays for veterinary service	Pays for veterinary service	Irregular, depends on govt. vet service
Source of medicine and vaccine	Market	Market	Market	Government and market
Source of technical information	Company and associates	Sellers of inputs	Sellers of inputs	Government extension service
Source of finance	Banks and investors	Own savings	Own savings	Own savings
Breed of poultry	Commercial	Commercial	Commercial	Native
Food security of owner	High	Ok	Ok	From ok to bad

Source: FAO

- ***Sector 1***: Industrial integrated system with high-level biosecurity and birds / products marketed commercially (e.g. farms that are part of an integrated broiler production enterprise with clearly defined and implemented standard operating procedures for biosecurity), e.g. SIPRA and FOANI.

- ***Sector 2***: Commercial poultry production system with moderate to high biosecurity and birds / products usually marketed commercially (e.g. farms with birds kept indoors continuously; strictly preventing contact with other poultry or wildlife).

- ***Sector 3***: Commercial dual-purpose poultry production system with low to minimal biosecurity and birds / products entering live bird markets (e.g. a caged layer farm with birds in open sheds; a farm with poultry spending time outside the shed; a farm producing chickens and waterfowl).

- ***Sector 4***: Village or backyard production with minimal biosecurity and birds / products consumed locally.

Sectors 1 and 2 characterise the commercial production system; sector 3 describes the more intermediate dual-purpose production system and sector 4 the local backyard system. According to Ministry of Agriculture and Fisheries data from 2011, at that time there were 1,771 poultry farms, 998 resellers and 17 industrial companies active in the poultry sector[24].

4.1 Meat and Table egg production

There are approximately 1,500 medium- to large-scale integrated farms in Cote d'Ivoire. In Côte d'Ivoire there are more broiler farmers than layer farms because of the lower initial investment costs for broiler farms and their investment cycle. Large-scale farmers have integrated systems and work with contracted farmers (out growers). All large-scale layer farmers rear pullets themselves from their own or imported DOCs. Some medium- and most small-scale farmers choose either pullet rearing or layer keeping.

Large-scale integrations slaughter and process the birds themselves. The level of processing is low, though most birds are sold plucked, eviscerated and frozen, with only some going into further processing for special cuts like legs, thighs or breast. There are three operational slaughterhouses in Cote d'Ivoire, owned by: SIPRA (private), FOANI (private) and one government abattoir (Abattoir of Port Bouet).

[24] RNPA 2011

Smallholder farmers usually set the price according to the size (visual inspection) of a chicken, by simple weighing or manual touching of the birds. Mechanical or electronic weighing systems are not widely used. This pricing method of broilers is widely used by small and medium farmers, but it is not accepted by wholesalers or professional buyers such as restaurants, hotels and supermarkets. They only sell through the wet market, often live, then slaughtered and dressed on the spot by service providers that work exclusively at the market to offer this service. Some small and medium farmers have plucking machine from Turkey and Asia which they use on their farms.

The average price of a broiler on a farm is between FCFA 1,800 and FCFA 2,500 (EUR 2.00 – EUR 3.82) (excluding VAT which is 18%), outside festival periods such as Easter, Christmas and Ramadan, which are periods of very high demand. During these periods, the sale price on farms can be increased to between FCFA 3,000 and FCFA 5,000. The same process applies for table eggs

Table 16. On farm and at market price for broiler and spent layer prices[25]

Birds	On Farm				Market				Average Weight in Kg
	min		max		min		max		
	FCFA	EUR	FCFA	EUR	FCFA	EUR	FCFA	EUR	
Broiler	1,800	2.75	2,500	3.82	2,500	3.82	3,000	4,59	1.3 – 1.7
Spent Layer	3,000	4.59	3,500	5.35	3,000	4.59	3,500	5.35	1.8 – 2.0

Source: Field Visit Team of Experts, NABC July 2019

For the sale of the eggs, it is important to note that, just as in the sale of broilers, categorization of the size, i.e. small, medium or large, does not play a big role. Due to the lack of standardization in egg size measuring, most consumers would not be able to differentiate between sizes, so this is not a factor when pricing the product. Table 17 below gives the spot prices at farms and in markets for eggs of three different sizes.

Table 17. On farm and in market / consumer egg prices / tray of 30 eggs[26]

Size	On Farm				Market			
	min		max		min		max	
	FCFA	EUR	FCFA	EUR	FCFA	EUR	FCFA	EUR
Small	1,400	2.14	1,550	2.37	1,800	2.75	2,000	3.06
Medium	1,600	2.45	1,800	2.75	2,000	3.06	2,200	3.36
Large	1,800	2.75	1,900	2.90	2,200	3.36	2,500	3.82

Source: Field Visit Team of Experts, NABC July 2019

4.2 Bio-security conditions for production

Most of the production is concentrated in and around Abidjan. Approximately 60%[27] is attributed to smallholder farmer production in both urban and rural areas. In rural areas, 90%[28] of the population raises at least some poultry. In general, women are responsible for most of the work caring for family poultry. Men are typically responsible for financial management and ultimately decide whether the output will be consumed or sold. Most rural chicken production is destined for own consumption, but some production is sold when output exceeds household consumption needs.

[25] All prices are exclusive of VAT, which is 18%
[26] All prices are exclusive of VAT, which is 18%
[27] Estimate based on the 2010 base of 70%. It is likely, in view of the increase in number of large integrations and their size, that commercial farms contribute more than 40% of the total market consumption.
[28] https://evans.uw.edu/sites/default/files/Evans_UW_Request%2088_Poultry%20Market%20Analysis%20Cote%20d%27Ivoire_June-16-2010.pdf

The type of shelter and level of input used characterize three different sub-systems of smallholder chicken production. Low input production systems include:

- **Extensive free range:** families raise several different species and animals of various ages together. They generally do not use feed, veterinary or sanitary inputs. Birds forage for their own food and mix with other animals. Poultry (1 to 10 birds) raised under this system are small and produce so few eggs that nearly all are hatched to replenish stocks.

- **Extensive confined production**: families provide some supplementary feed and rudimentary shelter. Families raise between 20 and 100 birds of various species and ages, with no specific family member responsible for their care. After own consumption, surplus eggs and live animals are sold to be sold on in other villages. This is the most common family production system, especially in the northern part of the country.

- **Under semi-intensive production:** families generally possess between 100 and 500 animals. They raise only one species, but they keep animals of various ages together. Animals either hatch from existing stocks or are purchased as chicks from a local market. Birds are confined at all times, with feed and water provided regularly inside the animals' shelter to avoid contamination. Feed contains a variety of products, including grains, animal offal and food scraps, and it is generally mixed by the producer. Poultry may be a primary economic activity for families practicing semi-intensive production.

A common theme for all three forms of low-cost production is the lack of any form of bio-security. The farmers are also unaware of the risks involved should infected bird travel across villages and find their way into larger cities or larger commercial farms.

Commercial production is most developed around urban areas, particularly in the Lagunes (especially around Abidjan) and Moyen Comoé regions. There are only a few industrial poultry firms, mainly hatcheries and feed factories, with the majority of commercial poultry produced under the semi-industrial system. Semi-industrial firms produce hatching eggs, broiler chickens, and eggs for consumption. For commercial farms with >20,000 birds, both layers and broilers biosecurity is present and it is often the in-house vet's responsibility to ensure all farmhands and visitors adhere to the protocols. That said, there are often still cases where the protocols are not followed, with large farms then exposed to hazards and diseases due largely to negligence and ignorance.

5. Policy and regulatory environment

After independence in 1960, the size of Côte d'Ivoire's national cattle herd was small (consisting of 260,000 heads of cattle) without a notable breeding chain. From the 70s onwards, therefore, the government put in place animal production policies to spur growth in the sector. Those policies allowed substantial public investments over a 30-year period, resulting in:

- The introduction of appropriate regulations and taxation - an enabling environment;
- Fiscal disincentives that doubled the cost of imported poultry meat;
- The creation of appropriate infrastructure, supervision and financing of animal production;
- The implementation of health actions for the fight against major disease epidemics;
- The gradual disengagement of the state from production and service activities for the benefit of the private sector; and
- Refocusing state actions on public service missions.

In 1972, SODEPRA (Société de Dévelopemment de Projets Africains) took over by making the inputs and the support necessary available for the development of modern poultry farming. From 1976 onward, private or mixed economy structures were set up to support the government in the management and distribution of inputs. the subsequent disappearance of SODEPRA in 1992 paved the way for the emergence of professional agricultural organizations. The Ivory Coast Poultry Inter-professional Association (IPRAVI) was created in 1995[29]. In 2009, the General Meeting (ETATS GENERAUX) of the Ivory Coast Poultry Sector was organized. In this meeting both government and private partners revealed the enormous (under-exploited) potential and opportunities in the sector.

In order to capitalize on the opportunity, the state and private operators in the poultry sector drew up a Strategic Plan (PSRA) for the revival of modern Ivorian poultry farming (2012 to 2021) and the government charged PAPAN with coordinating the implementation of this strategy on its behalf. The PSRA is an ambitious FCFA 45.0 billion (EUR 68.706 million) plan focussed on:

- Improvement of the legislative and regulatory framework;
- Strengthening biosecurity;
- Support for sector financing;
- Improving competitiveness;
- Capacity Building.

