



# Meat and Poultry Value Chain

A Market Study with Potential COVID-19 Impact Analysis

Supporting Resilient Livelihoods and Food Security in Yemen:  
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[info@impactresearch.center](mailto:info@impactresearch.center)  
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# Table of Contents

Meat and Poultry Value Chain .....	1	Potential Impact of COVID–19 on the Sector .....	31
Value Chain Characteristics .....	1	Value Chain .....	31
Meat and Poultry Feeds .....	3	Micro, Small and Medium Enterprises (MSMEs) .....	31
Production .....	3	Livelihoods .....	32
Trading (Marketing) .....	3	References .....	33
Value Chain Map .....	3		
Market Routes, Actors and Stages for Meat and Poultry			
Industry .....	5		
Market Locations and Routes .....	5		
Marketing Actors .....	5		
Producers: .....	5		
Wholesalers: .....	5		
Retailers (Small Traders): .....	5		
Brokers (Collectors): .....	5		
Butchers: .....	5		
Restaurants: .....	5		
Consumers: .....	5		
Exporters (Big Traders): .....	6		
Business Development .....	6		
Seasonal Calendar .....	6		
Skill Development .....	7		
Competitiveness .....	7		
Marketing Stages of Meat and Poultry Industry .....	7		
Finance .....	8		
Gender Dynamics .....	8		
Challenges .....	11		
Constraints in the Meat and Poultry Industry and Feed			
Value Chain .....	15		
Constraints in Input Supply .....	15		
Production Constraints .....	15		
Marketing Constraints .....	15		
Institutional, Governmental and Organizational Constraints .....	16		
Opportunities .....	18		
Potential Growth Opportunities .....	18		
Upgrading Strategy and Interventions .....	22		
SWOT Analysis .....	24		
Meat and Poultry Industry Value Chain Summary .....	25		

# List of Tables

Table 1. Seasonal Calendar ..... 7

Table 2. The Challenges and Opportunities for Women  
Employment in Meat and Poultry Industry ..... 10

Table 3. The Challenges Facing Meat and Poultry  
Industry and their Cause ..... 11

Table 4. Organisational Constraints ..... 17

Table 5. Potential Growth Opportunities for the  
Different Actors of the Sector’s Value Chain ..... 19

Table 6. he Improvement Activity on the Value Chain  
and Their Actors’ Intervention ..... 22

Table 7. Pricing for Different Intermediaries (Source:  
Primary Assessment) ..... 29



# List of Acronyms

BDS	Business Development Services
ERRY	Enhanced Rural Resilience in Yemen
EU	European Union
FAO	Food and Agriculture Organization
GIZ	Gesellschaft für Internationale Zusammenarbeit
INGO	International Non–Government Organization
MFI	Microfinance Institution
MSME	Micro, Small and Medium Enterprise
NGO	Non–Government Organization
SME	Small and Medium Enterprise
SWOT	Strengths, Weaknesses, Opportunities, Threats
UN	United Nations
UNDP	United Nations Development Programme
USD	United States Dollar
VC	Value Chain
YER	Yemeni Riyal

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For further information, please contact:

## **Nahid Hussein**

Deputy Resident Representative (DRR)  
United Nations Development Programme (UNDP) Yemen  
Nahid.Hussein@undp.org

## **Fuad Ali**

Team Leader (a.i)  
Economic Resilience and Recovery Unit (ERRU)  
United Nations Development Programme (UNDP) Yemen  
Fuad.Ali@undp.org

## **Arvind Kumar**

Project Manager  
Supporting Resilient Livelihoods and Food Security in Yemen (ERRY II)  
United Nations Development Programme (UNDP) Yemen  
Arvind.Kumar@undp.org

# MEAT AND POULTRY VALUE CHAIN

This value chain study looks at the market actors in eight districts in Abyan, Hajjah, Hodeidah, Lahj, and Taiz. The study objectives were to identify the current challenges and opportunities among the value chain actors in these targeted locations. The study is to inform Enhanced Rural Resilience in Yemen (ERRY II) programming and assist in identifying areas for improving the value chain. Data were collected via surveys, focus group discussions, and key informant interviews. A separate synthesis report describes the study methodology and sampling strategy. The study analysis started in December 2019, and with the arrival of the Coronavirus (COVID-19) pandemic, opportunities were found to provide insight into the potential impact of the virus crisis on the sectors.

Most of the population, about 70%, living in rural areas are semi-nomadic pastoralists, raising livestock such as goats, sheep, rams and poultry in their lands. The households traditionally raise several kinds of livestock primarily for sale, milk, eggs and occasional slaughter at home for household consumption. Each type of livestock has different weather, terrain and dietary requirements, tolerance to hardship and productivity.

The livestock industry is concentrated in populated high and low-land regions, while the poultry industry is almost totally located in the coastal low-lands. Moreover, according to the Food and Agriculture Organization (FAO), there are large producers that own their hatcheries, stock breeding farms and feed blending facilities, and they supply day-old chicks, eggs and broilers. Some supply either eggs or broilers or supply a sufficient number of birds for urban demand and individual family needs. Moreover, the livestock industry demands natural grazing and agricultural crops, and feed supplements especially during the dry season, while the poultry industry demands significant amounts of non-wheat products such as corn and soybean meal that may be imported by traders to cover the immediate needs. Often, raw feeds are ground and mixed locally with feed additives (Yemen-Poultry and Products Report, 2011).

Yemen districts differ in geography, administrative capacity, social capital (including international links), the human cap-

ital in education and skills, natural resources and many other factors, which will shape how they cope with challenges and opportunities. In meat and poultry productions, the causes of low productivity include the inadequate availability of grazing as well as supplementary feeding and vaccines, the low protein and mineral content of livestock feed, and diseases, including lethal infections such as rinderpest, Rift Valley fever, and sheep pox and nonlethal diseases such as infestations of internal parasites (World Bank, 2015).

The shortage and soaring prices of feed have resulted in poor livestock and poultry productivity with high levels of livestock deaths. Also, the industrial poultry sector – the major provider of protein (chicken and eggs) for poor families – is under serious threat as all vaccines and feed for poultry are imported (FAO, 2018). In some districts, indigenous livestock breeds such as sheep and backyard chicken have specific adaptation to survive and produce under adverse environmental and conditions such as climatic stress, poor quality food, seasonal feed, water shortages, and common diseases that make them more suitable for use than imported livestock. Furthermore, farmers in some districts have medium sales level (such as Abs, Almusaymeer, AlZuhrah, Bani Qais) due to competitiveness situation of sellers and suppliers, wholesaler satisfaction, good quality and high market price. Other districts have a low sales level (such as AlTiaziyah and Sarar) because of many competitive sellers, inconsistent supply of goods, lack of information about the market, and low market price.

Women in rural areas contribute substantially to livestock industry, but their potential is limited by legal, economic and cultural constraints. Women provide 60% of the labour in crop cultivation and more than 90% in tending livestock (World Bank, 2015).

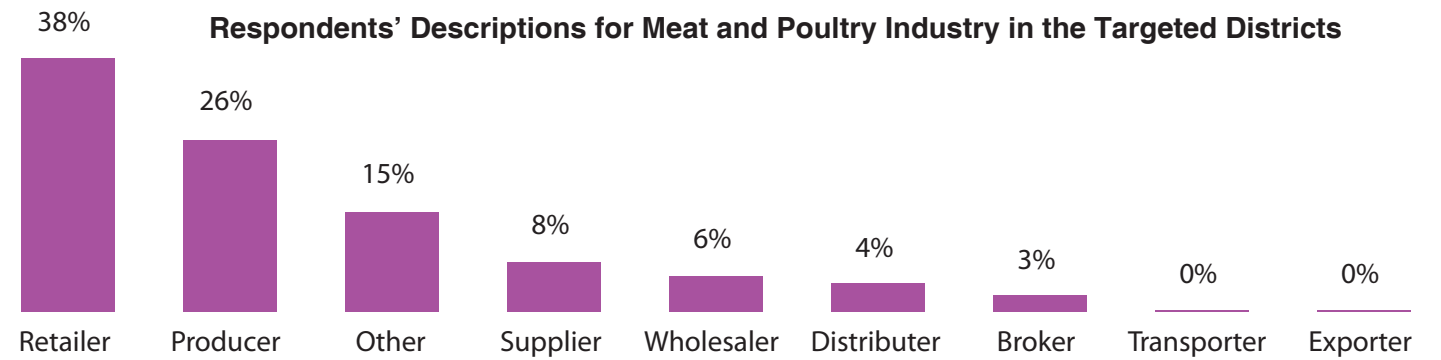
## Value Chain Characteristics

The meat and poultry industry value chain has different characteristics. In the targeted districts, the respondents are farmers, customers, butchers and retailers. Mostly it is a balanced value chain with a lot of buyers serving customers after buying from individual breeders or buying from retailers, brokers, collectors or distributors. The list includes

market actors and market support services. The former market actors include: producers/farmers, retailers (small traders), wholesalers (middle traders), traders (marketing), butchers, consumers, restaurants, importers, and exporters (big traders). The latter market support services include:

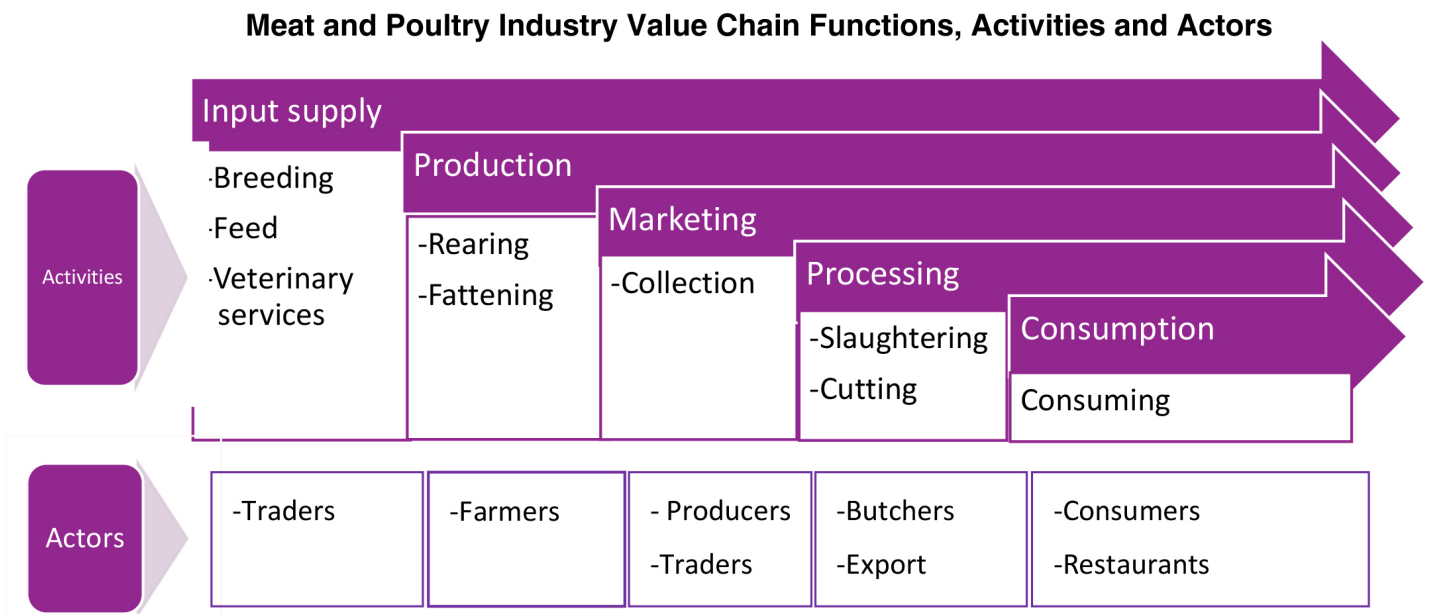
feeders, veterinarian services, suppliers, brokers, distributors, and transporters.

