



State of Palestine
Ministry of Agriculture

Livestock Sector Strategy 2015-2019



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Abbreviations and Acronyms

AI	Artificial Insemination
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross domestic product
LbL-I	Support livestock based livelihoods of vulnerable population in the occupied Palestinian territory – the institutional component
LSS	Livestock Sector Strategy
LSST	Livestock Sector Strategy Team
M&E	Monitoring and Evaluation
MFR	Managing for Results
MIS	Marketing Information System
MLG	Ministry of Finance
MNE	Ministry of National Economy
MoA	Ministry of Agriculture
MoF	Ministry of Finance
MoH	Ministry of Health
Mol	Ministry of Interior
MoLG	Ministry of Local Government
MoL	Ministry of Labor
MoNE	Ministry of National Economy
MoPAD	Ministry of Planning and Administrative Development
NAIS	National Animal Identification System
Nm	Nautical Miles
PCBS	Palestinian Central Bureau of Statistics
PLCU	Palestine Livestock Cooperatives Union
PPPs	Public-private partnerships
PSI	Palestinian Standard Institute
RBM	Result-based Management
WBGS	West Bank and Gaza Strip
WHO	World Health Organization
WTO	World Trade Organization
SMEs	Small and Medium Enterprises
SPS	Safety and Sanitary Phytosanitary


Acknowledgement

The agriculture sector in Palestine plays a significant role in the growth and development of the Palestinian economy. The livestock sector in particular is an integral part of that agriculture sector and carries economic and social importance. Through the extensive collaborative efforts of all involved parties, we were able to produce this Livestock Sector Strategy 2015-2019 that not only offers an overview and situation analysis of the livestock sector, but also identifies implementation strategies and strategic interventions in addition to the framework in which they are to be implemented.

The success of this strategy will depend upon effective communication, collaboration and cooperation at all levels from the government, to civil society, to farmers and individual owners. For its part, the Ministry of Agriculture will work diligently towards achieving the intended vision of the strategy for a sustainable and productive livestock sector that is competitive both locally and externally, that enhances food security in Palestine, that promotes resilience of Palestinian breeders, and that supports economic growth.

I would like to follow suit to His Excellency the former Minister of Agriculture, Mr. Shawqi Issa, and thank all the technical teams in the Palestinian ministries, the private and public sector organizations, and the team of the Food and Agriculture Organization of the United Nations (FAO) who were involved in formulating this strategy as well as the European Union for funding its development. I would like to extend my appreciation to the efforts made on the part of the former Minister H.E. Mr. Issa that have resulted in the production of this much-needed strategy and that will inform future action for the enhancement of the Palestinian livestock sector.

Dr. Sufian Soltan


Minister of Agriculture
6.9.2015

Foreword:

The development and advancement of a nation lies in its ability to promote its natural resources and optimize its utilization, bringing growth, competitiveness and sustainability to its various sectors. As Palestinians, we seek political stability that is linked with economic stability and development. Undoubtedly, the agricultural sector, particularly the livestock sub-sector, is the foundation of concrete economic development that supports the resilience of Palestinians, including their ability to efficiently control and utilize available resources. Therefore, this sector's development is a real measure of sustainable development in Palestine. The livestock sub-sector has always acted as a barrier to settlement and land confiscation as well as to economic domination, by feeding the local market with high quality and competitive animal products. Palestinian products are also considered a highly competitive product on the international market for their quality and price.

The Livestock Sub-Sector Strategy 2015-2019 – considered the first of its kind – resulted from the original Palestinian Agriculture Sector Strategy (Resilience and Development) 2014- 2016, and provides a clear vision for making a direct contribution to the advancement of the Palestinian economy and the strengthening of resilience in its different dimensions. At the same time, the Sub-Sector Strategy moves economic and social development forward by collecting lessons from previous experiences and providing an appropriate response to our national objectives. Within this context, the Livestock Sub-Sector Strategy was formulated to reflect the requirements of the next phase with realistic assumptions and foundations. The sector's objectives, policies and programs, which were based on a SWOT analysis and scientific diagnosis, help translate the need for economic stability.

Furthermore, a participatory approach was adopted during all phases of the strategy's preparation, supporting not only its formulation but also reflecting its ownership by all relevant stakeholders, well beyond the Ministry of Agriculture.

On this occasion, I would like to thank all the technical teams in the Palestinian ministries, the governmental and non- governmental organizations as well as the private and public sector organizations who were involved in formulating this strategy. Additionally, I take this opportunity to express my sincere gratitude to the Palestinian farmers who have continuously contributed to the development of the national economy, and resist the occupation by protecting their farms and livestock, preserving them not only as a source of income but also as a tradition shared across generations. And the Ministry would like to give a very special thanks to the team of the Food and Agriculture Organization of the United Nations (FAO), for the invaluable technical support it has provided throughout the strategy's development process and for its continuous and effective contribution towards the development of the Palestinian agriculture. A special thanks is also extended to the European Union for funding the development of this strategy and for its continuous support and partnership towards sustainable growth of the Palestinian economy.