Table 19 gives an assessment of the observations made regarding the ambitious objectives set in 2011 by the Cote d'Ivoire poultry sector and the government. An estimated at FCFA 150 billion (EUR 229,008 million) has already been invested in poultry, partly by the private sector. These investments concern, among other things, the modernization and expansion of poultry production infrastructures. At the end of 2016, at least FCFA 90 billion (EUR 137.2 million) of private investments had already been made in the poultry sector. The main objectives of the program are:

5.1 Policy framework and legislative agenda

Cote d'Ivoire's legislative framework caters for livestock and fisheries in general. There is no legislation that uniquely addresses poultry as a subsector within the livestock sector. There are pros and cons to this, and our observation is that the collective legislation of the livestock sector was born out of necessity, as the sector and its contribution to the economy at the

[29] http://www.ipravi.ci/presentation/9/Presentation

time the laws were developed did not justify each type of livestock being addressed separately. As the sector becomes more mature, competitive and significant to the economy, unique legislation that address the sector specifically will be required. Poultry-specific legislation allows the sector to set its own development agenda, making it easier to enforce and regulate later. In section 5.2. below, we highlight some of the gaps observed in the current regulatory environment.

5.2 Gaps and opportunities for improvement

Table 19 below gives a summary of the legislation highlighted in section 5.1 above, with observations made based on the field visits and interviews conducted during the study.

Table 18: Gaps and opportunities where legislature could support the sector

No.	Objective	Observation on its application & enforcement
1.	***Legislation / Policy / Decree***	***PSRA (Plan Strategique de Relance de LÁviculture Moderne)***
	• **Improvement of the legislative and regulatory framework:** The poultry sectors are governed by the appropriate legal and regulatory provisions; poultry industry players know the texts better and respect them. • **Strengthening biosecurity:** Chickens and eggs are produced, stored and marketed under the proper conditions of hygiene and safety; Prevention and management of health disasters and emergencies are ensured; Breeding conditions for traditional poultry are improved. • **Support for sector financing:** Resources for the development of the poultry sector are mobilized; Projects in the poultry sector are regularly funded and better managed. • **Improving competitiveness:** The productivity of poultry production is improved; Promotion of poultry products is also enhanced. • **Capacity Building:** Public service structures of support, support, research and training players are competent and equipped; Private operators in the poultry sector are professional and dynamic; The situation of the poultry sector is better known; Consumer associations are more dynamic and better at defending their interests.	• Though the legislative environment is conducive for investment and protects the market enforcement of the regulation in and around imports, production is weak, so the market is exposed to irregular imports. • Biosecurity is very poor in most farms. There are approximately four industrial farms that have well-established biosecurity protocols and enforce these measures, but a significant proportion of the market, >70%, is prone to diseases dangerous for a growing industry. • Access to finance is still a big challenge for most farmers, except for the large integrations, which often have sufficient assets and cash flow to show financiers. • The market needs a few large integrations and a healthy number of medium- and small-scale farmers practicing extensive confined production in order to have healthy competition that would not only grow the sector but also benefit consumers. There is still more to be done here. • There is a need for poultry-specific tertiary and practical education. Specifically, improving the curriculum to better represent changes in technology, whilst also improving the link between the private sector and education / training institutes.
2.	***Legislation / Policy / Decree***	***Ministry of Animal Resources and Fisheries Republic of Cote d'Ivoire, Decree no. 7/MIRAH/CAB, April 4 2017***
	• This decree approves the licensing of establishment for: production (hatcheries and breeding farms), import (of hatching eggs and breeding animals) and sale of hatching eggs.	• Though the decree rightly seeks to promote the import of inputs needed in the sector, our immediate observation was that there was no clarity with regards to how the imports were monitored, especially in terms of quality. • Any breach of the license results in its withdrawal, including the import license.

No.	Objective	Observation on its application & enforcement
		• With regards to enforcement, there was no clarity as to how the inspections were undertaken and the capacity of the inspectors.
3.	***Legislation/ Policy/ Decree***	***Law No. 2015-537 of July 20 2015, The Agricultural Orientation Act.***
	• This law addresses public health, animal and plant health protection. (Food sovereignty prevention and risk management of public health veterinary and plan and animal protection)	• We noted that markets, such as the one at Cocody, which has a large wet market, did not have any public health certificates and they were often not well maintained. • Given the significant volume of birds being slaughtered at market, there is a need for more stringent controls and enforcement of existing laws governing the wet market to ensure public health and safety, as the state of most of the wet markets was quite concerning.
4.	***Legislation / Policy / Decree***	***On raw materials and ingredients for feed manufacturing.***
	• Law on zero rating animal feed inputs and raw material[30].	• Borrowing practice from East Africa, specifically Kenya, Cote d'Ivoire would help reduce the cost of production be revising the taxation system around input for feed manufacturing[31].
5.	***Legislation / policy / Decree***	***On poultry education / training and research***
	• Law that would regulate poultry-specific education, training and research. • The focus being on working with the private sector to ensure the standards match market demand and also, by extension, guarantee employment for students.	• There are currently tertiary education institutions that offer livestock, including poultry, training. • Vets are generally trained with livestock, not specifically for poultry. Legislation could play a role in defining the scope of courses, ensuring that the curriculum and training materials are properly accredited, while suiting the market needs. • Establish practical education institutions and ensure they are properly equipped and the right standards are maintained.

[30] It was not immediately clear to NABC whether such legislation exists and we have not come across any such law.
[31] http://kenyalaw.org/kl/fileadmin/pdfdownloads/bills/2018/TaxLawsAmendmentBill2018.pdf

6. Training, education and knowledge gaps

The government wants to encourage youth involvement in the poultry sector. It seeks to do this by promoting poultry education. In 2018, the Council of Ministers announced plans to educate 3,300 young people in the poultry sector from across the country. "This project is aimed at promoting youth entrepreneurship, professionalizing the poultry sector and fighting against youth unemployment and food insecurity, through better integration of young people in the poultry sector," read the statement from the Council of Ministers. The emphasis of the program was capacity development of young people to ensure they are sufficiently skilled for the market.

Capacity development encompasses all aspects needed to develop a poultry value chain. This requires strengthening the skills and management of individuals, i.e. farmers, farm hands, farm managers, vets, etc., but also on the supplier side, as they too depend on the quality of people available in the industry. At the government level, good insight into the needs of developing a poultry value chain is equally necessary (policy development to create an enabling environment, responding to farmers' and suppliers' training needs, ensuring food safety poultry value chain), as mentioned in Table 19 above.

All these elements need to be addressed in a coordinated holistic manner to allow a value chain to grow in a well-organised manner. The pilot phase will cover eight regions, i.e. Poro, Gbéké, Gontougo, Haut Sassandra, Sud Comoé, Grands Ponts, Kabadougou, Cavally and Yamoussoukro District. At the end of the 12-month pilot phase, the project will be implemented in the country's other regions and eventually allow the installation of 450 small poultry enterprises throughout the country, 320 kiosks selling poultry products and 45 approved management centres specializing in accounting for and financial management of poultry activities.

6.1 Current status of poultry training and education

In order to establish a thriving poultry sector (or any other sector), a sound knowledge base of education and training is necessary at four different levels:

- **Practical hands-on training - also called informal training:** The practical hands-on training can be carried out in different ways: in courses of different lengths; on-farm or at a training station; by separate institutions or as part of the work of vocational training institutes or colleges; and for different target groups: farmers, farm workers, extension officers, students, and teachers. Duration of courses can be anything from one day up to several weeks, usually depending on the trainee's previous education level, the type of technology introduced, and the possibilities for farmers or advisors to be involved in longer-term training courses;

- **Vocational training (Certificate / Diploma level):** Vocational training leads to certificate or diploma levels, usually in training programs of two or three years. It provides students with a broad base for a mid-level career in the poultry industry;

- **Higher Agricultural Education (BSc)**: College-level training usually prepares students for a future life in advisory or extension services, with governments, in the private sector or with NGOs; and

- **University Education (MSc, PhD)**: Graduate education at university (2nd degree, PhD) leads to specialist functions at research organisations, government services, private sector or NGOs.

The level of training provided at most Cote d'Ivoire educational institutes is poor, in relation to poultry specifically (assessment based on a number of interviews with sector stakeholders). The focus in their view is often on theoretical aspects of poultry production and poultry is seen as a minor component of livestock curricula focussed on small and large ruminants.

Most livestock training centers have programs that do not respond to the market needs and developments. The institutes do not have facilities for students to do practical work. They do manage to have internships for end-of-cycle students with small farmers who are themselves not the best example to learn from, so this sector needs to be regulated and closely linked to the private sector. Table 19 below categorizes all the institutions in Cote d'Ivoire offering some form of livestock education.