Overall, government policies are trying to promote local meat and poultry industry production.



The core functions in meat and poultry industry value chain are: Input supply, Production, Marketing (Trading), Process–

ing, and Consumption. The figure below shows Meat and poultry industry Value Chain Functions, Activities and Actors.



The major breed available in the targeted districts is the local breed, sheep, goat, rams, and chicken which is character–ised by ability to produce under adverse local environmental conditions (climatic stress, poor feed quality, seasonal feed, dry season, water shortage, and endemic diseases). These animals often show poor body condition and hence com–mand low market prices. Generally, the source of rams is the producer’s own flock and breeding is through natural mat–ing. All farmers use local goats, sheep, and rams for mating and fattening purposes.

The poultry sector is broken down into four main segments: large, medium, small, and backyard producers. There are large and medium producers owning hatcheries, stock breeding farms, which supply chicks, eggs and broilers to small producers. The small producers do not normally own breeding stock, rather provide local producers with eggs and broilers. Moreover, there are a few backyard producers, often limited to individual family needs; few produce suffi–cient number of birds for supplying urban demand.



### Meat and Poultry Feeds

The sources of livestock feeding in the targeted districts are natural pasture, hay, sorghum, crop residues. Moreover, the sources of poultry feed are corn and soybean meal that may be imported by traders in addition to raw feeds which are ground and mixed locally with feed additives, by feed blending facilities owned by some large producers, then supplied to other local producers.

### Production

In the targeted districts, the main sources of income to meet the household's immediate cash needs are sheep, goats and rams. Farmers produce sheep primarily for sale and occasional slaughter at home for household consumption. The average flock size usually maintained by households in

the study districts is about 4–10 and the trend is to increase the flock size due to increasing demand for sheep meat. On the other hand, in the poultry industry in the targeted districts, there are no large producers that own hatcheries and stock breeding farms. Nevertheless, there is a backyard production which is often limited to individual family needs.

### Trading (Marketing)

Producers and farmers sell livestock to the buyers who pay an acceptable price. The buyers are mainly other farmers, traders, brokers and end-consumers. Moreover, for live-stock business when farmers are in need of cash, they sell female and male yearlings in the market. In the poultry market, the producers and farmers sell their poultry stock to buyers such as wholesalers, retailers and brokers and the quantity depends on market demand.



## Value Chain Map

In this section, we provide a description of the main stages and the relative importance of each to the whole value chain, in order to identify which particular stages are best suited for maximum impact. The figure below shows the value chain map of the meat and poultry industry sector for the targeted districts. The figure also shows the mar-

ket environment: institutions, rules, norms and trends, major and partial disruption in the government policies, rules and regulation, as well as export regulations and cross border trading. Moreover, it shows the market chain: market actors and their linkages and key infrastructure, inputs and market-support services.



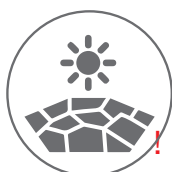
# Meat and Poultry Sector Value Chain Map

## Market Environment:

Institutions, Rules, Norms and Trends



Government Policies, Rules and Regulations



Drought



Export Regulations



Cross Border Trading

Symbol Key:

Critical Issue !

Major Disruption X

Partial Disruption O

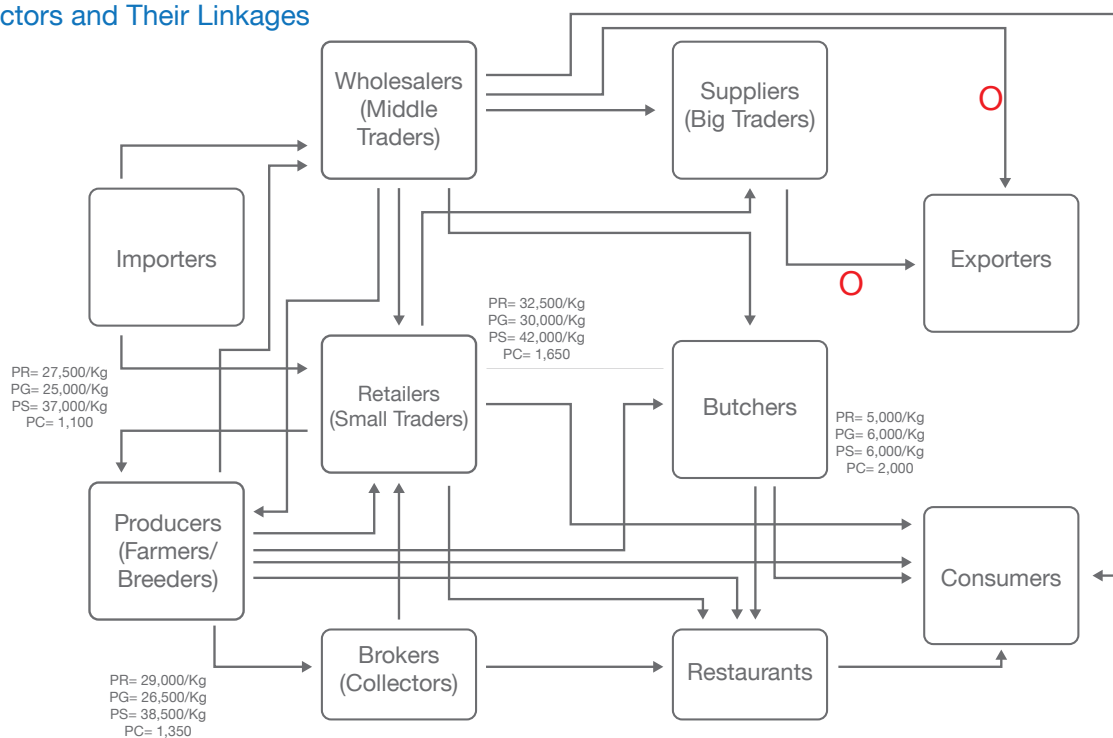
PR= Price of Ram

PG= Price of Goat

PS= Price of Sheep

PC= Price of Chicken

## Market Actors and Their Linkages



\*P= Price (All price amounts are in YER), USD = 500 YER

## Key Infrastructure, Inputs and Market Support Services



Feed Services



Grazing Land



Market Infrastructure



Veterinarian Services



Logistics

# Market Routes, Actors and Stages for Meat and Poultry Industry

This section provides details about market routes, actors and stages for the meat and poultry industry business in the targeted districts.

## Market Locations and Routes

In most districts, local producers/farmers sell their sheep, goats and rams at the nearest primary market or at external market (depending on the market needs which affect the profits). External producers/farmers come from external market – which is near to their village/district – to sell their cattle and chickens. They usually sell their livestock in these markets once or twice per week depending on the district's market activities. Therefore, in the market routes we can recognise two types of markets: local (inside village/district) and external (outside village/district).

On the other hand, for the poultry industry, most end-consumers purchase live poultry at their local markets and slaughter occurs at the time of purchase. Moreover, frozen poultry is imported primarily from France, Brazil and Turkey by the importers, primarily for restaurants and for local markets. Until recently the higher cost of domestic live poultry was providing an incentive for urban consumers to seek out more affordable imported frozen poultry (Poultry and Products Report, 2011). The meat and poultry industry passes successively through several market actors, implying a series of links in the value chain before the product reaches the end-consumer. The main market actors in the study areas include: producers (farmers/breeders), wholesalers (middle traders), retailers (small traders), brokers (collectors), butchers, restaurants, consumers, and exporters/suppliers (big traders). The market support services in the study areas include: feed services, veterinarian services, importers, distributors and transporters, local and external markets.

## Marketing Actors

### Producers:

These are the first link in the livestock market chain. Producers/farmers sell their livestock or poultry stock to retailers, wholesalers, brokers, collectors, distributors and restaurants and sometimes to the end-consumers.

### Wholesalers:

They buy from producers, brokers, distributors, supplier, importers, retailers, farms and sell to other actors such as butchers, retailers, restaurants, exporters, and in some districts to households for restocking. Wholesalers and retailers do not only run their business in some district market, but also have connections with other traders in other districts adjacent to their district.

### Retailers (Small Traders):

These traders buy from producers, brokers, suppliers, distributors, importers, and farms. Moreover, they sell livestock and poultry stock to wholesaler, butchers, restaurants, consumers and in some district to farmers for restocking. This activity may exceed the local market within the same district.

### Brokers (Collectors):

These actors offer services to the market by negotiating between the seller and the buyer in order to agree on the price of livestock and poultry stock. They collect livestock from the producers and supply to other actors including retailers, restaurants, and sometimes consumers. They have long experience in the market and can easily identify livestock that are required by different actors.

### Butchers:

The butcher performs his activities in the local market providing an important service to the community by buying livestock or poultry stock which are slaughtered and then sold to the consumers, restaurants and exporters (if any). This sector usually relies on buying livestock and poultry stock from producers, retailers, wholesalers and importers.

### Restaurants:

They buy livestock and poultry stock from brokers, distributors, retailers, wholesalers, importers, farms, as well as producers to provide food to the end-consumers. Slaughtering is usually done in the local market or by the restaurant owners.

### Consumers:

Consumers are the last link in the meat industry market chain. Households often purchase sheep, goat, rams and cows during cultural and religious festivals. They buy either

meat\chicken from butchers and restaurants or meat and chickens (live or frozen) from retailers and producers at their nearest markets.

**Exporters (Big Traders):**

These actors play a significant role within the market chain. Big volumes of livestock and poultry stock are collected from different sources, such as wholesalers, retailers and farms and then sent to either a big local market in other districts/governorates or across the border. Exporting involves a continuous movement through local markets not only within the respective districts but also across different governorates. These traders are sensitive to the issues of demand and supply, and therefore sometimes they import livestock and poultry stock into local districts when demand increases locally.

**Business Development**

**Feed Services:**

The sources of animal feed in the targeted districts are natural pasture, hay, sorghum and crop residues. As such, the fodder market is an inter-linked input market to the livestock market. Some natural pasture is available in plains scattered along the district, especially in the rainy season. Therefore, the production of fodder increases during rainy season with the effect that the price decreases. On the other hands, once the rainfall stops, the pasture gradually vanishes until the land becomes desert-like as well as the fodder price increases, so there is a critical need to support the livestock breeders in their access to fodder during this time. Fodder production is mainly monopolised by the farmers who have access to irrigation facilities as well as those who hold big pieces of arable land. Moreover, the sources of poultry feeding are corn and soybean meal that may be imported by traders, in addition to raw feeds which are ground and mixed locally with feed additives.