H.E. Shawqi Issa
Minister for Agriculture
2014-2015

1. Introduction and Methodology

1.1 Introduction

Livestock in Palestine is not only an economic or income generation activity, but also a distinctive trait, cultural and tradition of Palestinian people. In addition, livestock is of particular importance for Palestinians as it embodies their perseverance, confrontation and adherence to the land under the threat of confiscation and settlement.

Livestock production is an integral part of Palestine's agricultural sector, and is of economic and social importance both at the household and national levels. It has been an important form of traditional Palestinian livelihoods for centuries. Livestock in Palestine is dominated by cattle, poultry, sheep, goats, beekeeping and fishes. It provides the main source of income and food security for thousands of Palestinian households in rural areas and Bedouin communities in the West Bank and Gaza Strip (WBGs).

According to agricultural statistics released by the Palestinian Central Bureau of Statistics (PCBS), the total number of agricultural holdings in Palestine was 105,238 during the agricultural year 2010/2011. Plant holdings are the most common, averaging 68.2%, followed by mixed holdings with 21.8 %, and finally livestock holdings with 10.0%. Of the livestock and mixed holdings, there were 39,625 heads of cows, 732, 399 heads of sheep, 240,136 heads of goats, 8,744,000 poultry, and 44, 278 beehives.

At the national level, the value added by the agricultural sector in Palestine for the year 2012 was US\$ 322.6 million, which contributes about 5.9 % of the GDP. Of this, livestock contributes about 40% of agricultural GDP. At the household level, livestock contributes to the food supply directly in the form of meat, milk, and eggs, and indirectly providing income, saving, asset value and employment to the smallholders.

In recent years, the livestock sector in Palestine has been facing severe difficulties in securing necessary production inputs and technical support. The household economies of breeders have been adversely affected by construction of the Separation Barrier and confiscation of land for establishment of settlements, closed military zones, and national nature reserves development. On top of all these sufferings from the Israelis access restriction, the high cost of imported commercial fodder as a replacement, recurrent drought, and the outbreak of animal diseases have created obstacles for developing the livestock sector in Palestine. In particular, climate change has and will have multiple impacts on livestock, from heat stress to livestock diseases to feed quality and availability.

In line with national sector strategy development approach, the Strategy is compatible with the MoPAD and MoF approach to programme budgeting. Accordingly, all components of the Livestock Sector Strategy are in tandem with the applicable government-wide approach. The purpose of formulating the Livestock Sector Strategy is to provide a sector-wide framework and a clear roadmap for the development of the livestock sector over the upcoming five years.

In light of the importance of livestock to the Palestinian culture, economy and livelihoods, the Ministry of Agriculture (MoA) has identified the livestock sub-sector as one of the priorities in the National Agriculture Sector Strategy "Resilience and Development" 2014-16, which feeds into the National Development Plan (NDP) 2014-16. In 2014, the MoA developed the Livestock Sector Strategy (LSS) 2015-19 with technical support from the Food and Agriculture Organisation of the United Nations (FAO). Development of the LSS comes in the framework of the EU-funded project "Support livestock based livelihoods of vulnerable population in the occupied Palestinian territory – the institutional component" (LbL-i).

It is worth noting that the Livestock Sector Strategy is aligned with the National Agriculture Sector Strategy "Resilience and Development" 2014-16. It works towards achieving two Strategic Objectives of the National Agriculture Sector Strategy: (objective # 3) Enhanced agricultural production, productivity and competitiveness, as well as enhanced contribution of agriculture to food security; and (objective # 4) The agriculture sector has effective and efficient capacities, institutional frameworks, legal environment, infrastructure and agricultural services. In addition to alignment with other related

policies and plans, the Livestock Sector Strategy involves a consistent programme and service-based strategic planning.

In line with national sector strategy development approach, the Strategy is compatible with the MoPAD and MoF approach to programme budgeting. Accordingly, all components of the Livestock Sector Strategy are in tandem with the applicable government-wide approach. The purpose of formulating the Livestock Sector Strategy is to provide a sector-wide framework and a clear roadmap for the development of the livestock sector over the upcoming five years.

1.2 Methodology

With technical support from FAO, the MoA took the initiative in 2014 to develop and draft the Livestock Sector Strategy 2015-19. Several months following extensive consultations, joint effort and cooperation between stakeholders in the livestock sector, the Ministry published the Livestock Sector Strategy.

In April 2014, the MoA invited representatives of different stakeholders and actors in the livestock sector to be part of the Livestock Sector Strategy Team (LSST). The LSST was established on 7 April 2014. On 28 April 2014, the first kick-off meeting was launched by the MoA. Over the planning period, the MoA and LSST achieved the following objectives:

1. Established the LSST, which is the owner of the Strategy.
2. Approved LLS development approach, procedures and work plan.
3. Ensured that the LSS is aligned with the Agriculture Sector Strategy "Resilience and Development" 2014-16.
4. Set mechanisms to follow up with the plan of action and steps following development of the Strategy.
5. Developed the vision, objectives, policies and programmes for the livestock sector in Palestine. These components provide a sector-wide framework and a clear roadmap for development of the livestock sector over the upcoming five years.