Table 19: Livestock training institutions

Practical, hands on training, also called informal training	**Vocational training (Certificate / Diploma level)**	**Higher Agricultural Education (BSc)**	**University Education (MSc, PhD)**
• Centre de Pêche de Kossou / Kossou Fishing Center • Centre d'Assistance de Production et de Perfectionnement de Bouaké / Production and Improvement Assistance Center of Bouaké • Ecole de Spécialisation en Pisciculture et pêche de Tiébissou / School of Specialization in Fish and Fishery Tiébissou Centre d'Apprentissage de Perfectionnement et de Production en Aquaculture à JACQUEVILLE (CAPPA) • Institut National de Formation Professionnelle Agricole (INFPA, cotutelle) / National Institute of	• Ecole d'Elevage de Bingerville / Bingerville Breeding School • Ecole de spécialisation en élevage et métier de la viande de Bingerville/School of specialization in breeding and meat trade of Bingerville • GSMA INPRAT: The Private Institute of Tropical Agriculture (INPRAT) • **INTA** (Institut des nouvelles techniques agricoles) • Centre d'Assistance de Production et de Perfectionnement de Bouaké / Production and Improvement Assistance Center of Bouaké • Ecole de Spécialisation en Pisciculture et pêche de Tiébissou / School of Specialization in Fish and Fishery Tiébissou • L'Institut international des affaires en entrepreneuriat Centre d'Apprentissage de Perfectionnement et de Production en Aquaculture à JACQUEVILLE (CAPPA) • Institut National de Formation Professionnelle Agricole (INFPA, cotutelle) / National Institute of	• Institut National Polytechnique Félix Houphouët-Boigny Yamoussoukro (INP-HB) / Ecole supérieure de l'Agronomie (ESA) • GSMA INPRAT: The Private Institute of Tropical Agriculture (INPRAT) • Ecole Régionale d'Agriculture du Sud • L'Institut international des affaires en entrepreneuriat • **INTA** (Institut des nouvelles techniques agricoles)	• Institut National Polytechnique Félix Houphouët-Boigny Yamoussoukro (INP-HB) / Ecole supérieure de l'Agronomie (ESA)[33] • GSMA INPRAT: The Private Institute of Tropical Agriculture (INPRAT)

[33] Ecole supérieure de l'Agronomie (ESA) is a department of **Institut National Polytechnique Félix Houphouët-Boigny Yamoussoukro (INP-HB)**

Agricultural Professional Training[32]	Agricultural Professional Training		

6.2 Existing gaps

The existing gaps can be summarised as follows:

- Lack of developed curriculum specific for the poultry sector;
- Lack of an institution dedicated to offering practical poultry training at the level of current industry standards in Cote d'Ivoire;
- Poor link between education, research institutes and the private sector; and
- Emphasis on tertiary theoretical training and education, with little focus on practical training.

These gaps would be best addressed in the context of a PPP with the government, academia and the private sector combining hands. As stated above, the sector will not thrive if the education and training is weak, and fail to address private sector demands.

[32] **The Institut National de Formation Professionnelle Agricole (INFPA, cotutelle) / National Institute of Agricultural Professional Training** is a government Institute/School which manages all these schools listed below :

- Centre de Pêche de Kossou / Kossou Fishing Center
- Centre d'Assistance de Production et de Perfectionnement de Bouaké / Production and Improvement Assistance Center of Bouaké
- Ecole de Spécialisation en Pisciculture et pêche de Tiébissou / School of Specialization in Fish and Fishery Tiébissou
- Centre d'Apprentissage de Perfectionnement et de Production en Aquaculture à JACQUEVILLE (CAPPA)
- Ecole d'Elevage de Bingerville / Bingerville Breeding School
- Ecole de spécialisation en élevage et métier de la viande de Bingerville/School of specialization in breeding and meat trade of Bingerville

Link : http://www.infpa.ci/

7. Market

At the national level, poultry competes as a source of animal protein with beef, fish and pork. In Africa average per capita consumption is 42 eggs and 3.3 kg of poultry meat per year. For comparison, per capita consumption in the Netherlands was approximately 210 eggs and 22 kg of poultry meat in 2017. The global average is 150 eggs and 13.8 kg of poultry meat per year[34]. The table 20 below compares the per capita consumption levels for a number of countries across Africa.

Table 20: Poultry meat Consumption (kg/person/year)[35]

Country	2009	2010	2011	2012	2013	2014	2015	2016	2017
Côte d'Ivoire	0.92	1.11	1.05	1.51	1.66	2.00	1.99	2.12	2.15
Ethiopia	0.52	0.59	0.53	0.57	0.58	0.56	0.55	0.54	0.53
Ghana	4.23	5.39	6.49	7.17	7.70	6.41	5.68	5.93	6.12
Nigeria	1.55	1.35	0.78	0.82	0.87	0.89	0.92	0.90	0.91
SSA average	2.06	2.25	2.31	2.39	2.39	2.43	2.25	2.14	2.13
Global average	12.40	12.82	13.15	13.24	13.23	13.31	13.67	13.79	13.86

Source: OECD Data, FAO Data, IPRAVI Data and NABC Analysis (2019)

Cote d'Ivoire's market has been growing and will continue to do so, assuming the government's plans and the private sector's interest in the poultry value chain remains as is. Numerous investments have been made and the increase in demand warrants further investment in the sector. The government's objective is to ensure that they promote consumption of poultry products in both rural and urban areas. As a growing majority of the population is predicted forecast to live in urban areas (see forecast table 21 below), it is imperative that these plans realise a similar per capita consumption in rural and urban areas, as it would boost the sector significantly.

Table 21: Forecast of the rural urban population split in Cote d I'voire

Year	2000	2005	2010	2015	2020	2025	2030
Total consumption (Kg/capita)	0.60	1.07	0.92	2.00	3.58	6.43	11.52
Table eggs (No./ Capita)	12	22	31	46	89	173	336
Population (000,000)	16.3	17.9	19.9	22.4	26.2	29.5	33.3
Total projected demand for meat (tonnes)	9,747	19,225	18,316	44,859	93,823	190,140	383,969
Total projected demand for eggs (000,000)	200.4	395.3	617.2	1,031.7	2,335.3	5,122.8	11,197.3
Urban population %	44%	45%	47%	49%	51%	54%	56%
Rural population %	56%	55%	53%	51%	49%	46%	44%

Source: NABC Analysis of IPRAVI and FAO data

[34] FAO

[35] FAO- Livestock data innovation project, Investing in African livestock Business opportunities in 2030-2050, 2013; Rabobank, Food & Agribusiness Research and Advisory, 2017; WUR & NABC, Regionalization in Poultry Development in Eastern Africa, 2018.

7.1 Poultry value chain

"Increases in the demand for animal-sourced foods are estimated extraordinarily high in Africa over the coming decades" (Livestock Data Innovation in Africa Project, 2013). The reality for Cote d'Ivoire is that meat consumption, particularly chicken consumption, is growing so fast that capacity is not meeting demand. Since 2005, chicken consumption has grown rapidly across the country, but predominantly in urban areas. This growth is driven by a rapidly modernizing value chain and the fact that the market is protected from outside competition. Figure 5 below shows the characteristics of the value chain in Cote d'Ivoire.

Figure 2: Characteristics of Cote d'Ivoire's poultry sector value chain

Value Chain	Characteristics that define this section of the value chain
Grains and Oilseeds	Dependency on imports; conflict in grain use for feed or food; limited capacity to grow own supply. Most of the poultry sector's demand for grain is currently serviced through expensive imports.
Feed	Expensive feed; rapidly developing feed market; dominated by a few large players that are active across the entire value chain; these millers cater for both food and feed demand in the country.
Breeding / Hatchery	An immature breeding and hatchery market; high hatching costs due to relatively expensive and unreliable electricity; breeding is plagued with system inefficiencies and very poor bio-security.
Farming	About for commercial farms that are vertically integrated; production in deep litter, battery cages, semi free range and free range; large number of medium- and small-scale farmers practicing backyard poultry keeping.
Traders	Traders act as aggregators mostly for small- and medium-scale farmers; traders have high bargaining power; they often source directly from farms and arrange logistics to market. A number of traders have set up small shops to retail poultry products directly to consumers. Some of the large integrations also sell directly to consumers through small retail outlets.
Wet markets / Processing	Approximately 70%[36] of the meat produced is sold in wet markets; little variety for frozen products; few operational slaughterhouses; wet markets are not well regulated for public health and safety; limited number of SKUs for all processed meat and eggs, even amongst the large integrations.
Customer	Estimated 70% informal trade, 30% formal trade; most customers buy from informal traders; thriving B2B sector with local and international quick service restaurants (but, due to quality concerns, most of QSR import their meat).

[36] Estimates based on IPRAVI and FAOSTAT

In Cote d'Ivoire, the most growth is realized at the beginning and end of the value chain, i.e. inputs such as feed, DOCs and in distribution channels to markets. Most players across the poultry value chain in Cote d'Ivoire face challenges regarding access to finance, with the exception of the large integrations. For larger integrations and commercial farms with significant capital assets, the issue of financing is often resolved by using their assets as collateral for loans. This is not the case for a majority of the small- and medium-scale farmers.