**Pastures/Grazing Land:**

In the rainy season, some natural pasture is available in plains scattered across the target districts. These public grazing land areas lack the quantity and quality needed for livestock production. During the dry season, the pastures gradually wither away. There is a critical need to support the livestock producers with access to fodder during the dry season.

**Veterinarian Services:**

These services are not readily available for most livestock and poultry breeders, especially small to middle livestock and poultry farmers who lack access to veterinarian services. In most targeted districts, there is no veterinarian or pharmacy care for livestock and poultry. There are veterinaries in some districts who have neither pharmaceutical nor veterinarian inputs to address immediate needs. Moreover, veterinaries have not received refresher training.

**Market Infrastructure:**

There is local market in most districts, where producers/farmers bring their livestock/poultry to meet buyers directly or through brokers that act as middlemen in negotiating prices. Many areas of the targeted districts are still without the necessary infrastructure for livestock and poultry collection and processing, including buildings, sheds, electricity, slaughterhouses, storage, as well as machine availability such as hatcheries, skinning, conditioners, heaters, large refrigerators, packaging, egg hatching, and feed blending facilities.

**Transportation and Roads:**

The livestock and poultry market distribution chain normally commences with brokers that purchase directly from local producers. Traders transport the livestock directly to the wholesalers, local and external markets using trucks. Moreover, they pack the live poultry in plastic or woven crates and the eggs are carton packaged. Individual producers on occasion bypass brokers and directly market broilers and eggs. Many areas of the targeted districts are still without the necessary infrastructure for livestock and poultry collection, including transport networks and roads.

**Seasonal Calendar**

The table below shows the seasonal calendar for the meat and poultry industry market system:

- The price of meat and poultry increases, by about 30–50%, during Ramadan and the festive seasons when demand is high, as well as due to drought.
- Due to drought, fodder availability has decreased, which affects the livelihoods of people who depend on livestock.
- The lack of grazing land, public pasture and high prices of fodder in the dry season, as well as diseases, aggravate the problems for livestock breeders. The livestock

prices have fallen as livestock keepers distress sell their animals due to lack of fodder and veterinary services.

Table 1. Seasonal Calendar

Factors	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Price of Meat		Medium				High			High	Medium		
Price of Poultry	Medium					High				Medium		
Diseases	High											
Fodder Availability		Low					Medium					
Price of Fodder		High										
Pasture							High					
Droughts		High										

### Skill Development

In the targeted districts the production of meat and poultry industry is done using traditional practices. Producers and farmers indicated that they do not practice improved livestock and poultry production. Extension on marketing and services, training on livestock as well as food production, processing and marketing are essential for the development of the value chain. Other skills and knowledge constraints:

- Customer service skills
- Poultry farming skills
- Entrepreneurial field
- Financial management
- Food Industry
- Breeding laying hens
- Filling and packaging cycle
- Poultry development courses
- Poultry therapy and treatments
- Veterinary courses
- Buying and selling poultry
- Communication skills
- Supply and export
- Courses on skinning
- Machine training
- Meat and chicken packaging

### Competitiveness

The distribution of marketing costs can be shown by tracking some major marketing stages linking producers with the end-consumers. These identified stages/channels represent the full range of available outlets through which livestock and poultry stock move from the different collection

points in production areas to the terminal markets to meet end-consumers' needs. There are four major market stages for livestock and poultry stock produced in the study districts and moving to different markets.

### Marketing Stages of Meat and Poultry Industry

#### Stage 1:

Livestock and poultry stock purchased for breeding/fattening purpose by producers/farmers.

The livestock and poultry stock producers buy replacement breeding stock and fattening sheep from the local/external markets. Mostly, they buy such animals from known sources such as neighbours and/or known traders. Farmers sell/buy animals of known origin, good physical appearance and good health condition for this purpose. The important sellers for this stage are producers/farmers.

#### Stage 2:

Poultry stock imported by large traders from other countries.

The importers buy frozen poultry stock from the other country such as France, Brazil and Turkey. They then sell to wholesalers, retailers and sometimes to restaurants.

#### Stage 3:

Livestock and poultry stock purchased by restaurants and consumers.

Restaurants in some districts buy from their butchers, retailers and local markets. Moreover, consumers buy slaughtered livestock mainly during festivals such as weddings and Muslim festival days. They go for fattened mature sheep/goats. Fattened animals can be sold during the festivals at



higher prices than in normal times. Consumers buy live-stock mostly from producers, brokers/collectors or retailers. Moreover, consumers may buy slaughtered chicken (or frozen) daily from the market, depending on their financial condition.

#### Stage 4:

Livestock transported to butchers, local and external markets as well as consumer.

Retailers and brokers may collect fattened livestock from the study districts area and transport them to local and external markets, especially for the religious holidays. In addition to individual consumers, these animals are sold to butchers and local markets. The butchers and local markets have permanent suppliers for live sheep supply. They feed these animals only for fattening purposes until they are sold.

#### Stage 5:

Poultry stock slaughtered and exported by individual people to other districts.

This stage is the largest consumer of poultry stock. The exporters buy poultry stock from the farms, retailer and local market and they slaughter poultry stock depending on the needs and export of frozen chickens to other districts.

## Finance

Financial institutions are not usually availed by sector actors. The concept of paying interest discourages them on religious grounds. The banks do give high-interest agriculture loans; hence, the farmers take loans from friends, wife, family and use personal savings. In some districts, they can get loans from INGO lending organisations named “For All Foundation” and “Meat Foundation” for livestock business as in Khanfar district and “Yemeni Women’s Union” and “AL-Sayani Cooperation” for poultry business as in AlTi-aziyah district.

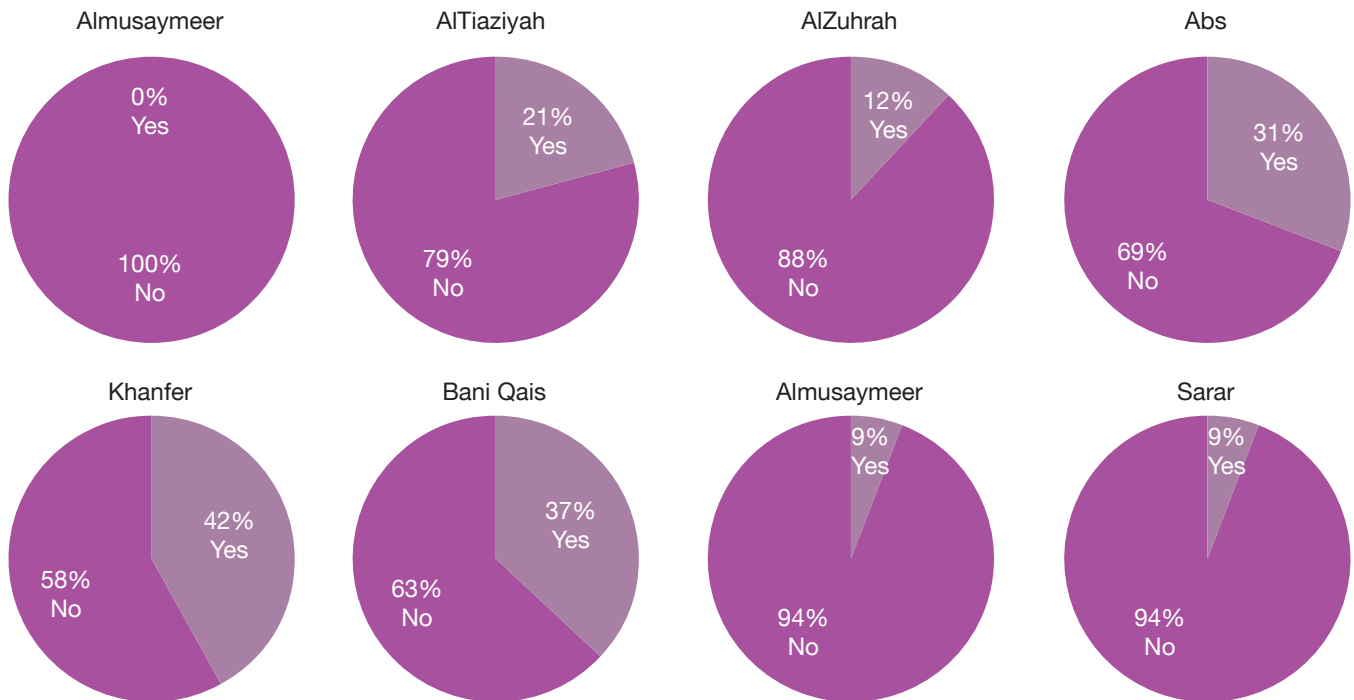
## Gender Dynamics

In meat and poultry industry business the women employment is a part of the value chain actor side-by-side with men employment. Major works, such as herding sheep, obstetrics, livestock and poultry breeding, feeding and fattening, are performed by women. Moreover, they engage in finding feed for animals, collecting water for cows and sheep, cleaning sheep and poultry sheds, taking care of young chicks, sheep and cows. The figure below shows women employment in the meat industry in targeted districts. Nevertheless, in Yemen social life, there are some challenges that might be faced by women if they are engaged with meat and poultry industry activities.

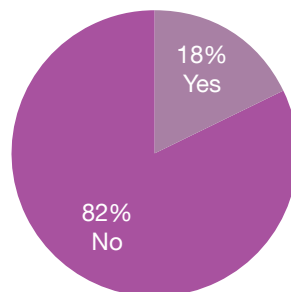




## Gender Dynamics (Women Employment) in Meat and Poultry Industry Business in Targeted Districts



### Have you employed women with your business?



Nevertheless, there are other opportunities for vulnerable women to start up their enterprises in other sub-sectors considered suitable for their social life and their capability.

The table shows the challenges and opportunities for women employment in the meat industry business.