Chaired by the MoA, the LSST held several meetings and workshops between April and September 2014. A total of 11 workshops and meetings were organised with a view to:

1. Identify livestock sector priority needs.
2. Make clear and elaborate on content of the vision, objectives, and interventions with relevant stakeholders.
3. Collect remarks and recommendations from participants.
4. Brief the participants about the work mechanism and next steps.

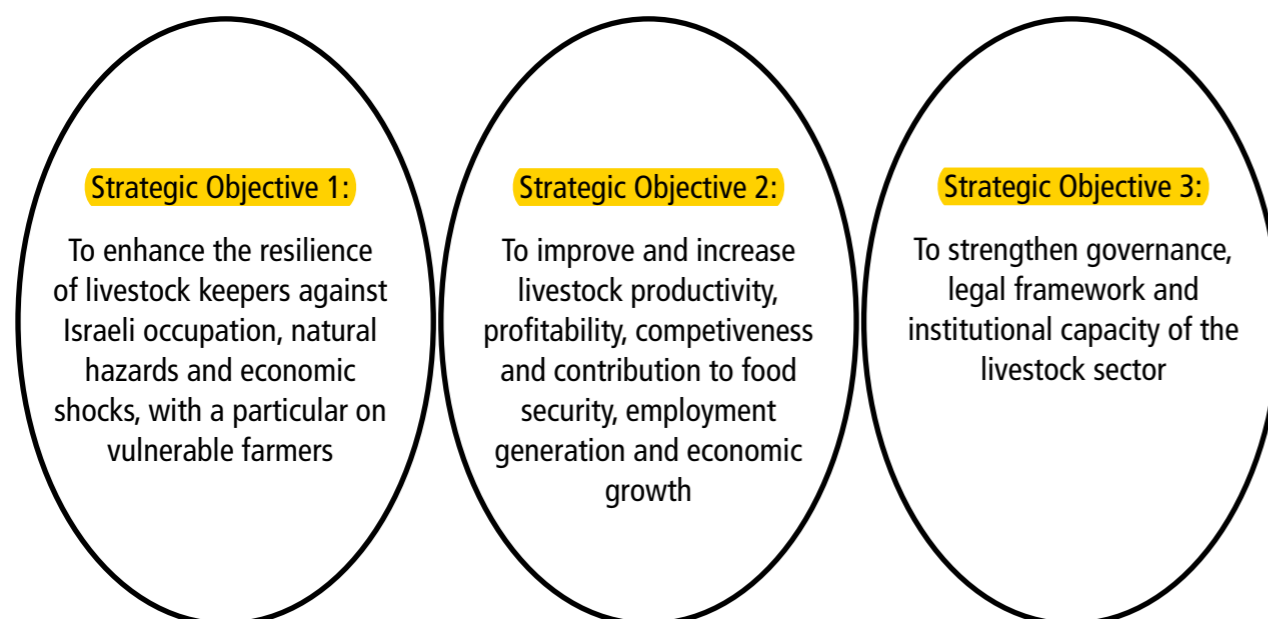
The process of formulating the LSS adopts a step-wise consultative approach, involving a wide range of stakeholders with different backgrounds in the livestock sector. These include line ministries, government departments and agencies, private sector actors, NGOs, and civil society organisations. The strategies presented in this document are a reflection of inputs received in this consultative process and represent the views of a wide range of stakeholders.

Livestock Sector Vision and Strategic Objectives

Livestock Sector Vision for the Years 2015-2019

"A sustainable and productive livestock sector that is competitive both locally and externally, enhances food security in Palestine, promotes resilience of Palestinian breeders, and supports economic growth"

Strategic Objectives



2. Overview of the Livestock Sector in Palestine

This chapter provides a brief overview of the livestock sector in Palestine, including sector characteristics, production, productivity features, demand and consumption. The data collected mainly come from the MoA and PCBS.

2.1 Grazing Land and Pastures

In the WBGS, there are 2.02 million dunums of existing rangelands. However, 1,399,000 dunums (69.3 %) of this rangeland is closed to Palestinians as a result of Israeli settlements, military zones and Separation Barrier. Only 621,000 dunums (30.7%) are accessible to Palestinians for the grazing of ruminants (i.e. sheep and goats).¹

A traditional farming system and seasonal pasture is used by Palestinian smallholder farmers. For the ruminants, the grazing season in the WB is in late winter and early spring (February through May). Over-wintered supplementary feeding is a common practice in late spring and late summer. The July-October period is critical in terms of feed availability, and farmers rely on the purchase of barley, wheat bran and concentrate concentrated feed.

2.2 Cattle

Characteristics of Cattle

According to PCBS livestock statistics², as of 1 October 2011, there were 39,625 cows raised in the Palestinian territory, including 26,477 heads in the West Bank and 13,148 in the Gaza Strip. By breed, 22.2% were local cows (Baladi and mixed breeds) and 77.8% other strains (e.g. Holstein Friesian and hybrid cows)³.