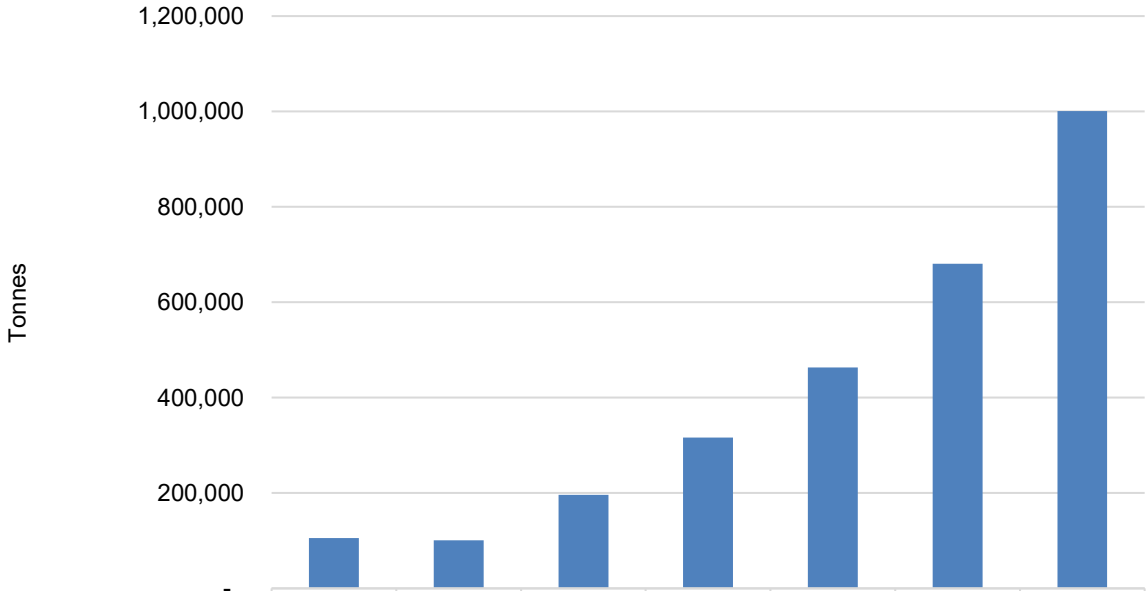
7.2 Trade in poultry inputs

Trade in poultry inputs in Cote d 'Ivoire is concentrated around the large production areas, for obvious reasons. Most of traders and input suppliers are concentrated in and around Abidjan. In looking at trade in poultry inputs, we looked specifically at feed and DOCs.

7.2.1 Feed

Figure 3 below provides a good representation of the projected rise in demand as the sector grows. Broilers are expected to continue to account for the higher percentage of feed consumed, as meat is increasingly consumed more than eggs (kg / calorie of poultry products consumed shows poultry meat at >80%).

Figure 3: Forecast growth of the supply of complete feed

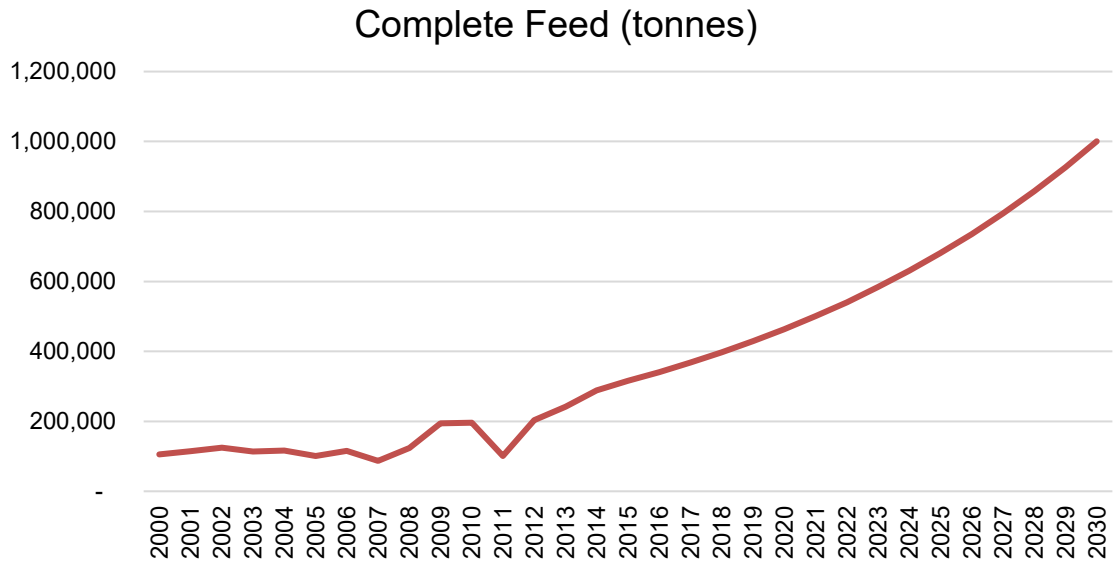


	2000	2005	2010	2015	2020	2025	2030
Complete feed (tons)	105,208	100,500	196,200	316,256	463,455	680,967	1,000,564

Source: NABC Analysis of IPRAVI and FAO data

The sector has seen a lot of changes over the years. The most significant was in 2005 to 2010, when there a significant drop in feed produced (See Figure 4 below). Year on year since then, however, the volume of feed produced has grown continuously, with an average growth rate of 8%. As mentioned above, cereals for feed production are predominantly imported, so the final price of feed is largely dependent on the import price of the cereals used in producing the feed.

Figure 4: Complete feed production in Cote d'Ivoire



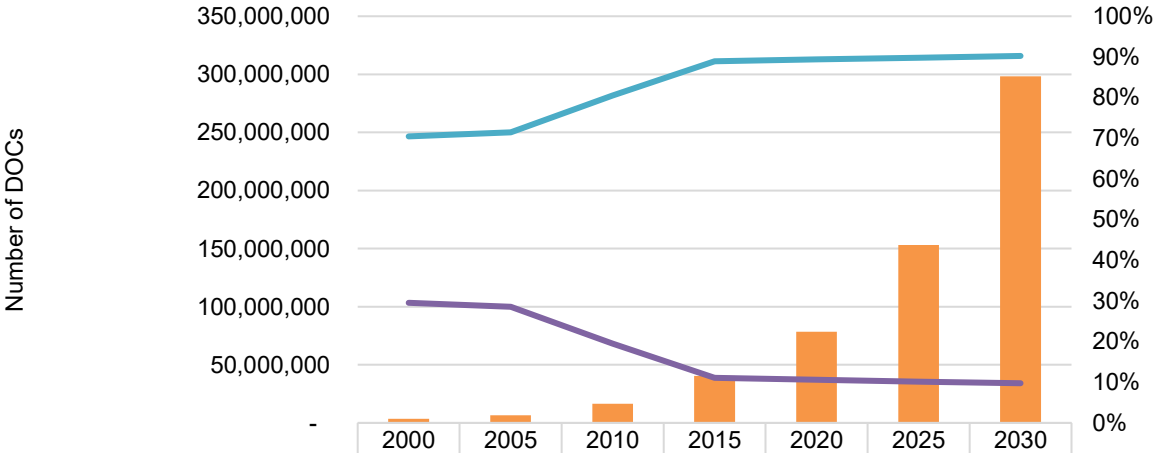
Source: NABC Analysis of IPRAVI data

Dependency on cereal imports is the main concern regarding the feed trade. Specific action to address the cost, consistency and quality of cereal supplies is crucial for any Cote d'Ivoire poultry development agenda.

7.2.2 DOCs

Good productivity starts with good quality inputs, especially the consistent supply of good quality DOCs for both broilers and layers. Numerous investments have been made in this area, with the most recent being a USD 3.5 million investment by Ivorian and Dutch partners[37] in a hatchery in Azagui. Figure 5 below highlights the continued need for investment in the sector, as demand is set to rise to meet the poultry consumption increase.

Figure 5: Forecast supply of DOCs in Cote d 'Ivoire



	2000	2005	2010	2015	2020	2025	2030
Total Production of DOCs	3,443,50	6,650,00	16,400,0	40,326,0	78,545,7	153,020,	298,172,
% Broiler DOCs	70%	71%	80%	89%	89%	90%	90%
% Layer DOCs	30%	29%	20%	11%	11%	10%	10%

Source: NABC Analysis of IPRAVI and FAO data

[37] https://www.afrikatech.com/misc/ivory-coast-a-3-5-million-chicks-factory-launched-in-azaguie/

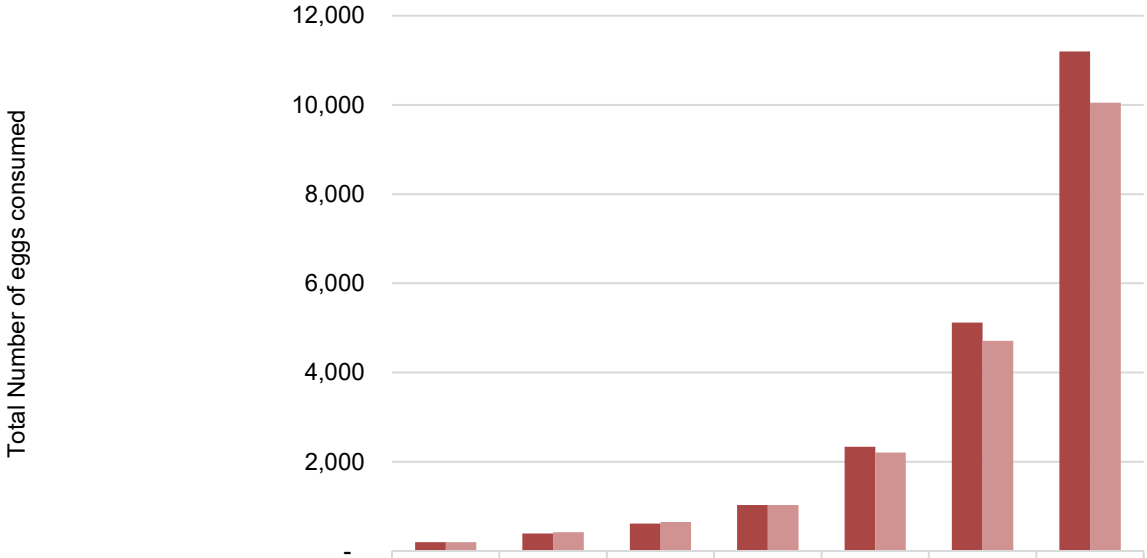
7.4 Marketing poultry products

Most of the large integrations in Cote d'Ivoire also distribute their own products. All of them have their own logistics and warehousing systems that allow them to distribute the products country-wide. There is no cold chain to speak of, as most of the logistics network is not refrigerated. The final stage of transport is undertaken by customized small trucks that then deliver the products to stores usually owned or franchised by large integrations. It was difficult to establish for this study the exact share of volume attributable to each distribution channel, but our observation of the markets visited indicated dominance of the direct to market channel. Supermarkets and hypermarkets account for a fraction of the total sales, with the direct to market route through own stores accounting for the majority.