Table 2. The Challenges and Opportunities for Women Employment in Meat and Poultry Industry

Challenges	Opportunities
<ul style="list-style-type: none"><li>• Customs and traditions; society is not receptive to the idea of women’s work</li><li>• Lack of training and skills</li><li>• Lack of places nearby to collect feed</li><li>• Inability of women to market</li><li>• Lack of special markets for women</li><li>• Lack of job opportunities in the market</li><li>• Not able to work as butchers</li><li>• Inability to run a business</li><li>• Not meeting the requirements of her home</li><li>• Harassment of women</li><li>• Inability to enter the market to sell products</li><li>• Inability of women to communicate with clients</li></ul>	<ul style="list-style-type: none"><li>• Production</li><li>• Breeding and fattening of animals</li><li>• Herding livestock</li><li>• In poultry raising, taking care of and cleaning them</li><li>• Raising cows, sheep and goats</li><li>• Poultry breeding sector (domestic / importer)</li><li>• Slaughtered poultry packaging</li><li>• Selling laying hens and chicken eggs</li></ul>





# Challenges

This section explores a number of challenges and constraints facing the meat and poultry industry sector in the following value chain parts: supply (input provision), production, processing, storage, gathering of production, distribution, marketing

Table 3. The Challenges Facing Meat and Poultry Industry and their Cause

	Challenges	Causes
Supply (Input Provision)	<ul style="list-style-type: none"> <li>• Lack of suppliers in the region</li> <li>• Difficulty in supplying local products</li> <li>• The lack of capital to supply</li> <li>• Lack of adequate feed</li> <li>• Distance to bring the feed</li> <li>• Late arrival of chickens</li> <li>• Poultry without high quality</li> <li>• Poultry diseases</li> <li>• Failure to develop equipment and tools used in poultry raising</li> <li>• Supply of hatcheries from other governorates</li> <li>• Short supply of fodder and chicks</li> <li>• The scarcity of poultry farms</li> <li>• No pure breed</li> <li>• Inability to buy a large number of chicks</li> <li>• Lack of chicken accessories (cereals – water – conditioners)</li> </ul>	<ul style="list-style-type: none"> <li>• The materials are not available in the market</li> <li>• Lack of trained workers</li> <li>• High prices</li> <li>• There are not enough sources</li> <li>• There is no local production</li> <li>• Failure to support suppliers within the directorate</li> <li>• Distance (about 30– 60 km between market and supplier in most districts)</li> <li>• Lack of rain</li> <li>• Lack of small chicken suppliers</li> <li>• Lack of interest from the competent authorities</li> <li>• Lack of capital</li> <li>• Too many competitors</li> <li>• The roughness of the road and road blocking</li> <li>• No specialist veterinarians</li> <li>• Taxes and customs</li> <li>• Lack of experienced labour</li> <li>• Increase transportation cost, caused by current crisis</li> </ul>



	Challenges	Causes
Production	<ul style="list-style-type: none"> <li>• Weak livestock production</li> <li>• Not producing good and suitable breeds</li> <li>• Most of the production is from abroad</li> <li>• Use of chemicals for rapid growth of chickens</li> <li>• High prices for chicks</li> <li>• Shortage of suppliers</li> <li>• The volatile environment in the directorates</li> <li>• High prices of poultry</li> <li>• Neglecting the local municipal production</li> <li>• There are no fattening farms in the district</li> <li>• Difficulty providing tools that help production</li> <li>• Hen houses were destroyed</li> <li>• Poultry and feeds not arriving on time</li> <li>• Lack of experienced workers</li> <li>• The lack of treatment in the region</li> <li>• No egg cages</li> <li>• Lack of hatcheries and feed blending facilities</li> <li>• Negligence in cleaning chicken farms</li> <li>• Failure to develop equipment and tools used in poultry raising</li> <li>• Lack of knowledge of appropriate poultry feed</li> <li>• The emerge of disease and unsuitable varieties in the region that limit production</li> <li>• Weak experience in poultry production</li> <li>• Lack of large cattle farms</li> <li>• Not being careful with good heating in the winter</li> <li>• Poultry eaten by dogs and cats</li> <li>• No specialist veterinarian</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of interest in local production</li> <li>• High transportation costs</li> <li>• Lack of investment and capabilities</li> <li>• Impact of environment such as rain and wind</li> <li>• Lack of attention from workers.</li> <li>• There is no incubation for hatching eggs</li> <li>• Unavailability of chicks</li> <li>• No training in poultry raising.</li> <li>• Lack of a feed plant</li> <li>• Suppliers are in remote areas or remote governorates</li> <li>• Lack of regular monitoring of poultry prices</li> <li>• Lack of veterinary clinics or pharmacies to reduce the risk of diseases</li> <li>• Lack of adequate support from the competent authorities</li> <li>• Lack of attention to hygiene</li> <li>• Not choosing a healthy strain of chickens</li> <li>• Lack of packaging and heating</li> <li>• No vaccination of poultry</li> <li>• Lack of resources issued by the province and the province</li> <li>• Illiteracy is widespread among sheep breeders</li> <li>• The spread of diseases in imported sheep</li> <li>• Lack of suppliers and traders</li> <li>• Weak productive forces due to lack of potential</li> <li>• Supply is of poor quality</li> <li>• Lack of attention to meat products in the governorate</li> <li>• Lack of sheep required in markets</li> <li>• Check the poultry before using the antibiotic</li> <li>• Negligence in cleaning chicken farms</li> </ul>





	Challenges	Causes
Processing	<ul style="list-style-type: none"> <li>• Increase in purchase prices from other governorates</li> <li>• Increase in purchase prices by suppliers outside the region</li> <li>• Farm owners' monopoly for sale to retailer</li> <li>• Lack of skills in the market</li> <li>• Lack of equipment and machinery that helps in development</li> <li>• Lack of sufficient fodder and grain in the dry season.</li> <li>• Not providing pastures</li> <li>• Lack of feed and high prices</li> <li>• High prices of animals</li> <li>• There are no experienced suppliers importing sheep</li> </ul>	<ul style="list-style-type: none"> <li>• The equipment is not up to date as per the advanced technology</li> <li>• Transportation requires sufficient resources</li> <li>• Storage is not modern</li> <li>• High prices</li> <li>• Lack of oil derivatives</li> <li>• Corporate control</li> <li>• Not having enough skills</li> <li>• There are no farms or water dams.</li> <li>• Lack of services</li> <li>• Not practising the livestock profession</li> <li>• Lack of veterinarians in the area</li> <li>• Lack of capital with no support</li> </ul>
Storage	<ul style="list-style-type: none"> <li>• Unavailability of modern poultry storage</li> <li>• No refrigerators available</li> <li>• The stores are not suitable for chicken and need to be better prepared</li> <li>• The need to warm the poultry and eggs in some districts</li> <li>• The death of chicken</li> <li>• Difficulty maintaining eggs</li> <li>• Bad storage in some districts</li> <li>• Low quality of poultry products</li> <li>• Not enough stock breeding farms</li> <li>• Insufficient storage</li> <li>• Not enough sources to buy stock</li> <li>• Lack of meat quality</li> <li>• Lack of customer demand</li> <li>• Lack of ventilation and lighting.</li> </ul>	<ul style="list-style-type: none"> <li>• Expensive fuel</li> <li>• The storage facility is too hot for an appropriate environment in some districts</li> <li>• No refrigerators available; need of special refrigerators for cooling</li> <li>• Storage is not suitable for chicken and needs to be better prepared</li> <li>• Products cannot be stored</li> <li>• Lack of withdrawal from the market and not exporting abroad.</li> <li>• Rust occurs in water networks</li> <li>• There is no trained labour</li> <li>• Turn on the heating after the chicks arrive, causing death</li> <li>• The feed was not the right way</li> <li>• Bad ventilation of the stores</li> <li>• Not being careful with good heating in the winter</li> <li>• Eggs rot due to lack of protection</li> </ul>





	Challenges	Causes
Gathering of Production	<ul style="list-style-type: none"> <li>• Transportation from the farm or distribution sites</li> <li>• There is no competency and expertise in as-sembling</li> <li>• Mutual lack of confidence in between seller and buyer</li> <li>• The gathering places are unprepared</li> <li>• Delayed poultry feed</li> <li>• Lack of high quality and no middlemen</li> <li>• Poultry death and hatching delay</li> <li>• No check-up of chicken before using antibiot-ics</li> <li>• High prices and taxes</li> <li>• Limited capital and lack of support</li> </ul>	<ul style="list-style-type: none"> <li>• Insufficient sources</li> <li>• Depend on market need.</li> <li>• There is no large and suitable poultry farm</li> <li>• Lack of skills and capabilities</li> <li>• Insufficient capital</li> <li>• Customised assembly and supply</li> <li>• Expensive feed and not delivered in time</li> <li>• The workers did not receive adequate training and distance from the area</li> <li>• The farms are far away</li> <li>• No proper use of antibiotics</li> <li>• No proper heating during the winter days</li> </ul>
Distribution	<ul style="list-style-type: none"> <li>• Long distances</li> <li>• Cut roads</li> <li>• Difficulty in transportation</li> <li>• Lack of imported quantities</li> <li>• Few competitors</li> <li>• Capital deficit</li> <li>• Many competitors and distributors</li> <li>• There are no distributors on a daily basis</li> <li>• Poultry death and hatching delay</li> <li>• Increased feed prices</li> </ul>	<ul style="list-style-type: none"> <li>• Small quantities and high prices</li> <li>• High cost of transportation</li> <li>• Not training workers until they gain work ex-perience</li> <li>• Market monopoly and not exporting goods abroad</li> <li>• Lack of capital</li> <li>• Distribution obstacles in winter</li> <li>• Lack of oil derivatives</li> <li>• Long distance transport to far-away places</li> </ul>
Marketing	<ul style="list-style-type: none"> <li>• Lack of experience in marketing</li> <li>• Insufficient experience with marketing skills</li> <li>• Lack of demand and excess supply</li> <li>• High transportation costs</li> <li>• Too many competitors</li> <li>• Difficulty in transportation</li> <li>• No quality chicken</li> <li>• Wholesalers did not reach the area</li> <li>• Difficulty in discharging the product on winter days</li> <li>• Lack of adequate control</li> <li>• Lack of marketing expertise</li> <li>• Low purchase level</li> <li>• Difficulty providing sufficient quantities</li> <li>• The large number of sellers in one place</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of vocational institutes in the districts</li> <li>• There is no local production</li> <li>• Lack of full knowledge of the marketing pro-cess and skills</li> <li>• Lack of marketing skills and expertise</li> <li>• There are no loan institutions.</li> <li>• Too many competitors</li> <li>• Expensive living and salaries stopped</li> <li>• No cash and no intermediaries</li> <li>• The roughness of the road and the death of some poultry</li> <li>• Insufficient feed due to insufficient supply</li> <li>• The country's supervisory system is not acti-vated</li> <li>• The high cost of fuel and distance</li> <li>• High price of poultry</li> </ul>

	Challenges	Causes
Consumption	<ul style="list-style-type: none"> <li>• High prices prevent consumption</li> <li>• Hesitation to buy</li> <li>• Lack of experienced workers</li> <li>• Dealing with debt</li> <li>• Not buying large quantities</li> <li>• Failure to provide sufficient quantities</li> <li>• Unable to buy more poultry</li> <li>• The chickens did not arrive on time</li> <li>• Lack of customer demand</li> </ul>	<ul style="list-style-type: none"> <li>• The lack of capabilities due to the economic crisis</li> <li>• Lack of consumer income</li> <li>• The lack of quality chicken</li> <li>• Salary cut-off</li> <li>• The supplier is not on time</li> <li>• Capital is limited</li> <li>• Transportation faltered</li> <li>• Supplier monopoly</li> <li>• High price of poultry</li> </ul>

## Constraints in the Meat and Poultry Industry and Feed Value Chain

This section explores the number of constraints facing meat and poultry industry sectors in input supply, production, marketing, institution and organisation, as well as skills and knowledge constraints.

### Constraints in Input Supply

There is a general shortage of crops and poultry feed in some districts and it is costly to get crops and poultry feed from other markets due to difficult road transportation, as well as increase in transport prices. Besides, the shipping costs are one of the major trade constraints for the imported poultry feed.

Although, there are micro-finance institutions, farmers have obstacles encountered in receiving financing for meat and poultry industry business. This is mainly due to higher interest payments, the lack of lending organisations and eligibility requirements for lending. The current country crisis impacts negatively on the meat and poultry industry sector, with rising prices, prevalence of diseases, difficulty of transport due to lack of oil derivatives, lack of production, blockade of the export and import process. In addition, there is lack of feed which increases the feed prices, lack of grazing places, lack of poultry imported feeds such as corn and soybean, as well as poor products, scarcity of capital and lack of profits due to high cost of livestock. In poultry production inputs, costs to consumers are elevated. Retail poultry costs are driven up by the high price costs of poultry production inputs which are disproportionately borne by small to medium size producers. Smaller producers are not only dependent on larger

commercial poultry producers for imported poultry inputs, but also depend on these for supplies of day-old chicks.