Based on the PCBS Agricultural Census 2010, 87.6% of cows are raised through intensive breeding⁴, 12.2% through semi-intensive breeding⁵, and 0.2% by an unknown type of breeding. Cows bred primarily for milk made up 58.6%. 41.2% were bred for meat. The purpose of breeding was not identified for 0.2% of total cattle⁶.

Production System of Cattle

There are two types of cattle production system in Palestine: intensive (industrial) and semi-intensive (traditional). Intensive production involves raising animals in a limited physical space where they are fed, watered, milked without outside grazing. The semi-intensive (traditional) involves the adoption of animals feeding on grazing plus supplemental feeding. Produces a higher yield per cow, intensive production requires more capital investment in infrastructure and management than semi-intensive production.

¹ PCBS: Agricultural Census 2010 –Palestinian Territory P.41

² PCBS Livestock Statistics: <http://www.pcbs.gov.ps/site/734/default.aspx>

³ Strain refers to a collection of genetic traits and productivity of one type of animal, such as a Friesian cow, or Assaf sheep.

⁴ Intensive breeding: raising animals in barns on feed without outside grazing

⁵ Semi-intensive breeding: an adoption of animals feeding on grazing plus feed to provide supplementary nutrition

⁶ PCBS: Agricultural Census 2010 –Palestinian Territory P.29

Table 1: Overview of the Cattle Production System

Type of Production Systems	Intensive (Industrial)	Semi-intensive (Traditional)
Cow ownership (size)	Large scale farmers: > 70 heads	Small scale farmers: 1-30 heads Medium scale farmers: 30-70 heads
Average age of milking cow	Large scale farmers: 6 years	Small scale farmers: 8-10 years Medium scale farmers: 6 years
Average milk production/year	Large scale farmers: 7,500 litre per year	Small scale farmers: 5,000-6,000 litre per year Medium scale farmers: 6,000-7,000 litre per year
Lactation period	Large Scale farmers: 300 days per year	Small scale farmers: 220-240 days per year Medium scale farmers: 250-280 days per year
Animal breed	Holstein Friesian	Small scale farmer: Holstein Friesian, mix breed, local breeds Medium scale farmers: Holstein Friesian
Marketing system	To the dairy factories	Dairy factories or home processing Dairy factories
End product	Cow milk Calves for meet	Cow milk Calve for meet
Calving interval (months)	Large scale farmer: 7-9 months 12-13 months	Small scale farmer: 5-6 months Medium scale farmer: 7-9 months
Weaning period and average weight	2-3 month Weight 200-250 kg 115-130 kg	2-3 month Weight 200-250 kg 115-130 kg
Fattening period and average mature weight	5-7 monthsW	Small scale farmer: 3-4 months Medium scale farmer: 5-7 months
Age of slaughter (years)	9-12 months	9-12 months
Weight at slaughter (KG)	600-900 kg 350-450 kg	600-900 kg 350-450 kg

2.3 Sheep and Goats

Sheep

According to PCBS livestock statistics⁷, as of 1 October 2011, there were 732,399 sheep raised in Palestine, including 669,843 in the West Bank and 62,556 in the Gaza Strip. By breed, 55.7% were local sheep (Awassi) and 44.3% were of other strains (Assaf and Hybrid/Mukhlaa).

Based on the PCBS Agricultural Census 2010, 47.6% of breeders used intensive breeding techniques and 49.4% used semi-intensive breeding. The type of breeding was not identified for 3.0% of sheep breeding. Sheep bred primarily for milk made up 72.4%. 27.5% were bred for meat. The purpose of breeding was stated for 0.1% of total sheep.

Goats

According to PCBS livestock statistics⁸, as of 1 October 2011, there were 240,136 goats raised in Palestine, including 226,428 in the West Bank and 13,708 in the Gaza Strip. By breed, 85.3% were local goats and 14.7% were of other strains (Shami Syrian, Hybrid, and crossbreed).

Based on the PCBS Agricultural Census 2010, 38.8% of breeders used intensive breeding techniques, 57.7% used semi-intensive breeding, and 3.5% did not state any type of breeding. Goats bred primarily for milk made up 75.9%. 24.0% were bred for meat. The purposes of goat breeding was not identified for 0.1% of total goats.