7.4.1 Trade in table eggs

Egg consumption has increased from 33 eggs/person/year in 2008 to 67 eggs/person/year in 2019 (with the objective of 56 eggs/person/year in 2021). The establishment of the fast-food chain KFC in Côte d'Ivoire in 2018 confirms that the poultry sector is increasingly attractive and better structured (Jeune Afrique, 2018). Figure 6 below shows the projected demand and supply of table eggs in Cote d'Ivoire. We anticipate that demand will outstrip current supply and more investment will be needed to bridge the gap.

Figure 6: Projected demand and supply of table eggs in Cote d'Ivoire



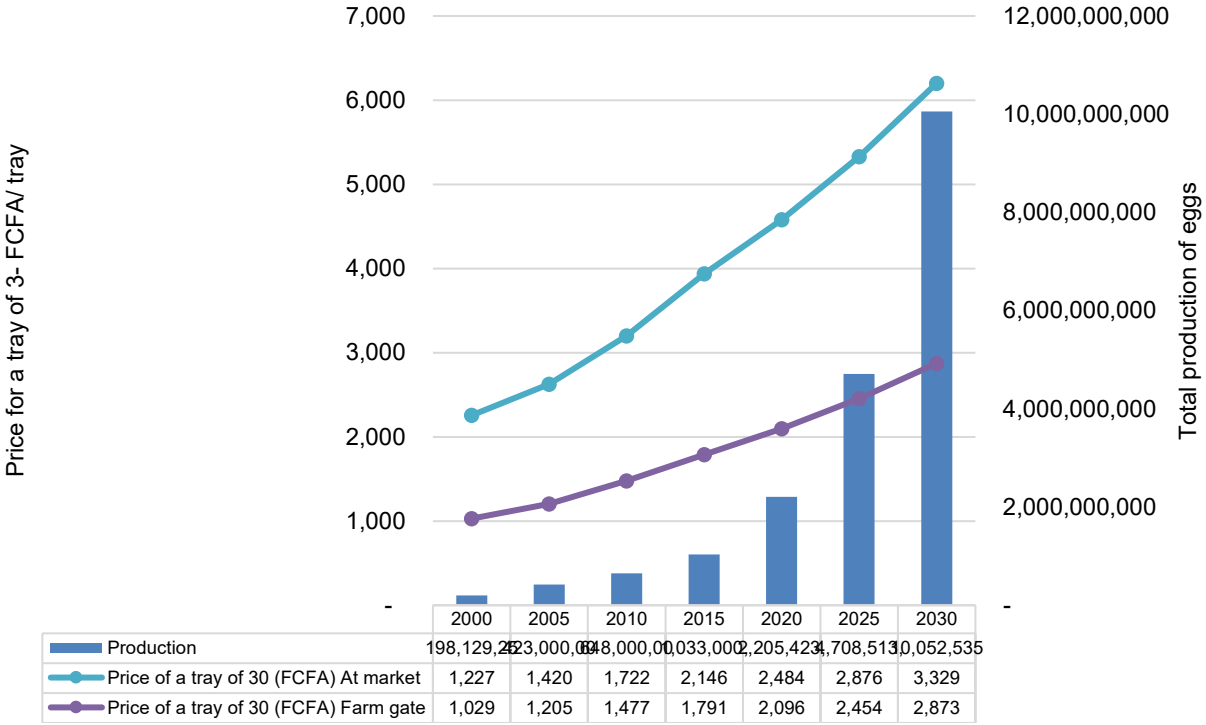
	2000	2005	2010	2015	2020	2025	2030
Total projected demand for eggs (,000,000)	200	395	617	1,032	2,335	5,123	11,197
Total forecast supply of eggs (,000,000)	198	423	648	1,033	2,205	4,709	10,053

Source: NABC Analysis of IPRAVI

The average household in Cote d'Ivoire has 5.4[38] people and SKUs predominantly sell trays of 30 and / or 12 eggs. The farm gate price differed significantly from the price at markets, as shown in Figure 6 below. That difference is set to increase slightly over the next 10 years.

[38] https://www.arcgis.com/home/item.html?id=d9048d5b756543a8b2c27a45451593d6

Figure 7: Price of a tray of eggs at farm gate and at the market



Source: NABC Analysis of IPRAVI

The eggs of large-scale integrated and medium-scale famers follow several routes to market. Most farms sell their eggs in (their own) wholesale or retail shops. Some sell via primary collectors (which are small-scale farmers' main gateway to market). Our estimates project that by 2030 the retail price at markets for a tray of 30 eggs will be approximately FCFA 3,329. A spot check of a tray of 30 eggs in a Dutch supermarket on September 2 2019[39] revealed a price of EUR 6.26 per tray (FCFA 4,107.88).

7.4.2 Trade in poultry meat

Besides the increasing demand for poultry proteins and implementation of import tariffs that have boosted consumption and local production, the sector continues to grow thanks to significant Ivorian government investments in the poultry sector.

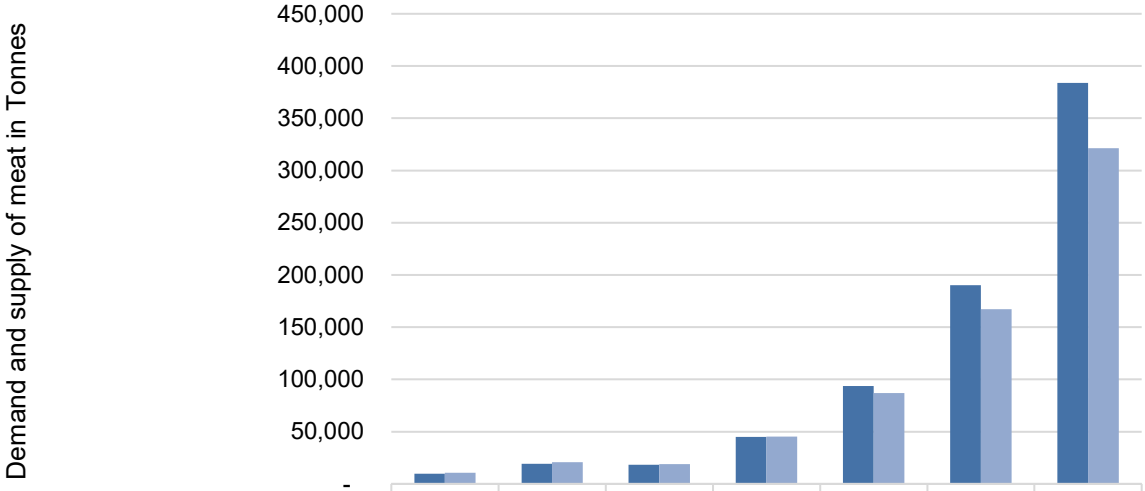
The government set up the Strategic Plan for Revival of commercial Poultry Farming (PSRA) in 2009, aimed at significantly increasing poultry meat and egg consumption in the country. The plan covers around EUR 69 million of government investment and aims to be accompanied by EUR 230 million of private investments, for effective and sustainable implementation of its policies and projects. According to Mr Sylvain Gotta, the chairman of IPRAVI and SIPRA's CEO since 2011, the target set for 2021 is 2 kg/person/year, which was reached in 2014.

Trade in poultry meat, as with eggs, is predominantly through own distribution channels for the larger integrations. In some of the wet markets, claims were made regarding some large integrations selling their products through these markets, but that was difficult to substantiate, as the markets were supplied by traders unwilling to divulge their sources.

[39] https://www.ah.nl/producten/product/wi418209/grote-polder-eieren-m

The demand for meat in Cote d'Ivoire will continue to grow, as shown in Figure 8 below. There will come a point when demand will outstrip supply. As such, investments in increased production capacity will be crucial to Cote d'Ivoire's growth and development agenda.