### Production Constraints

#### Feed Shortage and Free Grazing

Food shortage is the major constraint to meat industry production in the study area. During the dry season only crop residues and natural pastures are used as sources of feed. Free grazing has negative effects (e.g. uncontrolled breeding and grazing).

#### Meat Industry Health Services

There is a general shortage of medicine and veterinary clinical material in areas of the survey. Therefore, the shortage of veterinary services in health centres is a matter requiring immediate action. This opens up opportunities for engagement of SMEs.

### Marketing Constraints

#### Lack of Ability to Compete with other Businesses Selling Similar Goods

About 20% of the value chain actors are able to compete in the study area, while 80% are not, because of less quantity, limited capital, distant markets, and less purchasing power.

#### The Impact of the Country Crisis of the Meat and Poultry Industry Sectors

The situation before the current crisis was safe, as the merchant travelled with his cash and goods, which increased business. Also, due to the availability of fuel, the transportation cost was relatively reasonable, which reduced livestock

costs. In addition, there was availability of feed, as well as less occurrence of diseases spreading. Furthermore, in the districts near the conflict area (such as Abs, Bani Qais, and Khanfar) the number of customers was large, which affected the market positively with very high gains.

About 91% of the value chain actors in most districts agreed that the current country crisis negatively affects the meat and poultry industry business in the terms of rising livestock prices, lack of people's income which caused weak demand, prevalence of diseases in livestock. Moreover, there is difficulty of transport due to lack of oil derivatives, lack of production, lack of livestock and poultry medicines, blockade of the export and import process.

In addition, displacement of citizens from some areas, lack of interest in buying meat, lack of income and lack of buying and selling as well as lack of feed cultivation which increases the fodder prices, poor poultry quality, weak capital, poor marketing, high indebtedness, high prices for materials and chicks, lack of gas for heating, chicken diseases, lack of experience, lack of treatment and poultry breeding monopoly.

### **Lack of Support**

93% of the value chain actors did not receive any support, neither from government nor from the private sector, for their meat and poultry industry business and about 7% received simple support from their family or friends, and others from microfinance cooperation.

### **Lack of Reliable Information about the Market**

There is no official source for market information about livestock and poultry industry requirements and demand conditions, and the price of feed in the study areas. Farmers and traders get information from friends and traders.

### **Lack of Marketplace and Infrastructure**

In the study area, most local markets do not have the infrastructure such as roads, weighing balances, water supply, large markets and feed materials. On market days, the livestock are sold out or not, the chances of getting food and water during the day is minimal. In the mud of the rainy season is a problem and there is no drainage structure.

### **Lack of Feed Storage**

Feed storage shortage is a major problem, especially during the rainy season. Producers or farmers are losing significant amounts of crop residues and poultry feeds because of its exposure to rain.

The other constraints that affect the marketing in most districts are: less traders, inconsistent goods supply, less retailer/wholesaler outside the districts, lack of distributors in/outside the districts, lack of improved breeds from another country to the districts, rotten eggs and chicken disease, lack of local production, lack of training and professional skills, and lack of suppliers and producers from the districts.

## **Institutional, Governmental and Organizational Constraints.**

### **Lack of Feed and Meat Industry Marketing Cooperatives**

There are a few cooperatives for feed marketing and meat and poultry industry businesses, and agricultural cooperatives in the study area that provide veterinary drugs to their members. Producers/farmers sell their sheep on an individual basis and meet the marketing challenges on their own. Since they do not have longstanding relationship with traders, they do not have any linkage with other actors in the value chain.

### **Seasonality of Supply and Demand for Livestock Industry**

Supply of livestock business in most of the targeted districts is higher at special occasions and holidays as well as when households need money to purchase seeds, fertilisers and other agricultural inputs. Hence, the households use livestock as sources of income to cover their immediate cash expenses. Thus, the producers/farmers of the targeted districts often sell their sheep during the festivals, and following some seasonal trends, according to their financial problems. Seasonality also affects the power demand during the dry season.



Table 4. Organisational Constraints

Organizational Constraints Based on Districts	District
Lack of government training centres	All
Lack of non–government training centres (NGO, private)	All
Lack of provision of equipment service	All
Lack of linkages/ business partnership/ business platform services	All
Lack of financial support/sponsorship/subsidies	All except Khanfer AlTi– aziyah districts
Lack of VC actors and SME access to government services	All
Long distances for far–away villages/districts in getting access to service providers	All
Ignoring laws and regulations by a number of VC actors	All
Lack of knowledge about market requirements and demand conditions of the target sector	All
Lack of livestock drugs and veterinary services	All
Lack of access to technology and finance	All
Lack of government constructive role in monitoring SME and NGO activities	All
Lack of cooperative unions as well as lack of standard regulations and policies for cooperative unions	All
Lack of skills/training for both women and youth	All
Lack of investment support	All
Lack of technology monitoring and database information systems	All



# Opportunities

## Potential Growth Opportunities

This section shows the potential growth/opportunities on the value chain parts: supply (input provision), production,

processing, storage, gathering of production, distribution, marketing, and consumption for the meat and poultry industry.

Table 5. Potential Growth Opportunities for the Different Actors of the Sector's Value Chain

Supply (input provision)	Timing	Production	Timing
Provide slaughterhouses with new equipment	Immediate	Establishing fattening farms for live-stock	Immediate
Establish modern farms	Short-term	Support farmers with agricultural materials like feed and grains	Short-term
Training producers in the veterinary field	Immediate	Training producers in the veterinary field and disease treatment	Immediate
Support modern technique for live-stock and poultry production	Short-to-medium term	Encourage agricultural production of fodder and grain	Short-term
Facilitate the transport process for suppliers and feed providers	Short term	Providing loans to buy tanks to save rain water	Short-to-medium term
Training and awareness on improved livestock and poultry management practices	Short-to-medium term	Improve breeding practices through upgrading breeding technology, including adoption of improved artificial insemination practices	long-term
Providing nurseries in the area and hatching equipment	Short-to-medium term	Provide incubation for eggs and hatching equipment	Short-to-medium term
Monitor good quality of livestock and poultry import/export	long-term	Providing layers as well as hatcheries for poultry	Short-to-medium term
Support chicken farms by providing modern skinning machines	Short-to-medium term	–	–
Gathering of Production	Timing	Distribution	Timing
Encourage women's access to employment	Immediate	Provide offers to farmers and traders	Short-to-medium term
Support producers with materials and tools for the construction of sheep sheds	Short-term	Support fuel price reduction	Short-to-medium term
Establish warehouses to store as much as possible to meet market demand	Short-term	Encourage youth in the local distribution of livestock and poultry	Short-to-medium term
Attention to poultry coordination with stores and support production by organisations	Short-term	Providing necessary equipment to ensure livestock safety during transportation	Short-to-medium term
–	–	Allowing suppliers to export abroad without obstructions	Long-term



Marketing	Timing	Consumption	Timing
Improve market level and make it suitable for buying and selling	Short-to-medium term	Adjust the prices of sheep and meat in the market	Immediate
Providing new tools and equipment for butchers and meat sellers	Short-term	Import a good quality sheep at favourable price	Short-to-medium term
Supervise directly through the Animal Wealth Office of the Ministry of Agriculture and Irrigation	Long term	Provide livelihood for needy families and support them with small projects to improve their income or cash for work projects	Immediate
Open markets close to the places of production and herding sheep	Short-to-medium term	Monitoring good quality of sheep to consumers from retailers	Long term
Hiring a product marketing broker for women who are unable to market themselves	Short-term	Training and supporting suppliers and encouraging them to work in this field	Short-to-medium term
Establishing a syndicate and monitoring the market	Short-term	Developing policy and laws for traders and prices	Long term
Open large slaughterhouses with modern equipment	Short-term	Supporting institutions and associations for the animal sector	Long term
Support markets availability as periodic and daily	Short-to-medium term	Providing high quality chicken feed locally	Short-to-medium term
Training and qualification on local marketing	Short-to-medium term	Opening special farms for raising high quality poultry	Short-to-medium term

In addition, financial support is needed in all districts for the value chain parts (supply, production, processing, storage, gathering of production, distribution, and marketing) which depend on the immediate needs. More support will increase the business by buying equipment or increase the volume of business by renting more materials, buying more live-stock, facilitating transport, etc. For example, buying special motorbikes to facilitate the transport for suppliers and feed providers will cost about USD 850 – USD 1000. Other value chain parts need support to increase the current business either in meat or poultry about (USD 600 – USD 1200) for raising livestock to increase profits.

## Opportunities

### An Increasingly High Demand for Fresh Meat and Live-stock Feed in Local Markets

High human population and urbanisation has considerable impact on patterns of food consumption in general and on demand for meat and poultry industry products in particular. There is high demand for fresh meat and chicken in local markets because of the expansion of butchers and restaurants. The attitude of the consumer is leading to a change

towards a more meat and chicken focused diet especially in large districts. The end-consumers have also realised that the meat and chicken industry has certain unique taste characteristics. High demand in export meat and chicken is the case. The government also encourages meat and chicken export. This creates good market opportunities for live-stock and poultry producers.

### Shift in Production/Specialisation

The major meat industry opportunities in the corridor include sheep, beef production and dairy operations. Although the area is characterised by mixed crop meat industry production, crop farming is becoming difficult due to soil infertility, water logging and land degradation. This creates great opportunity for livestock and feed production.

### Individuals Engaged in Fattening Practice

Livestock and poultry fattening is becoming one of the most important meat and poultry industry production activities by individuals. The practice also needs more feed, including concentrates, crop residues, raw feeds, corn and soybean meal. This creates feed demand and increases the feed market.

### Transport Access to the Main Market

Transport access is one of the important constraints for livestock, live poultry and feed trading. Traders transport the livestock and pack the live poultry in plastic or woven crates and the eggs are carton-packaged, then transported directly to the local/external markets using trucks. This creates new opportunity in transportation employment.

### Increase in Number of Export Abattoirs

The construction of new export abattoirs in addition to the existing export abattoirs, creates great opportunities for meat industry traders as well as farmers by stimulating to produce more livestock and feed to get more money.

### Increase in Meat and Poultry Industry Business

The main constraints which impact the breeding and meat and poultry industry sales relate to the many breeders selling their products as a source of family income during dry seasons with no knowledge of breeding and feeding costs. This is because the animals graze in the natural pastures which negatively affects vegetation and biodiversity of the area flora. Hence, there are many problems facing the meat

industry during the dry periods in terms of nutritional deficiency and thus adversely affecting the process of mating and animals' growth.

Furthermore, microfinance foundations and agricultural cooperatives have no role in the direction and guidance and investment in the field of meat and poultry industry, because of the lack of supervision, support, expertise and trained workers. In addition, lack of veterinary health centres that detect diseases or sale of veterinary medicines as well as no central market for the sale and marketing of animals with lack of skilled slaughterhouses that handle and preserve meat and poultry after slaughter.