Production System of Small Ruminants

Table 2: An Overview of the Small Ruminant's Production System

Type of Production Systems	Intensive (Industrial)	Semi-intensive (Traditional)
Small ruminants ownership	Large herder: More than 200 heads	Household level: 1-10 heads Small scale herder: Average 34 heads
Average age of milking cow	6 years	8-10 years
Average milk production / year/head	180 litre per year/head	125-150 litre per year/head 150-180 litre per year/head
Animal breed	Awassi , Assaf , mixed Local goat and mix goat	Awassi , Assaf , mixed Local goat and mix goat
Marketing system	home processing	home processing

⁷ PCBS Livestock Statistics: <http://www.pcbs.gov.ps/site/734/default.aspx>
⁸ PCBS Livestock Statistics: <http://www.pcbs.gov.ps/site/734/default.aspx>

Type of Production Systems	Intensive (Industrial)	Semi-intensive (Traditional)
End product	Goat and sheep milk; Goat and sheep meat	Goat and sheep milk; Goat and sheep meat
Weaning period	2-2.5 months	2-2.5 months
Fattening period	4 month for lambs 6-10 month for goats	4 month for lambs 6-10 month for goats
Age of slaughter	At least 6 month for lambs 6-12 months for goats	At least 6 month for lambs 6-12 months for goats
Weight at slaughter (kg)	60-90 kg for lambs 45-60 kg for goats	60-90 kg for lambs 45-60 kg for goats
Market destination	Local Market	

2.4 Poultry

Characteristics of Poultry

In 2011, there were 537,200 mothers of broilers in Palestine, 36.5 million broilers, 1.6 million layers, and 318,400 turkeys. There were 396,900 mothers of broilers in Palestine, 7.0 million broilers, 1.4 million layers, and 76,000 turkeys. The area covered by poultry barns totalled 1,479,853 m².

Production System of Poultry

- Mother of broilers refers to the chicks kept to produce fertilised eggs for hatching and producing broiler chicks.
- Broilers refer to the chicks kept to produce chicken meat, usually between 30-45 days.
- Layers refer to the chicks kept to produce table eggs, not usually for more than 30 months.

Table 3: An Overview of Poultry Production System

Type of Production Systems	Breeders	Hatcheries	Layer farms	Broiler farms	Slaughter houses	Backyard
Ownership of chicken (size)	Large-scale: 32,000-750,000 hens Small-scale: 32,000 hens	Large-scale: < 34,000 per week Small-scale: > 34,000 per week	Large-scale: < 100,000 Small-scale: 5,000-10,000 hens	Large-scale: <5,000 Small-scale: 1,000-5000	Large-scale: < 1,000 per day Small-scale: 500-1,000 per day	20-50 hens
Number of flocks	35,000-100,000 hens/farm - 20 breeders farms in West Bank, none in Gaza	19 hatcheries in West Bank and 4 in Gaza with capacity of around 35,000 hatching eggs/hatchery	1.7 million hens	Range from less than 1,000 to 70,000 chicken per farm	Range from 1,000 per day to 35,000 per day	20-50 hens
Days of breeding/hatching/farming	60-75 weeks	21 Days	1.5-2 years	35-42 days		40 days to 1.5 years old
Age of slaughtering	65-75 weeks old	No slaughtering	1.5-2 years old	35-42 days old		40 days to 1.5 years old
End product	Hatching eggs	One day old Chicks	Table eggs Old hens (Rock)	Chicken meat Offal (liver, heart)		Meat, table eggs
End market	Hatcheries	Fattening Farms	Local Market Israel	Slaughterhouses Local market Direct consumers Butchers shops		Local and home consumption

Please note that sometimes hatching eggs imported from either Israel or other countries like Turkey and USA. Broilers at age one day old or even 35 day old are smuggled from Israel. All breeders chicks (one day old or 110 days old are imported from Israel

2.5 Other Livestock Animals

Beehives

Two types of beehives exist in Palestine – traditional beehives⁹ and modern beehives¹⁰. As of 1 October 2011, there were 44,278 beehives, including 43,443 (98 %) modern and 835 (2%) traditional beehives. The annual honey production scored 211,653 kg¹¹.

Camels

There were 1,656 camels in Palestine, including 904 in the West Bank and 752 in the Gaza Strip¹².

Equines

As of 1 October 2011, there were 3,603 horses, 1,180 mules and 16,354 donkeys in Palestine.

Domestic Poultry

There were 246,170 pigeons, 6,401 turkeys, and 44,163 rabbits in Palestine.

2.6 Livestock Products Processing and Value Addition

Red Meat

There are 300 meat processing establishments in the West Bank and Gaza Strip. Both areas operate 13 central slaughterhouses, including 8 in the West Bank and 5 in the Gaza Strip. In addition, there are 9 poultry slaughterhouses in the West Bank and 1 slaughterhouse in Gaza. Annual slaughter is about 32,389 cows, 39,648 sheep, 6,666 goats, and 72 camels. Together, all slaughterhouses produce 6968.42 tons of red meat. (Municipalities Operating Slaughterhouses in Palestine, 2012)

Milk

There are two types of production systems in the dairy sector – traditional and industrial. The traditional one includes small- and medium-scale cattle farmers who sell cow milk primarily to local consumers. Industrial production includes 10 processing plants and produces 155,000 tons of raw cow milk per year. In total, 182,000 tons of milk are produced annually in Palestine, valued at US\$ 382 million. However, the demand supply gap for processed dairy products is filled by imports, mainly from Israel. Worth about US\$ 22.6 million, approximately 17,416 million litres of liquid milk equivalent (LME) are imported a year.