Figure 8: Demand and supply of poultry meat in Cote d'Ivoire



	2000	2005	2010	2015	2020	2025	2030
Total projected demand for meat (tons)	9,747	19,225	18,316	44,859	93,823	190,140	383,969
Total forecast supply of meat (tons)	10,759	20,671	18,902	45,315	87,059	167,257	321,334

Source: NABC Analysis of IPRAVI

In 2009, Côte d'Ivoire's poultry meat consumption was less than half of the average in Sub-Saharan Africa. In 2016, however, Côte d'Ivoire's poultry meat consumption surpassed the SSA average in recent years. Furthermore, poultry sector turnover has increased to over FCFA 240 billion in recent years, with local production increasing from 22,500 tonnes in 2010 to 44,500 tonnes in 2015[40]. Poultry meat relative to other sources of meat sources is affordable (see table below).

Table 22. Prices of meat in Super market[41]

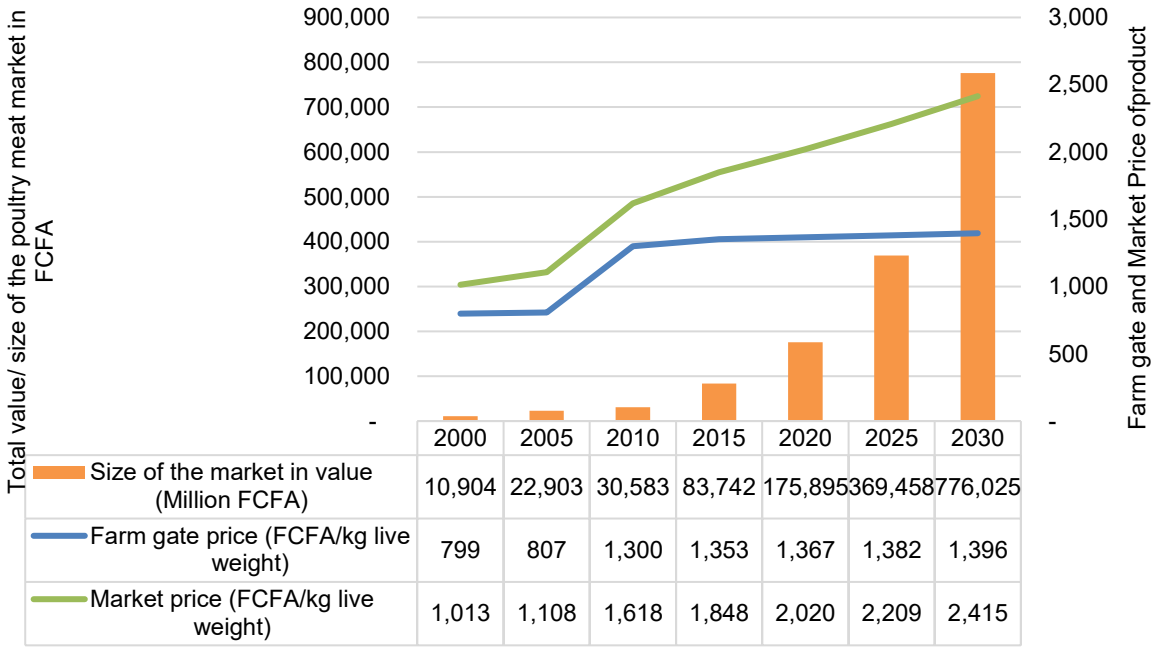
No.	Type of Meat	Price per kg CDI	
		FCFA	EUR
1.	Beef (with bone)	2,200 to 2,500	3.35 to 3.80
2.	Fillet Beef	2,500 to 3,000	3.80 to 4.57
3.	Pig	4,000 to 4,500	6.09 to 6.85
4.	Fish	1,400 to 1,850	2.13 to 2.82
5.	Chicken	1,000 to 1,800	1.52 to 2.74
6.	Guinea fowl	6,500 to 8,000	9.89 to 12.17

Source: Field study

[40] https://news.abidjan.net/h/646904.html

[41] Spot prices of meat as captured on 8th October 2019

Figure 9: Total size of the poultry meat market, with farm gate and market prices



	2000	2005	2010	2015	2020	2025	2030
Size of the market in value (Million FCFA)	10,904	22,903	30,583	83,742	175,895	369,458	776,025
Farm gate price (FCFA/kg live weight)	799	807	1,300	1,353	1,367	1,382	1,396
Market price (FCFA/kg live weight)	1,013	1,108	1,618	1,848	2,020	2,209	2,415

Source: NABC analysis of IPRAVI data

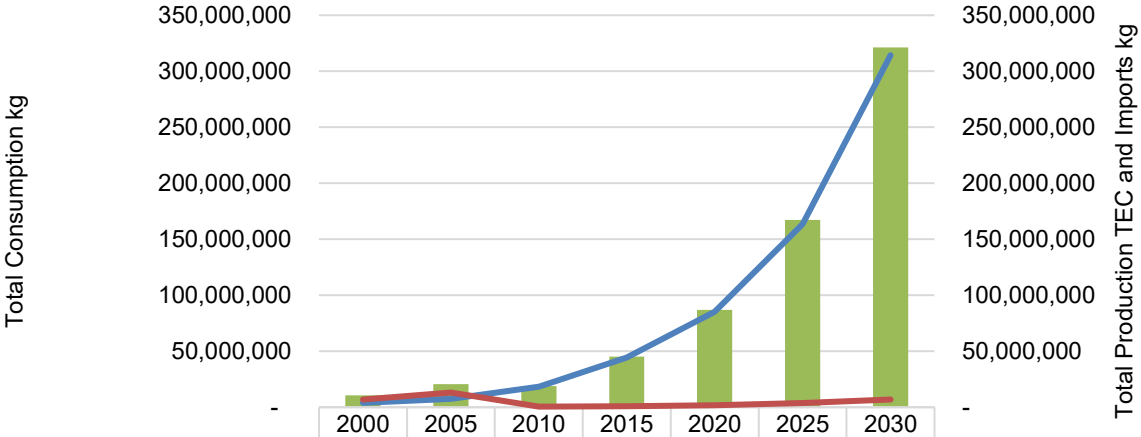
7.5 Ban on imports and its effect on market

From 2000 to 2005, the import of (cheap) poultry products to Côte d'Ivoire increased dramatically, demonstrating the increased demand for poultry in the country. Avian influenza combined with the need to protect local farmers made the Ivorian government decide in 2005 to apply import tariffs of FCFA 1000 /kg on poultry imports. Such imports fell drastically as a result.

Côte d'Ivoire's tariff barriers on poultry products have been in place for 15 years, but they were lifted on July 31 2019. PAPAN, the government-initiated poultry sustainability program put in place following the ban, intends to re-instate the ban from 2020 to 2040, to encourage sector growth and development. PAPAN is also working on the next 10-year phase of development of the sector and will this study in developing their strategic plan for the Côte d'Ivoire poultry sector.

CAPEC (the national centre for economic and policy research) is responsible for looking into poultry sector competitiveness and the impact of the tariff barriers before making an informed decision on extending the tariff barriers. PAPAN forecast the sector to grow to a production capacity of 200,000 tonnes / year in the coming years. The new strategic plan targets, besides the primary production, hatcheries, feed production, slaughter capacity, training and education (Interview with PAPAN Managing Director Dr. Essoh A. on July 2 2019). Figure 10 below shows the positive effect this policy change has had on local production.

Figure 10: Production vs imports of poultry meat into Cote d'IVoire



	2000	2005	2010	2015	2020	2025	2030
Total consumption	10,759	20,671	18,902	45,315	87,058	167,25	321,33
Total production (Tec)	3,923,	7,537,	18,366	44,324	85,155	163,59	314,30
Total imports	6,836,	13,134	536,00	991,00	1,903,	3,657,	7,027,

Source: NABC analysis of IPRAVI data and FAOSTAT

Cote d'Ivoire is signatory to a number of trade agreements that have direct consequences regarding how and with whom it trades. These trade deals are both regional and, in certain cases, international.

Of most consequence to the sector are the current trade agreements covering imports and exports of maize, cereals, soya, meat and fish. Table 22 below gives a summary of significant trade deals to which Cote d'Ivoire is signatory and their nature.

Table 23: Trade Agreements Côte d'Ivoire

Trade Agreement acronym	**Description**	**Signatories to the agreement**	**Nature**
UEMOA	West Africa Economic and Monetary Union	Benin, Burkina Faso, Cote d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal & Togo	Economic
ECOWAS	Economic Community of West Africa States	Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, the Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone & Togo	Economic
AfCFTA	Africa Continental Free Trade Agreement	Niger, Rwanda, Chad, Angola Central Africa Republic, Comoros, The Republic of Congo, Djibouti, Ghana, Gambia, Gabon, Kenya, Mozambique, Senegal, South Africa, Sudan, Mauritania, Zimbabwe, Cote d'Ivoire, Seychelles, Algeria, Equatorial Guinea, Lesotho, Morocco, Swaziland, Tanzania, Tunisia, Benin, Burkina Faso, Democratic Republic of Congo, Guinea, Liberia, Mali, Somalia, South Sudan, Uganda, Sao Tome and Principe, Togo, Malawi, Cameroon Cape Verde, Libya, Madagascar, Zambia, Egypt, Mauritius, Ethiopia, Namibia and Botswana	Economic

EU-CIV EPA	European Union - CIV Economic Partnership Agreement	European Union, Côte d'Ivoire	Economic
EU-WA EPA	European Union - West Africa Economic Partnership Agreement	European Union - 16 WA countries - in negotiation	Economic
C2D	Contrat de désendettement-développement	France - Côte d'Ivoire: EUR 122 million of investment from France to CIV in agriculture, rural development and biodiversity.	Development, Economic

7.6 Waste and offal

Waste (chicken faecal matter) is predominantly used by surrounding farms as manure. What most farmers do is they collect and store the waste and surrounding crop farmers would come to collect the waste to use it for manure. Offal (chicken intestines) is mostly damped and the main source for offal are the wet markets in and around Abidjan. The heads and legs or often used for making soup so certain butchery would come pick some of the heads and eggs the rest is thrown away.