### Improve the Activity on the Value Chain and the Value Chain Actors Which Can Intervene to Solve Input Provision Bottleneck

Cyclical chain constraints where problems with the techniques of production and processing techniques limit both supply and demand. The table below shows how to improve the activity on the value chain and the value chain actors which can intervene to solve input provision bottlenecks.



Table 6. he Improvement Activity on the Value Chain and Their Actors' Intervention

Improvement Activity on the Value Chain	The Value Chain Actors Intervention to Solve Input Provision Bottleneck
<ul style="list-style-type: none"> <li>• Provide factories for the meat and poultry industry (i.e., slaughtering, cutting, feed etc) such as (feed and slaughter factory in Khanfar, AlTiaziyah districts)</li> <li>• Support to buy more livestock and poultry (all districts)</li> <li>• Build a central market for livestock trade. (Bani Qais district)</li> <li>• Support suppliers to provide high quality livestock and poultry (all districts)</li> <li>• Provide mobile veterinary services from one area to another (Bani Qais district)</li> <li>• Provide medicines for livestock breeding (all districts)</li> <li>• Provide insecticides and fighting diseases (all districts)</li> <li>• Train sheep breeders on production (all districts)</li> <li>• Improve slaughterhouses by adding modern skinning machines (all districts, especially Bani Qais)</li> <li>• Provide feed in the market at cheap and suitable prices (all districts)</li> <li>• Provide training courses for producers in the field of veterinary (all districts)</li> <li>• Provide capital and loans (all districts)</li> <li>• Provide hatcheries and feed blending facilities (all districts, especially in Khanfar district)</li> </ul>	<ul style="list-style-type: none"> <li>• Non–Governmental Organisations (NGOs)</li> <li>• Agriculture Office/cooperatives</li> <li>• Suppliers</li> <li>• Humanitarian organisations</li> <li>• Government</li> <li>• Distribution and consumer sale</li> <li>• International organisations</li> </ul>

### Market Trends and Opportunities

There are many opportunities because the market is emerging and needs investors. The priority of current market trends and opportunities in the targeted districts includes a high demand for fresh chicken and meat products and high–quality producers. Moreover, fattening opportunities and treatment will increase the business volume. Moreover, joint production projects or laboratories in large projects, such as farms, facilities for meat and poultry raising and slaughtering, in order to provide the dealers and meet their urgent demand round the year.

This contributes to sales at affordable prices, especially during events and the festive seasons, in selling and buying poultry, packaging and selling to stores.

Another opportunity is buying young sheep as well as chicks, raising them in order to increase business volume as well as profits. Furthermore, another opportunity lies in investing in shops for women to sell herbs and clothes, with female workers. In addition, providing refrigeration facilities to keep frozen meat and poultry in the most targeted districts, such as Abs, Khanfar, and Sarar.





# Upgrading Strategy and Interventions

## Linking Animal and Poultry Breeders with Representatives and Training in the Production of Livestock

Constraint	Intervention	Outcome	Impact
<ul style="list-style-type: none"> <li>Lack of responsiveness of farmers on modern breeding techniques</li> </ul>	<ul style="list-style-type: none"> <li>Provide training to livestock and poultry farmers</li> <li>Establish of a database on the types and numbers of livestock and poultry</li> </ul>	<ul style="list-style-type: none"> <li>Higher output brings greater income for both farmers and business sectors</li> <li>The existence of a database for livestock</li> </ul>	<ul style="list-style-type: none"> <li>Business growth for local livestock and poultry products (fresh and frozen)</li> <li>Farmers have a regular market chain for their production</li> </ul>

### Activities:

The farmers or the respective representative would negotiate with the business sub-sectors to design their own modality for business as well as provide training for their members in the following aspects:

- Meat, eggs, and dairy techniques
- Animal breeding, chicken nursery and birthing care
- Information centre for livestock and poultry
- Husbandry
- Feed mix equipment

## Building a Central Slaughterhouse in the Local Markets

Constraint	Intervention	Outcome	Impact
<ul style="list-style-type: none"> <li>Slaughterhouses are an important link in the meat and poultry production chain</li> </ul>	<ul style="list-style-type: none"> <li>Establish an abattoir in the domestic market</li> </ul>	<ul style="list-style-type: none"> <li>Keeping meat and poultry in refrigerators, good packaging for freshness and safety</li> </ul>	<ul style="list-style-type: none"> <li>Livestock and poultry grow evenly and faster, generating better produce</li> </ul>

### Activities:

Actors will set up slaughterhouses in the domestic market and develop meat and poultry markets.

## Capacity Building on Livestock and Poultry Farming Management

Constraint	Intervention	Outcome	Impact
<ul style="list-style-type: none"> <li>Lack of elementary livestock and poultry farming practices</li> </ul>	<ul style="list-style-type: none"> <li>Build the capacity of farmers/breeders on livestock and poultry farm management</li> </ul>	<ul style="list-style-type: none"> <li>Farmers, breeders following best practices in livestock and poultry farming</li> </ul>	<ul style="list-style-type: none"> <li>Improved livestock and poultry growth without epidemics, as well as lower feed cost</li> </ul>

### Activities:

Livestock and poultry farmers need training in the following:

- Animal and chicken feed
- Fattening animals
- Vaccination schedules
- Using hatchery equipment
- Using feed blending facilities
- Training of workers in chicken cares and treating poultry



## Improve Breeding Practices through Upgrading Breeding Technology, including Adoption of Improved Artificial Insemination Practices

Constraint	Intervention	Outcome	Impact
<ul style="list-style-type: none"> <li>Lack of livestock supply</li> </ul>	<ul style="list-style-type: none"> <li>Upgrading breeding technology using artificial insemination practices</li> <li>Transfer of technology from other countries</li> <li>Improved genetic engineering technology</li> </ul>	<ul style="list-style-type: none"> <li>Farmers/breeders following new practices in livestock breeding</li> <li>Increase livestock supply in long timeframe</li> </ul>	<ul style="list-style-type: none"> <li>Increasing livestock supply</li> <li>Meeting local demand for livestock</li> <li>Potential to transform livestock into a key industry benefitting smallholders</li> </ul>

### Activities:

Livestock farmers need training in the following:

- Artificial insemination practices
- Genetic engineering technology



# SWOT Analysis

The table below shows the SWOT analysis for meat and poultry industry which states the main constraints and opportunities in the targeted districts.



STRENGTHS

- Consistent input supply
- Good relations with traders
- Established chain with wholesalers—re-tailers
- Clustered farming across different areas
- Spreading and copying of new technology which spreads quickly with leading farmers



WEAKNESSES

- Lack of trained and seasonal employees
- Veterinarians cannot identify some diseases in time
- Inconsistent feed supply
- Uneven feed distribution
- Arbitrary feed mix ratios
- Unable to meet demand of current or potential customers for higher sales
- Lack of supply
- Poor roads
- High livestock expenses with low profits
- Poor quality poultry
- Lack of qualified and skilled labour
- Less poultry supply with high demand
- Limited capital and finance
- Limited purchasing power
- Lack of cooperative union



OPPORTUNITIES

- Growing demand for meat and poultry industry business
- Low entry investment due to rented farms and support of agents
- Demand shifting towards livestock and poultry export
- Demand shifting towards poultry farms
- Growing competitiveness of similar businesses



THREATS

- Diseases wipe out whole areas and put them out of business
- Market highly price-sensitive and change prone
- Not enough sources to buy stock to meet customer demand
- Increased cost of transportation
- Lack of skills and capacities to satisfy customer demand
- No start-up funds
- Access to finance challenges such as absence of lending organisations, not meeting eligibility requirements for lending, and cannot afford interest payments
- Lack of grazing pastures
- Lack of income and lack of buying and selling
- Failure to buy meat due to lack of income resulting from the financial crisis
- Not planting enough feed during dry season
- Growing demand for imported frozen poultry
- Lack of modern slaughter facilities
- High animal losses during high production periods
- Power outages affecting hatcheries' ability to maintain constant and warm temperatures
- Poultry workers insufficiently trained
- Low poultry quality of products
- Insufficient storage
- Not enough stock breeding farms
- Not enough sources to buy hatcheries and feed blending facilities
- Lack of adequate port-of-entry inspection facilities for foreign animal disease introduction risk
- Lack of functioning modern quality control system, especially for imported livestock and poultry



# Meat and Poultry Industry Value Chain Summary

	Governorate	District	Sector / Gender	Market Potential (High/Medium /Low)	Demand (High/Medium/Low)	Supply (High/Medium/Low)	Go / No go
1	Hajjah	Abs	Male	High	High	High	Go
			Female	Low	Low	Low	–
		Bani Qais	Male	High	High	High	Go
			Female	Low	Low	Low	–
2	Hodeida	AlZuhrah	Male	High	High	High	Go
			Female	Low	Low	Low	–
3	Abyan	Khanfer	Male	High	High	High	Go
			Female	Low	Low	Low	–
		Sarar	Male	High	High	High	Go
			Female	Low	Low	Low	–
4	Lahj	Almusaymeer	Male	High	High	High	Go
			Female	Low	Low	Low	–
5	Taiz	Ashamay-eeten	Male	High	High	High	Go
			Female	Low	Low	Low	–
		AlTiaziyah	Male	High	High	High	Go
			Female	Medium	Medium	Medium	Go