Poultry

There are 19 operating hatcheries in the West Bank and 4 in the Gaza strip. In 2012, 64.524 million chicks were produced, including 0.4324 million layers and 64.0916 million boilers. 91.8617 million eggs were prepared for hatching (1.1587 million layers and 90.703 million of broilers)¹³. Total poultry meat production was 72,680 tons in 2011/2012.

⁹ Traditional beehives are made with non-specific dimensions and shapes, made mainly of soil or clay and sometimes from wood, to which layers and frames cannot be added.

¹⁰ Modern beehives are made with specific dimensions consisting of a base, raising box and cover by wood. Other layers and frames may be added or removed

¹¹ Agriculture Census 2010 Final Results Palestinian Territory, page 30

¹² Agriculture Census 2010 Final Results Palestinian Territory, page 30

¹³ http://www.pcbs.gov.ps/Portals/_Rainbow/Documents/Livestock-2012-E-%208.htm

2.7 Final Consumption of Livestock Products by Palestinian Households as an Indicator of Demand on These Products

Meat

According to the PCBS 2015 Palestinian Expenditure and Consumption Survey, annual consumption of fresh bovine meat was estimated at 20,000 tonnes, or 85,000 heads (assuming that the average weight at the age of slaughter was 400 kg). Of this, the Gaza Strip consumed 19%. Annual consumption of goat and sheep meat comprised almost 10,000 tonnes, or 342,000 sheep and goats (assuming that average weight at the age of slaughter was 60 kg). Of this, the Gaza Strip consumed 35%. Compared to the local market needs, statistics show that local production of fresh bovine meat covered almost 16% of local demand. Local production of sheep and goat meat covers around 61% of local demand. Comprising 60 million birds, annual consumption of poultry was 55,000 tonnes. Local production of poultry was 20% in excess of local consumption. In other words, local production of poultry is 120% higher than local demand.

Eggs

Annual local demand was estimated at around 460 million eggs, including 296 million in the West Bank and 176 million in Gaza. According to the PCBS data, 1.6 million layers in both areas produced almost 512 million eggs a year. As such, egg production is 11% higher than local market need.

Milk and Dairy Products

Local demand on milk and dairy products, including fresh and pasteurised milk, tinned yogurt paste (labaneh), yogurt, cheese, and yogurt in solid form (Jamid) or (Kishik), etc. was estimated at 204 million litres a year. Of this, the Gaza Strip consumes almost 38%. 89% of local market needs is produced locally and the remaining gap is covered by imports.

Table 4: Final consumption of livestock products by Palestinian households

	Unit	Households Final Consumption 2015 (estimated)		
		WB	GS	Total
Meat	1. kilo 2. liter			
Fresh goats & sheep meat	1	8,473,910	1,908,128	10,262,768
Fresh bovine meat	1	13,631,156	7,202,727	20,323,933
Fresh camel meat	1	394	18,665	17,624
Fresh rabbit meat	1	47,121	382,315	400,167
Fresh poultry meat	1	52,434,340	2,885,822	55,268,714
Fresh turkey	1	4,017,412	825,251	4,792,227
Squab fresh or frozen	1	105,083	86,408	185,183
Other fresh or frozen birds	1	5,465	321,606	302,339
Fresh pork meat frozen or tinned	1	83,728	1,228	85,133
Fresh lamb liver	1	303,876	744	305,552
Fresh cow liver	1	186,443	152,528	327,839
Inside organs and limbs of slaughtered animal	1	749,179	303,830	1,032,064
Milk and Dairy				
Fresh or pasteurized milk	2	30,233,707	2,924,998	33,031,993

Condensed liquid milk	2	3,072	0	3,082
Powder milk	2	957,306	3,198,450	3,912,723
Tinned yogurt	2	21,232,982	10,559,828	31,049,240
Yogurt, liquid	2	1,020,425	1,385,985	2,303,067
Tinned yogurt paste (labaneh)	1	1,914,415	155,349	2,064,039
Soft white cheese	1	4,956,545	1,587,350	6,437,866
Homemade cheese	1	349,488	16,706	366,045
Cooked cheese for sandwich	1	537,289	978,058	1,441,825
Processed cheese	1	2,373,694	1,026,297	3,328,733
Cream	1	41,440	29,613	68,910
Yogurt in solid form (Jamid) or (Kishik)	1	1,037,098	43,738	1,080,844
Other dairy products	1	93,958	118,654	203,787
Eggs	1	19,764,000	11,730,470	30,656,029
Other canned cheese (stores canned cheese)	1	35,627	3,198,894	2,988,455
Honey	1	206,475	195,232	387,354

Source: PCBS

2.8 Livestock Production Inputs and Services

Feeds

Feeding is one of the major costs for the livestock production. It counts for 75-85% of total milk production cost, and 55-65% of total small ruminants cost. More than 95% of wheat-feed and 85% of the protein-feed are imported from Israel for sheep and goat feed. Most concentrate and roughage are imported from Israel for dairy feed. The high cost of feed has forced small-scale farmers to use low quality alternatives.