8. Opportunities for Partnership

Despite the progress made in improving poultry products production and reducing reliance on imports, the sector still has a number of challenges. An immediate and major concern is that bio-security measures across the board, from our observations, were poor or non-existent in extensive and semi-intensive production systems. For a growing industry, that is very risky.

Lack of training and widespread illiteracy among the workforce are major limitations for attempts to improve safety and bio-security practices. We observed few bio-security measures in use in the transport of live animals and eggs.

Animals were often slaughtered in open areas in poor and unhygienic conditions. Transition from backyard production to more commercial production will increase rapidly in the coming few years, given the demand and market forces, so it is imperative that these bio-security issues be addressed as a matter of urgency. In addition to bio-security and other public health issues, Cote d'Ivoire faces a number of other equally urgent issues that should be addressed moving forward, i.e.:

- Access to consistent and affordable electricity;
- Access to finance: Businesses cannot get financial support; Banks do not understand the sector and the perceived risks are too high; Banks issue loans with interest rates of 12-15%;
- Competition from (illegal) imports: Despite the ban there is competition between locally produced chicken and imports from Brazil, Portugal and elsewhere in Europe; Imports of cheap fish from China cause competition between two different livestock sectors;
- Disease-monitoring programs, including diagnostic skills - there is currently only one laboratory with post-mortem capability. It opened this year (2019);
- Lack of / or poor enforcement of standards, norms and quality regulations in the industry;
- Low-skilled employers, especially with regard to practical hands-on poultry management skills;
- Taxation that is inappropriate for the poultry sector; The tax system needs streamlining, for example for essential inputs imports;
- A shortage of mechanized slaughterhouses accessible to traders and smallholder farmers. There is also a need to professionalize slaughtering and processing, to make the whole process efficient and, especially, to guarantee better food safety standards;
- Lack of adequate well-equipped poultry training institutes offering poultry-specific education (finding well-trained and capable people is very difficult); and
- Weak link between the private sector and training institutes.

8.1 Prioritising the main challenges

The enabling environment is not yet conducive to promoting a competitive and thriving poultry sector in Cote d'Ivoire. We have prioritised below five issues which are in line with

government thinking and will be key to the sector's continued growth success for the coming ten years.

I. **Availability of good quality and cost-efficient inputs, specifically**: feed and other raw materials for feed manufacturing; veterinary inputs; good quality DOCs;

II. **Improve access to finance for medium- and small-holder farmers** practising intensive small-scale farming;

III. **Improving bio-security concerns on farms and in other poultry-related businesses** i.e. hatcheries, slaughterhouses, etc.; and

IV. **Sector-specific training and education**.

V. **Develop markets.**

8.2 Matching gaps with opportunities for partnership

The Dutch Private sector enterprise development agency[42] (RVO) is an arm of the Dutch government charged with stimulating entrepreneurs in sustainable, agriculture, innovative and international business. Its objective is to improve opportunities for entrepreneurs, strengthen their position and help them realise their international ambitions. It does so through funding, networking, sharing know-how in compliance with all laws and regulations of both the Dutch government and the country in which an entrepreneur seeks to do business. RVO operates under the auspices of the Ministry of Economic Affairs and Climate Policy. Its activities are commissioned by various ministries and the European Union.

The Government of the Netherlands commissioned this study, with the objective of identifying ways to partner with Dutch and Ivorian public and private sector players to support the development of Cote d'Ivoire's poultry sector. Table 24 below gives a summary of NABC's assessment of which RVO PSD instruments would be most applicable in the context of the four priority areas identified above;

Table 24: Matching the priority areas with partnership possibilities

No.	Challenge	Form of Interaction	Description of its application
I.	Availability of good quality and cost-efficient inputs	B2B	Businesses with equipment and technology relevant for the inputs sector need support to either deliver the technology or equipment into the market or to familiarise themselves with the market. Aspects of trade financing, given the need to export the technology and / or equipment.
II.	Improve access to finance for medium- and small-holder farmers	B2B, G2B	This is a knowledge issue. An exchange between the right government and private sector players (e.g. Rabobank) would go a long way to improving financiers' awareness of the possibilities of financing the poultry sector, even at this stage. Both outgoing and incoming trade missions could facilitate such an exchange.
III.	Improving bio-security concerns on farms and in other poultry-related businesses	G2G	A combination of players is needed to ensure a holistic approach to bio-security, all the way from breeder farms to the factory gate. Companies could form a partnership based on their products and services portfolio to address this issue.

[42] https://english.rvo.nl/about-us

No.	Challenge	Form of Interaction	Description of its application
IV.	Sector-specific training and education	K2K	The objective would be to set up a practical training institute that would also be used to demonstrate Dutch technology whilst providing poultry education. In addition to the hardware, the cluster would support the local partner develop an accredited course i.e. diploma, certificate and a number of short courses to be made available to the public. The project would be closely linked or developed in partnership with the Cote d'Ivoire's poultry sector players.
V.	Develop markets for poultry products	B2B, G2B	Sector wide promotion of consumption of poultry products by the industry would work to benefit the entire industry. The government could also participate by supporting through fiscal incentives to firms active in marketing and or processing poultry products.

Annexes

A1. Ministry of Animal Resources and Fisheries Republic of Cote dÍvoire, Decree no. 7/MIRAH/CAB, April 4 2017

Approving the establishments for production, import and sale of hatching eggs and backyard poultry chicks. Based on:

- The constitution;
- Law no. 63-301 of June 26 1963 on the repression of fraud in the sale of goods and falsification of animal products and agricultural products;
- Law no. 96-563 of July 25 1996 on sanitary and qualitative inspection of animal and animal products;
- Ordinance no. 2013-662 of September 20 2013 on competition;
- Decree no. 63-328 of July 29 1963 regulating the animal health policy in Côte d'Ivoire, modified by decree no. 65-266 of August 18 1965 and decree no. 67-413 of September 21 1967
- etc….
- The report of the first meeting, on March 17 2017, of the Technical Commission of Approval for the production, import and marketing of hatching eggs and backyard poultry chicks.

Decree

Article 1: The enterprises referred to hereunder are approved for the production, import, marketing of day-old chicks, hatching eggs and breeding animals for the year 2016.

Article 2: These establishments are required to comply with the regulations governing the production, importation and marketing of hatching eggs and backyard poultry chicks.
In particular, they must:

- keep the books intended for the quantitative and qualitative recording of the entrances, exits and destinations of chicks and hatching eggs up to date;

- communicate quarterly all statistical data related to their activities to the Ministry of Animal Resources and Fisheries;

- Accept inspections of qualified agents.

Article 3: Any infringement of the regulations governing the production of hatching eggs and of backyard poultry chicks entails the temporary or permanent withdrawal of the approval.

Article 4: The approval is valid until the first meeting of the Commission of Approval of the following year.

Article 5: The director of livestock production, the director of veterinary services, the director of the management of grazing land, the director of training, extension services and the disposal of by-products are each responsible for the execution of this decree, which will be published in the Official Journal of the Republic of Ivory Coast.

A2. Law No. 2015-537 of July 20 2015, The Agricultural Orientation Act.

LAW AND REGULATION

The Agricultural Orientation Act deals, in addition to the agricultural sector, with livestock farming, the fisheries for aquaculture and fishery resources.

Law No. 2015-537 of July 20 2015 of Côte d'Ivoire agricultural orientation.

On page (11-13), TITLE 3: Food Sovereignty, Prevention and Risk Management, Veterinary Public Health, plant and animal protection.

CHAPTER 3: Veterinary public health and animal and plant health protection.

Article 57:
The STATE, in consultation with local authorities and the agricultural profession, defines a supervision policy, aimed at ensuring the safety of food of plant and animal origin, on the one hand, and veterinary public health by the mastery of zoonoses on the other hand.

Article 58:
The STATE is responsible for improving animal health and veterinary public hygiene.

Article 59:
Sanitary and quality control of food of plant and animal origin is mandatory. Vaccination against contagious diseases is also mandatory. A decree issued by the Council of Ministers determines the arrangements for organizing and implementing this control.

*On page (24-26), le **TITLE 7: PRODUCTION, MARKET AND PRICES***

CHAPTER 2: LIVESTOCK AND FISHERY RESOURCES

Article 136:
The STATE, in consultation with local authorities and professional agricultural organizations, defines and implements the national policy on animal and fish resources. As such, it develops regulations, adopts plans and programs for the development and promotion of livestock, fisheries and aquaculture. The STATE promotes the profession and veterinary pharmacy.