	Gover-norate	District	Women En-gagement (If Yes, Where in the Value Chain)	Women Roles (What Do Women Work with in the Value Chain)	Youth Engagement (What Can Youth Work With)	Main Difficulties in the Value Chain that Can Be Tackled by UNDP
1	Hajjah	Abs	<ul style="list-style-type: none"> <li>Producers/ Farmers</li> <li>Feeders</li> </ul>	<ul style="list-style-type: none"> <li>Grazing sheep</li> <li>Poultry breeding</li> <li>Finds feed for livestock</li> <li>Feeding and fattening</li> </ul>	<ul style="list-style-type: none"> <li>Storing and cleaning</li> <li>Feeding livestock</li> <li>Retailers buying and selling</li> <li>Grazing and breeding</li> <li>Assistance in livestock raising</li> </ul>	<ul style="list-style-type: none"> <li>Lack of machine avail-ability such as hatcheries, skinning, conditioners, heaters, large refrigera-tors, packaging and feed mix equipment</li> <li>Lack of feed blending facilities</li> <li>Lack of local soybeans, corns, cereal production</li> <li>Lack of incubation for hatching eggs</li> <li>Lack of egg cages</li> <li>Lack of large cattle/poultry farms</li> <li>High transportation cost due to road roughness, blocking and fuel cost</li> <li>Lack of fattening farms.</li> <li>Lack of veterinarian clinics or specialists</li> <li>Lack of medicines and pharmacies to reduce the risk of livestock diseases</li> <li>Lack official markets as well as distant markets from targeted districts</li> <li>Less livestock quantity per district</li> <li>Limited capital in all districts</li> <li>Lack of suitable sheds and storage facilities</li> <li>Lack of skilled-labour in Animal and chicken feed</li> <li>Fattening animals</li> <li>Breeding</li> <li>Vaccination schedules.</li> <li>Using hatchery equipment.</li> <li>Using feed blending facili-ties</li> <li>Training of workers in chicken care and treating poultry</li> </ul>
		Bani Qais	<ul style="list-style-type: none"> <li>Producers/ Farmers.</li> <li>Feeders.</li> </ul>	<ul style="list-style-type: none"> <li>Obstetrics and grazing livestock.</li> <li>Poultry breeding.</li> <li>Collecting fodder and water.</li> </ul>	<ul style="list-style-type: none"> <li>Butcher and livestock sale</li> <li>Carry sheep to the slaughter-house</li> <li>Distribution and marketing of livestock</li> <li>Skinning and selling livestock</li> </ul>	
2	Hodeida	AlZuhrah	<ul style="list-style-type: none"> <li>Producers/ Farmers</li> <li>Feeders</li> </ul>	<ul style="list-style-type: none"> <li>Cleaning livestock and poultry sheds</li> <li>Taking care of young chicks and livestock</li> </ul>	<ul style="list-style-type: none"> <li>Grazing and breeding</li> <li>Selling livestock and poultry</li> <li>Grazing sheep</li> <li>Slaughtering and cutting</li> <li>Getting feed from farms</li> </ul>	
3	Abyan	Khanfer	<ul style="list-style-type: none"> <li>Producers/ Farmers</li> <li>Feeders</li> </ul>	<ul style="list-style-type: none"> <li>Collecting fodder and water</li> <li>Grazing sheep</li> <li>Cleaning livestock and poultry sheds</li> </ul>	<ul style="list-style-type: none"> <li>Livestock grazing</li> <li>Livestock and poultry slaugh-tering</li> <li>Poultry breeding</li> <li>Meat weighing and carrying sheep to the slaughterhouse</li> <li>Selling and buying</li> <li>Distribution and marketing process</li> </ul>	
		Sarar	No	No	<ul style="list-style-type: none"> <li>Butcher and slaughter live-stock</li> <li>Grazing sheep</li> <li>Distribution and transportation process</li> </ul>	
4	Lahj	Almusay-meer	<ul style="list-style-type: none"> <li>Traders (Mar-keting)</li> </ul>	<ul style="list-style-type: none"> <li>Selling and buying</li> </ul>	<ul style="list-style-type: none"> <li>Selling and buying</li> <li>Grazing livestock</li> </ul>	
5	Taiz	Asha-mayeeten	No	No	<ul style="list-style-type: none"> <li>Grazing and breeding</li> <li>Shopping, buying and selling</li> <li>Distribution and marketing of livestock</li> <li>Skinning, cutting and slaugh-tering</li> <li>Meat weighing and cleaning process</li> </ul>	
		AlTiaziyah	<ul style="list-style-type: none"> <li>Producers/ Farmers</li> <li>Feeders</li> </ul>	<ul style="list-style-type: none"> <li>Grazing sheep</li> <li>Collecting fodder and water</li> </ul>	<ul style="list-style-type: none"> <li>Shopping, buying and selling in the market</li> <li>Transportation process</li> <li>Accounting and marketing</li> <li>Skinning, cutting and slaugh-tering</li> </ul>	

	Gover– norate	District	Proposed Inter– vention	Proposed Training	Most Profitable Value Chain Player	How to Increase Value Creation?
1	Hajjah	Abs	<ul style="list-style-type: none"><li>• Provide training to livestock and poultry farmers</li><li>• Establishment of a database on the types and numbers of livestock and poultry</li></ul>	<ul style="list-style-type: none"><li>• Livestock and poultry breeding</li><li>• Fattening livestock</li><li>• livestock health and diseases control</li></ul>	<ul style="list-style-type: none"><li>• Producer (inside/out–side)</li><li>• Distributer (inside/outside district) low</li></ul>	Support the following players locally inside the district: <ul style="list-style-type: none"><li>• Producer</li><li>• Retailer/Wholesaler</li><li>• Distributer</li></ul>
		Bani Qais	<ul style="list-style-type: none"><li>• Build a central slaughterhouse in the local markets</li><li>• Build the capacity on livestock and poultry farming management</li><li>• Build a central leather tannery in the local market</li></ul>	<ul style="list-style-type: none"><li>• Meat packaging and storage</li><li>• Livestock breeding and poultry</li><li>• Making a home farm to raise livestock</li><li>• Veterinary service for livestock and improving their growth</li><li>• Poultry rearing at home</li><li>• Marketing and promotion</li></ul>	<ul style="list-style-type: none"><li>• Producer (inside/out–side district)</li><li>• Farmers</li><li>• Retailer/Wholesaler (outside)</li></ul>	Support the following players locally inside the district: <ul style="list-style-type: none"><li>• Producer</li><li>• Distributer</li><li>• Retailer/Wholesaler</li></ul>
2	Hodeida	AlZuhrah	<ul style="list-style-type: none"><li>• Manufacture local cheese and yogurt</li><li>• Support in creating or rehabilitating surface water bodies, or through irrigation support schemes during dry season in order to decrease fodder price on the market. Thus, the poor families in the communities will benefit</li></ul>	<ul style="list-style-type: none"><li>• Poultry production</li><li>• Leading businesses</li><li>• Customer service</li><li>• Marketing</li><li>• Meat industry</li></ul>	<ul style="list-style-type: none"><li>• Producer (inside/out–side district)</li><li>• Retailer/Wholesaler (outside)</li></ul>	Support the following players locally inside the district: <ul style="list-style-type: none"><li>• Producer</li><li>• Distributer</li></ul>
3	Abyan	Khanfer		<ul style="list-style-type: none"><li>• Poultry farming</li><li>• Filling and packaging cycle</li><li>• Poultry production development</li><li>• Knowing poultry breeds</li><li>• Veterinary service and sheep treatment</li><li>• Carcass and meat cleaning</li><li>• Packaging and cracking courses</li><li>• Machine training</li></ul>	<ul style="list-style-type: none"><li>• Producer (inside/out–side district)</li><li>• Retailer/Wholesaler (outside) low</li></ul>	Support the following players locally inside the district: <ul style="list-style-type: none"><li>• Producer</li><li>• Retailer/Wholesaler</li></ul>
		Sarar		<ul style="list-style-type: none"><li>• Veterinary field</li><li>• Taking care of sheep</li><li>• Marketing</li><li>• Sheep feed</li></ul>	<ul style="list-style-type: none"><li>• Producer (inside/out–side district)</li><li>• Importer (meat/chick–en)</li><li>• Retailer/Wholesaler (outside)</li></ul>	Support the following players locally inside the district: <ul style="list-style-type: none"><li>• Producer</li><li>• Retailer/Wholesaler</li><li>• Distributer</li></ul>
4	Lahj	Almusay–meer		<ul style="list-style-type: none"><li>• Laying hens breeding</li><li>• Poultry farming</li><li>• Veterinary service and livestock treatment</li></ul>	<ul style="list-style-type: none"><li>• Producer (inside/out–side–low)</li><li>• Retailer/Wholesaler (outside–low)</li></ul>	Support the following players locally inside the district: <ul style="list-style-type: none"><li>• Producer</li><li>• Retailer/Wholesaler</li><li>• Distributer</li></ul>
5	Taiz	Asha–mayeeten		<ul style="list-style-type: none"><li>• Poultry farming</li><li>• Marketing</li><li>• Meat industry</li><li>• Communication skills</li><li>• Distribution process</li></ul>	<ul style="list-style-type: none"><li>• Producer (inside/out–side district)</li><li>• Retailer/Wholesaler (inside) low</li><li>• Distributer (inside) low</li></ul>	Support the following players locally inside the district: <ul style="list-style-type: none"><li>• Producer</li><li>• Retailer/Wholesaler</li><li>• Distributer</li></ul>
		AlTiaziyah		<ul style="list-style-type: none"><li>• Buying and selling poultry</li><li>• Poultry farming</li><li>• Sheep food industry</li></ul>	<ul style="list-style-type: none"><li>• Producer (inside/out–side district)</li><li>• Retailer/Wholesaler (inside) low</li><li>• Brokers</li></ul>	Support the following players locally inside the district: <ul style="list-style-type: none"><li>• Retailer/Wholesaler</li><li>• Distributer</li></ul>

	Gover-norate	District	Proposed Inter-vention	Proposed Training	Most Profitable Value Chain Player	How to Increase Value Creation?
	Proposed Training for All Districts			<ul style="list-style-type: none"> <li>Lack of skilled-labour in:               <ul style="list-style-type: none"> <li>Animal and chicken feed</li> <li>Fattening animals</li> <li>Breeding</li> <li>Vaccination schedules</li> <li>Using hatchery equipment</li> <li>Using feed blending facilities</li> <li>Training of workers in care of and treating poultry</li> </ul> </li> </ul>		

	Gover-norate	District	Macro Level Recommen-dations	Meso Level INGOs/ NGOs Recom-mendations	Micro Level Recom-mendations	General Recommen-dations for Develop-ment
1	Hajjah	Abs	<ul style="list-style-type: none"> <li>Regular monitoring of meat and poultry prices</li> <li>There is a need for feed plants</li> <li>Monitoring farm owners to prevent the monopoly of sale to retailer/wholesalers</li> <li>Support planting locally with good quality especially for poultry feeds such as soy-beans, corn in order to reduce the imports</li> <li>Support fodder factory especially to provide the livestock fodder during dry seasons</li> <li>Provide a water supply for the natural pastures such as water dams for pastures especially during dry seasons</li> <li>Reduce equipment and materials taxes for the meat and poultry industry</li> <li>The policies need to promote local meat and poultry industry productions</li> <li>Monitoring the quality and quantity of feed mix ratios</li> <li>Support entry investment with quality assurance</li> </ul>	<ul style="list-style-type: none"> <li>Promote the meat and poultry industry business as well as support initiatives from BDS, or MFIs in the targeted districts</li> <li>Support shifting towards large livestock and poultry farms</li> <li>Support competi-tiveness of similar businesses</li> <li>Support shifting towards quality livestock and poultry export</li> <li>Support fighting epidemics in the targeted districts</li> </ul>	<ul style="list-style-type: none"> <li>Support cooperative unions, associations and collectives</li> <li>Create feed factory individually or with cooperative to collect crop residues, concentrates, and raw feeds which creates local feed demand as well in-creases feed market</li> <li>Associations and collectives are essential to the functioning of the breeding and mar-keting</li> </ul>	<ul style="list-style-type: none"> <li>Provide a start-up funds to make healthy and quality livestock and poultry farms</li> <li>Provide veterinary clinics and disease control specialists</li> <li>Simplifying the ob-stacles for receiving financing such as support lending organiza-tions, simplify require-ments for lending with less interests</li> <li>Customs exemptions for machines and equipment, and investor support for any prob-lems faced by other government agencies</li> <li>Holding a workshop to coordinate and clarify the tasks of each party and find a clear-cut mechanism to lead to the development of the production and marketing process</li> </ul>
		Bani Qais				
2	Hodeida	AlZuhrah				
3	Abyan	Khanfer				
		Sarar				
4	Lahj	Almu-saymeer				
5	Taiz	Asha-mayeen				
		AlTiazi-yah				