Table 5: Overview of the Livestock Feed in Palestine

	Type of feeds	Feeds count for % of cost of production	Percentage of Imported feed from Israel
Dairy Cattle	Concentrate	70%	For the concentrate 100%
	Roughage		
	silage		
Sheep and Goat	Wheat plant feed	70%	For the concentrate 100%
	Corn feed		
	Barley		
	Concentrate		
	Roughage		Wheat feed > 95%
			Protein feed > 85%
Poultry	Concentrate	60-70%	100%

Table 6: The average purchasing price of livestock feed for large, medium and small scale farmers.

Average Purchasing Price	Large-Scale Farmers	Medium-Scale Farmers	Small-scale Farmers
Concentrate Feed Price (NIS/kg)	2.2	2.2	2.2
Wheat Bran (NIS/kg)	1	1	1
Silage (NIS/kg)	0.8-0.9	0.8-0.9	0.8-0.9
Corn feed (NIS/kg)	1.1 – 1.3	1.1 – 1.3	1.1 – 1.3
Roughage (NIS/kg)	1	1	1
Barley (NIS/kg)	1.4	1.4	1.4

Table 7: The average market price of imported livestock feed in Palestine over 3 years (2011-2013)¹⁴

Type of Feeds	2011	2012	2013
Barley (NIS/MT)	NWB: NIS 1,543	NWB: NIS1,568	NWB: NIS 1,551
	SWB: N/A	SWB: NIS 1,562	SWB: NIS 1,499
	GS: NIS 1,566	GS: NIS 1,584	GS: NIS 1,606
Wheat Bran (NIS/MT)	NWB: NIS 1,204;	NWB: NIS 1,198	NWB: NIS 1,431
	SWB: N/A	SWB: NIS 1,228	SWB: NIS 1,305;
	GS: NIS 1,228	GS: NIS 1,115	GS: NIS 938
Concentrate(NIS/MT)	N/A	SWB: NIS 2,004	SWB: NIS 2,135
		GS: NIS 1,879	GS: NIS 2,046
Corn (NIS/MT)	N/A	SWB: NIS 1,545	SWB: NIS 1,425

2.9 Veterinary Services and Animal Health

Animal Diseases

Animal health is very important to all stages of the livestock production chain. Diseases affecting livestock can exert a devastating impact on animal productivity and production, on trade in live animals, meat and other animal products, on human health and, consequently, on the overall process of economic development.

Over recent years, livestock sector in Palestine has been affected by a number of epidemic and emerging diseases, include Foot and Mouth (FMD), Pest De Petit Ruminants, lumpy-skin disease, and blue tongue. The epidemic and emerging disease can cause significant production loss as well as mortality. The table below presents the main disease outbreaks in Palestine from 2011 and 2012.

Table 8: Disease Outbreaks in Palestine from 2011 and 2012

Disease	Number of foci of infection	Number of infected animal	Deaths
Toxoplasmosis	229	1522	94
Q. Fever	158	1020	81
Enterotoxaemia	120	1566	1214
Brucellosis	117	586	32
Chlamydiosis	89	579	89
PPR	71	1054	413
Blue Tongue	35	262	79
Cryptosporidium	20	561	434
Mange	20	144	0
Ecthyma	19	157	12
Mycoplasmosis	17	103	1
Sheep pox	17	141	2
FMD	15	123	28
Neospora	9	240	0
Pasturellosis	7	104	40
John's Disease	3	148	135
Hydatid Cyst	2	3	0
Scrapie	1	4	3

Source: PCBS

Veterinary Treatments: Livestock Medicines and Vaccines

In Palestine, the majority of livestock medicines, vaccines and serums are imported from or via Israel. These are provided by local companies or retailers for Israeli company. Through district veterinary departments, the MoA provides immunisation for some. Breeders purchase other vaccines and medicines, especially for poultry, directly from the local market.

Farmers usually pay for vaccines and medicines, except for the FMD and Brucellosis vaccines, which are offered by the MoA free of charge.

Veterinary Services

The veterinary services play a crucial role in protecting animal health, food safety, and public health. Full livestock productivity is highly dependent on the availability of high-quality and regularly provided animal health services. As part of input suppliers of livestock value chain, the role of the veterinary services in Palestine (the majority of which is provided by the MoA) is summarised as follows:

- Protecting animals from endemic and trans-boundary animal diseases (TAD).
- Protecting public health by controlling the zoonotic diseases, as well as following up on and controlling the food-borne diseases.
- Providing food safety by ensuring the health quality of foods of animal origin.
- Launching public awareness campaigns, targeting farmers, consumers and sector stakeholders, about diseases of animal origin.

- Raising awareness among farmers about concepts of good veterinary practices (GVP).
- Controlling and managing imports and exports of animal and poultry products.
- Ensuring animal breeds' diversity and animal welfare

(Table 8 below provides an overview of the veterinary services in Palestine.)