Article 137:
The enhancement of rural space and natural resources including:

- livestock
- land
- aquaculture
- pastoralism
- creation and protection of pastoral infrastructures of natural and voluntary reserves.

Article 138:

The STATE favors the policy of development of the breeding, the fishing, the aquaculture, the pastoralism and the emergence of related professions or annexes in the whole system of agricultural production.

Article 139:
The STATE, in consultation with local authorities and professional agricultural organizations, promotes livestock farming, fishing, aquaculture, pastoral activities and carries out actions to improve the genetic potential of livestock.

Article 140 :
The STATE and local authorities, taking into account the potential of the area, develop natural and livestock routes, ensure the creation of water points, pastoral perimeters and the fight against animal diseases. The STATE and local authorities contribute to the intensification of livestock farming through various forms of integration or agriculture-livestock association.

Article 143:
The STATE and the local authorities, the farmers, and the professional agricultural organizations take care of the fight against the pollution of water, the air, soil and subsoil.

Article 144:
The STATE and local authorities contribute to and participate in international technical and commercial exchanges in the field of fisheries and aquaculture farming. They promote the creation of professional organizations of fishermen and fish farmers.

A3. Law/ Decree no. 065/ MIPARH/ of 21 October 2006 on the organization of the Veterinary services Directorate.

MINISTRY OF ANIMAL PRODUCTION AND HUMAN RESOURCES

REPUBLIC OF COTE D'IVOIRE
Union - Discipline - Labour

MINISTER'S OFFICE

DECREE N ° 065 / MIPARH / of 31 October 2006
on the organization of the Veterinary Services Directorate (DSV)

THE MINISTRY OF ANIMAL PRODUCTION AND FISHERY RESOURCES

I. Having regard to Decree No. 2005-800 of 28 December 2005 appointing Members of the Government as amended by Decree No. 2006-307 of 16 September 2006;
II. Having regard to Decree No. 2006-03 of 25 January 2006 on the powers of members of the Government;
III. Having regard to Decree No 2006-35 of 8 March 2006 on the organization of the Ministry of Animal Production and Fisheries Resources;
IV. Given the necessities of service;

Articles:

Article 1: In accordance with Decree No. 2006-35 of 08 March 2006 referred to above, the Directory of Veterinary Services, abbreviated as DSV, is responsible for:

- coordinate all public and private activities aimed at improving animal health, animal welfare, food hygiene, quality and the safety of animal and animal products;
- to coordinate the actions of prophylaxis of livestock diseases and epizootics;
- to educate animal health authorities;
- to ensure the application of the animal health policy;
- to ensure regulation and animal health information;
- to coordinate regulatory actions and quality control and authorization for the placing on the market of products for veterinary use (medicinal products and vaccines);
- to supervise the control of professions related to animal and originals animal;
- to regulate the veterinary profession;
- to ensure the technical liaison with the international organizations of the health animal;
- organize and coordinate official control, sanitary and qualitative inspection animal and animal products intended for consumption at all stages of their handling and at any entry point into the territory in collaboration with the relevant technical structures;
- to propose administrative rules of hygiene and sanitation standards to which staff, premises, vehicles and equipment dealing with animal and animal products intended for consumption and to ensure their application;
- to ensure the safety of animal and animal products;
- to organize the regulatory and technological watch on trade quality and risk management, particularly in relation to international institutions responsible for the regulation and standardization of animal and animal products;
- to implement veterinary public hygiene to deliver for consumption healthy products at slaughterhouses, ship holds, transport, distribution and catering;
- organize the fight against zoonoses and vectors of animal diseases;
- to control equestrian activities and kennels;

- to regulate and control the activities of public and private veterinary clinics and anti-rabies centres;
- to promote the integration of professional organizations into the animal health and to involve professionals in the quality approach in the sector. agro-industrial sector in relation with the Directorate of Professional Organizations and Credit;
- identify research topics and participate in work related to the Scientific Research;
- to set up a steering committee bringing together the beneficiaries for each project it supervises in liaison with the Directorate of Planning and programs.

The Veterinary Services Directorate is headed by a Director who coordinates, ensures the animation and the follow-up of all the activities of the Direction and Sub-Directorates in functional liaison with the other Central Departments and Services of the MIPARH.

Article 2: The Veterinary Services Directorate comprises four (04) Sub -Directions:

- the Animal Health Sub-Directorate (SDSA);
- the Sub-Directorate for Zoo sanitary Regulation and Information (SDRIZ);
- the Department of Quality and Public Hygiene Veterinary (SDQHPV);
- the Department of Pharmacy and Veterinary Medicines (SDPMV).

Article 3: The Sub-Directorate of Animal Health (SDSA) has for mission:

- to coordinate the fight against animal diseases and to implement the programs of collective prophylaxis;
- Organize animal health surveillance at national borders;
- to control the hygiene of the premises assigned to the housing of domestic animals;
- develop and implement a national trypanosomiasis control program animal;
- to plan and coordinate epidemiological surveys and research programs useful research to better control pathological problems occurring in the farms;
- organize the fight against zoonoses and disease vectors;
- to control equestrian activities and kennels;
- to regulate and control the activities of public veterinary cereals and private and anti-rabies centres;
- to promote the integration of professional organizations into the animal health;
- to ensure border health surveillance to propose projects related to the animal health.

Article 4: Sub-Directorate of Regulations and Zoosanitary Information (SDRIZ) has for mission:

- to ensure the collection and processing of data relating to the animal health situation and disease reporting to international bodies;
- to centralize and disseminate all information on cases of animal diseases;
- to participate in the processing and dissemination of zoo-sanitary data national, regional and international;
- to participate in training, information and awareness-raising activities stakeholders in the field of veterinary activities;
- to ensure the harmonization and updating of the texts governing the activities veterinarians in accordance with international standards;
- to participate in the creation and animation of zoosanitary bulletins within the Department of Veterinary Services and Quality;
- to ensure the collection of all statistical data relating to animal health.
- to propose animal health information improvement projects

Article 5: Sub-Department of Quality and Veterinary Public Hygiene (SDQHPV) has for mission:

- to ensure the technical secretariat of the professional accreditation commission affecting trade in animals and animal and animal products intended for human consumption;

- organize and coordinate the official sanitary control of foodstuffs of animal origin, within the territory at the level of production, storage, transportation, processing, marketing and all positions entry into the territory with the technical structures;
- to ensure the official sanitary control at the level of production establishments, processing, collective catering, and modern distribution;
- to contribute to the regulatory and technological watch on trade international trade in animal and animal products;
- to ensure the application of regulatory, legislative, normative and rules administrative, quality and safety of origin foods animal;
- to inspect the health registration dossiers of production establishments, storage, processing and marketing of foodstuffs animal origin;
- to contribute to the development of administrative rules, standards of hygiene and in accordance with international agreements.
- to propose projects for the development of quality and public hygiene Veterinarian (HPV).

Article 6: The Sub Directorate for Pharmacy and Veterinary Medicines SDPMV) has for mission:

- to ensure control of the import and export of animal vaccines, veterinary medicinal products and biological samples including antigens and strains and in authorized establishments;
- develop the national system of approval and authorization of placing on the veterinary medicines and to ensure their implementation;
- to control and inspect the above-mentioned establishments and pharmacies of pharmacy, distribution units in public and parapublic structures and other approved establishments;
- to plan orders, distribution of vaccines, medicines, materials veterinarians and cold chain equipment programs on the budgets of management;
- to monitor the implementation of new drug trials and veterinary biological products;
- to manage the national cold chain for the preservation of vaccines;
- to propose pharmacovigilance plans;
- to contribute to the development of veterinary pharmacy;
- to propose the regulation;
- to propose projects for the development of the veterinary pharmacy.

Article 7: this decree repeals all previous provisions.

Article 8: The Director of Veterinary Services is responsible for the execution of this which will be registered and published in the Official Journal of the Republic of Cote Ivory.

The Ministry of Animal Production
And Halieutic Resources
Dr. DOUATI Alphonse

Amplifications:
General Secretariat of the Government
CAB / MIPARH
IG / MIPARH
All Directions MIPARH
Financial control
LANADA
JORCI
Chrono

A4. Law/ Decree 19/MIPARH/CAB of 09 AVR 2009 setting out the procedure and conditions for granting health approvals to economic operators involved in the import, export and manufacture of feed..

LIST OF THE CONSTITUENT ELEMENTS OF A HEALTH AGREEMENT

1. A free-paper request to the Minister of Animal and Fisheries Resources, specifying the product ranges for which the declaration is made;
2. A copy of the statutes (for companies)
3. A file containing information about the company manager and the technical manager including:
   - The manager: A criminal record, ID, a visit and counter-visit certificate, pulmonary radio
   - Technical manager: A piece of identification, a visit and counter-visit certificate, chest radio and a certified copy of the diploma;
4. A copy of the trade register;
5. A certificate of location issued by the tax register or by the town hall
6. Tax declaration (for a new application);
7. Medical records (visit and counter-visit certificate, lung radio) of employees
8. A discharge of the costs of the application file;
9. Any other documents that may be required by the relevant departments of the Ministry of Animal and Fisheries Resources;
10. Certificate of non-bankruptcy;
11. Certification of tax regularity; and
12. Employee update certificate at the CNPS.

A5. Business cases

TBA

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