	Gover-norate	District	Recommended Training (Specific Training)	Recommendation for MFIs (What Can Be Financed)	(What New Technologies/ Tools/Equipment Can Be Brought In)
1	Hajjah	Abs	<ul style="list-style-type: none"> <li>• Livestock and poultry breeding</li> <li>• Fattening livestock</li> <li>• Livestock health and diseases control</li> </ul>	<ul style="list-style-type: none"> <li>• Support small/medium producers to own their hatcheries, stock breeding farms and feed blending facilities</li> <li>• Support crop agriculture and feed supplements locally to cover the immediate needs of livestock, especially during the dry season</li> <li>• Support corns and soybean agriculture locally to cover the immediate needs of poultry</li> <li>• Support agriculture fodder price during dry season in order to support livestock producers who do not have access to irrigation facilities, as well as those who hold big pieces of arable land through support in creating or rehabilitating surface water bodies, or through irrigation support schemes in order to decrease fodder price on the market</li> <li>• Building a central slaughter-house in the local market</li> <li>• Building central manufacturing of cheese and yogurt in the local markets</li> </ul>	<ul style="list-style-type: none"> <li>• Hatchery equipment</li> <li>• Skinning equipment</li> <li>• Modern breeding techniques</li> <li>• Conditioners and heaters depend on district weather and environment</li> <li>• Large refrigerators</li> <li>• Packaging equipment</li> <li>• Information centre for live-stock and poultry</li> <li>• Providing nurseries by importers</li> <li>• Meat, eggs and dairy techniques such as: <ul style="list-style-type: none"> <li>– Animal breeding, chicken nursery and birthing care</li> <li>– Husbandry equipment</li> <li>– Feed mix equipment</li> </ul> </li> </ul>
		Bani Qais	<ul style="list-style-type: none"> <li>• Meat packaging and storage.</li> <li>• Livestock and poultry breeding</li> <li>• Making a home farm to raise live-stock and poultry rearing.</li> <li>• Veterinary service for livestock and improving their growth</li> <li>• Marketing and promotion</li> </ul>		
2	Hodeida	AlZuhrah	<ul style="list-style-type: none"> <li>• Poultry production</li> <li>• Leading businesses</li> <li>• Customer service</li> <li>• Meat marketing industry</li> </ul>		
3	Abyan	Khanfer	<ul style="list-style-type: none"> <li>• Poultry farming</li> <li>• Filling and packaging cycle</li> <li>• Poultry production development</li> <li>• Knowing the poultry breeds</li> <li>• Veterinary and sheep treatment</li> <li>• Carcass and meat cleaning</li> <li>• Packaging and cracking courses</li> <li>• Machine training</li> </ul>		
		Sarar	<ul style="list-style-type: none"> <li>• Veterinary field</li> <li>• Take care of sheep and feeding process</li> <li>• Marketing (selling and buying technique)</li> </ul>		
4	Lahj	Almu-saymeer	<ul style="list-style-type: none"> <li>• Laying hens breeding</li> <li>• Poultry farming</li> <li>• Veterinary service and livestock treatment</li> </ul>		
5	Taiz	Asha-mayeeten	<ul style="list-style-type: none"> <li>• Poultry farming</li> <li>• Meat marketing process</li> <li>• Communication skills</li> <li>• Distribution process</li> </ul>		
		AlTiazi-yah	<ul style="list-style-type: none"> <li>• Buying and selling poultry</li> <li>• Poultry farming</li> <li>• Sheep feed industry</li> </ul>		

Table 7. Pricing for Different Intermediaries (Source: Primary Assessment)

Market Agencies	Minimum Price (YER)	Maximum Price (YER)	Mean Price (YER)	Size
Producer				
(Ram)	25,000	30,000	27,500	~ 8–10 kg
(Goat)	15,000	35,000	25,000	~ 8–10 kg
(Sheep)	26,000	48,000	37,000	~ 8–10 kg
(Chicken)	700	1,500	1,100	~ 0.5 – 1 kg
Broker/Collector				
(Ram)	26,000	32,000	29,000	~ 8–10 kg
(Goat)	16,000	37,000	26,500	~ 8–10 kg
(Sheep)	27,000	50,000	38,500	~ 8–10 kg
(Chicken)	1,000	1,700	1,350	~ 0.5 – 1 kg
Retailer				
(Ram)	30,000	35,000	32,500	~ 8–10 kg
(Goat)	20,000	40,000	30,000	~ 8–10 kg
(Sheep)	31,000	53,000	42,000	~ 8–10 kg
(Chicken)	1,300	2,000	1,650	~ 0.5 – 1 kg
* The price was taken during normal market business with low price in December 2019				

# Potential Impact of COVID–19 on the Sector<sup>1</sup>

It is important to note that Yemen is still, as of June 2020, at the early stage of the COVID–19 outbreak, with mainly cities affected and no reported cases in rural areas. Local authorities have not been active in locking down markets in rural areas, but there are indirect economic effects on rural life through distorted value chains and plummeting demand. However, for most rural people in Yemen the coronavirus outbreak is overshadowed by the protracted political crisis, cholera, floods, locust and chikungunya virus.

## Value Chain

Meat and poultry businesses have faced difficulties in delivering livestock products to local restaurants, slaughterhouses and other customers. Lockdown measures in the infected governorates/ districts affect the distribution process, restricting transportation between farms, wholesalers, retailers, and marketplaces. If delivery services improve, good opportunities may emerge for producers to reach consumers. Local livestock breeders can meet demand inside closed border governorates and districts.

The most affected part in the value chain is the input supply, due to interruption of imported livestock and poultry birds, both live and frozen, mostly from France, Brazil and Turkey: countries that are affected by the pandemic and ensuing trade disruption. Moreover, traders importing fodder, especially corn and soybean that are the sources of poultry feed, are facing problems. There are also restrictions in cross border trade in between governorates and districts in the country. Traders have used alternative routes to reach markets in order to avoid long delays at quarantine checkpoints. The increased transport cost has been passed on to commodity prices, although there is also a trend of reduced livestock prices, especially in Hajjah and Hodeidah as exports to Saudi ceased.

Input prices for the sector have been on the increase since the beginning of the conflict in Yemen and the COVID–19 trade disruptions accentuate the problem. Price fluctuations will affect cross border meat and poultry livestock trade, as well as imported poultry feed and equipment such as hatchery, skinning, packaging and feed mix devices. Moreover, locally, the value chain would be affected by reduced

volume of orders between importers and wholesalers, retailers and consumers such as restaurants and small shop businesses. With increased transportation costs, combined with overall consumer risk aversion, the COVID–19 disruption could reduce trade by up to 30% for wholesalers and retailers, while reduction of sales for farmers and breeders could be up to 20%.

Demand for food items has remained relatively stable during the COVID–19 crisis. However, many customers have lost jobs and income and may not be able to afford meat and poultry dishes at the higher price end of food items. Suspension of weddings, funerals and other social events, along with the sharp drop in eating out in restaurants as a result of social distancing and stay-at-home strategies, has also reduced the demand for meat and poultry products.

## Micro, Small and Medium Enterprises (MSMEs)

The level of lockdown in Yemen has been very limited and local authorities realise that such lockdowns could be disastrous for farms, livestock breeders and other MSMEs.

With restricted movements of both goods and people, meat and poultry businesses are facing difficulties procuring livestock medication and providing veterinarian services. There are also challenges in the delivery of livestock products to customers as there are no existing optional distribution channels to reach clients.

Overall shortage in access to finance is expected. Farms, livestock breeders and other MSMEs operate on savings and trade on the basis of cash available. Most of the businesses in the meat and poultry sector are in debt already, through the hardships caused by the ongoing political conflict.

Livestock and poultry businesses in Yemen have been accustomed to market shocks for the five years that the conflict in the country has lasted. Being inured to crisis, they have, therefore, not developed any plans on how to deal with possible protracted disruption of operations as a result of the COVID–19 economic crisis.

Potential macroeconomic measures to support MSMEs could include credit guarantees, postponed tax payments

<sup>1</sup> For a more comprehensive analysis of the potential COVID–19 impact on micro, small and medium enterprises in Yemen, see a synthesis report at this link: <https://www.ye.undp.org/content/yemen/en/home/library/a-synthesis-report-on-micro--small-and-medium-enterprises-in-yemen>



and/or reduction of taxes, loosening of financial regulations, loan restructures, reduction in electricity fees, reduction of customs duties and postponed customs duty payments. Such measures have commonly been implemented by developing countries, acknowledging that MSMEs are particularly exposed to the COVID-19 pandemic's economic impact because of the limited financial resources and the borrowing capacity and recognising that they are the backbone of economies.

### Livelihoods

Workers will be affected by decrease in sales and production, both in terms of employment and working conditions, especially as workers in the meat and poultry sector belong to the informal economy and are not enjoying the benefits of social insurance. As farms and other businesses become unable to pay wages, some will lay off workers and others will reduce working hours. However, farm businesses are

family owned and are considered the only source of livelihood for the household, and they will fight back to survive the economic crisis caused by the pandemic, like they have struggled to withstand five years of conflict in the country.

The economic downturn in Gulf countries and resulting constrained employment opportunities for Yemeni migrant workers will affect remittances into the country. Households depending on foreign money transfers will see their income drastically reduced. This, in turn, will contribute to decreased demand for meat and poultry products, with negative consequences for livelihoods in the sector, in a vicious circle.

Some recommendations on how to facilitate for MSMEs to respond to and ultimately recover from the COVID-19 crisis are given in the table below. The recommendations are framed based on macro, meso and micro level perspectives.

	Meat and Poultry Industry Recommendations
Macro Level Outlook Recommended government policies, relaxations and enforcement measures. Also, the role of private sector to support the macro level outlook	<ul style="list-style-type: none"> <li>• Provide sufficient fuel needs for the transportations and relaxing markets fees</li> <li>• Facilitate loans for MSMEs</li> <li>• Facilitate cross borders trade to assure supply chain efficiency</li> <li>• Support livestock exports to Saudi Arabia</li> <li>• Relax taxation on MSMEs and for imported equipment and materials such as livestock and poultry medicines</li> <li>• Support mobile money to facilitate remote transactions</li> <li>• Relax and facilitate the regulation and policies to include actors in social security and access to insurance services</li> <li>• Private sector coordination can assist in developing local feeds and improved distribution to match supply and demand</li> </ul>
Meso Level Analysis Recommended continuity measures to be taken to mitigate the impact, including the need for finance	<ul style="list-style-type: none"> <li>• Provide financial support for MSMEs to safeguard their business and mitigate the COVID-19 impact</li> <li>• Provide technical assistance on efficient production of COVID-19 protection supplies</li> <li>• Support the logistics of locally produced protection supplies and its supply chain</li> <li>• Support emergency plans of how to reduce the cost of local meat and poultry which has a positive effect of demand increase</li> <li>• Support fighting epidemics in the infected districts</li> <li>• Support corns and soybean agriculture and feed supplements locally to cover the immediate needs due to COVID-19's negative impact on their importation</li> </ul>
Micro Level Recommendations related to preparedness and plans to contain the impact of COVID-19	<ul style="list-style-type: none"> <li>• Follow prevention protocols and assess workers' capacity to work from home</li> <li>• Enable knowledge transfer among workers and relatives in case some get sick</li> <li>• Establish network with clients and distributors</li> <li>• Identify various vendors and collaborators in the market for potential shared work, assets, or supplies</li> <li>• Acquire inventory of potential limited supplies</li> </ul>

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