Table 9: Number of veterinary locations and clinics, and public and private veterinarians in the West Bank

District	Vet locations	Vet Clinic	Public Veterinarians		Public Paravet		Private Veterinarians
			permanent	contract	permanent	contract	
Bethlehem	46	5	2	2	2	6	6
Hebron	48	12	2	1	4	4	5
Dura	57	12	3	0	0	2	15
Yatta	96	9	2	0	1	2	9
Jerusalem	40	2	2	0	2	1	10
Ramallah	74	10	3	0	1	5	10
Jericho	14	4	2	0	3	0	5
Tubas	25	3	2	1	1	1	3
Nablus	72	9	5	2	5	1	20
Salfit	29	4	2	0	0	2	5
Tulkarem	44	6	4	0	1	2	23
Qalqilya	42	4	2	1	3	0	5
Jenin	85	15	2	2	3	3	36
Total	672	95	33	9	26	29	152

Source: General Directorate of Veterinary Services, 2014

2.10 Livestock Extension Services and Training

Livestock extension services are provided mainly by the MoA and several NGOs. Official livestock sector extension services provided by the MoA include agricultural extension planning and monitoring, rural development, agricultural communication, and provision of ruminants, poultry, feed, bees, and aquaculture. Official extensive services are provided by extension workers at MoA directorate offices throughout Palestinian governorates or at extension units. The main agricultural extension services provided by the MoA in the livestock sector are:

- Developing and implementing policies, strategies, plans, programmes and projects related to agricultural extension, rural development, and improvement of livestock breeds.
- Assessing the training needs of agricultural extension workers and developing plans and programmes necessary to complete the training of counsellors locally and abroad.
- Providing guidance and technical support to agriculture departments in various governorates and subdivision guidelines.
- Providing regulations needed to develop agricultural production in cooperation with all the relevant authorities.
- Cooperating and coordinating with the General Directorate of Veterinary Services for provision of care and animal health.
- Cooperating and coordinating with the General Directorate of Research and Technical Services to conduct agricultural experiments and field observations farm.

Livestock Research

Livestock research services are provided mainly by the MoA Palestinian National Centre of Agricultural Research (PNCAR). The PNCAR includes six departments:

1. Laboratories,
2. Plant Production and Plant Protection,
3. Livestock and Animal Health,
4. Biotechnology Researches,
5. Natural Resources and Climatic Researches, and
6. Social and rural Economic Studies Researches.

In the livestock sector, the MoA delivers the following main agricultural research activities:

- Developing agricultural production through the use of modern technology to raise the level of animal production.
- Increasing production efficiency, improve the conservation of natural resources, and maintain the ecological balance.
- Utilising local and international research results with a view to serve the agriculture sector.
- Preparing plans and programmes for agricultural research that serve the purposes of agricultural development and achieve the objectives of the Agricultural Strategy as well as to coordinate the activities of agricultural research and technology transfer.
- Conducting agricultural and environmental research to increase agricultural production and food security and contribute to the improvement of production and facilitate the process of custom-tailored marketing.
- In line with local conditions, developing and using a modern agricultural technology in plant, animal and water production. This technology will be transferred to farmers and investors with a view to facilitate agricultural activity and achieve optimal utilisation of resources in agricultural productivity.
- Enhancing skills of specialists, researchers and extension agents through participatory action research, in particular with agricultural extension bodies.
- Cooperating with local institutions and the Arab, regional and international programs for the implementation of local, Arab, regional and international foundations to develop agricultural research and provide consulting and technical services in the field of agriculture.

In addition, there are three universities with faculties of agriculture (e.g. An-Najah National University, Hebron University, and Al Azhar University). Several NGOs also conduct agricultural research and experimentation.

2.11 Livestock Value Chain Mapping

Value Chain Definition

The value chain can be defined as the full range of activities required to bring a product from the initial input-supply stage, through various phases of production, processing and delivery to its final market destination or end consumer. A value chain mapping is a powerful analytic tool for the strategic planning. It can be used to understand the markets and the connections between different actors, and to identify the bottlenecks and the leverage points.

The livestock value chain is hence described as the set of actors and activities that bring a basic livestock commodity (e.g. animals and animal products) from production in the field to final consumption, where at each stage value is added to the product.

Livestock Value Chain in Palestine

There are three main livestock – Cattle, goats and sheep, and poultry – which are the backbone of the livelihood security, culture and agricultural economy of the Palestinian territories. Further information about the characteristics of each livestock value chain is provided below.

The core functions in a livestock value chain are input supply, production, processing, marketing, and consumption, and the main actors are input suppliers, producers, fatteners, slaughterhouse, butchers, and local market. These core functions and actors involve different activities as indicated in Figure 1 below.

Core Functions

- **Input/Service:** it consists of supply of animals for fattening, breeding, animal health, feed and provision of extension services.
- **Production:** it consists of breeding the animal for the increase in live weight for producing milk, meat, or eggs. It requires husbandry practices, veterinary services and sheltering the animal for production.
- **Processing:** the processing work is done at abattoirs and butchers, and including slaughtering, chilling, and packing.
- **Marketing:** it involves buying animals, transportation and distribution to customers and local market. Animals are purchased from butchers or slaughter houses.
- **Consumption:** most consumption for livestock product are domestic, who buy processed meat from butchers or local market.

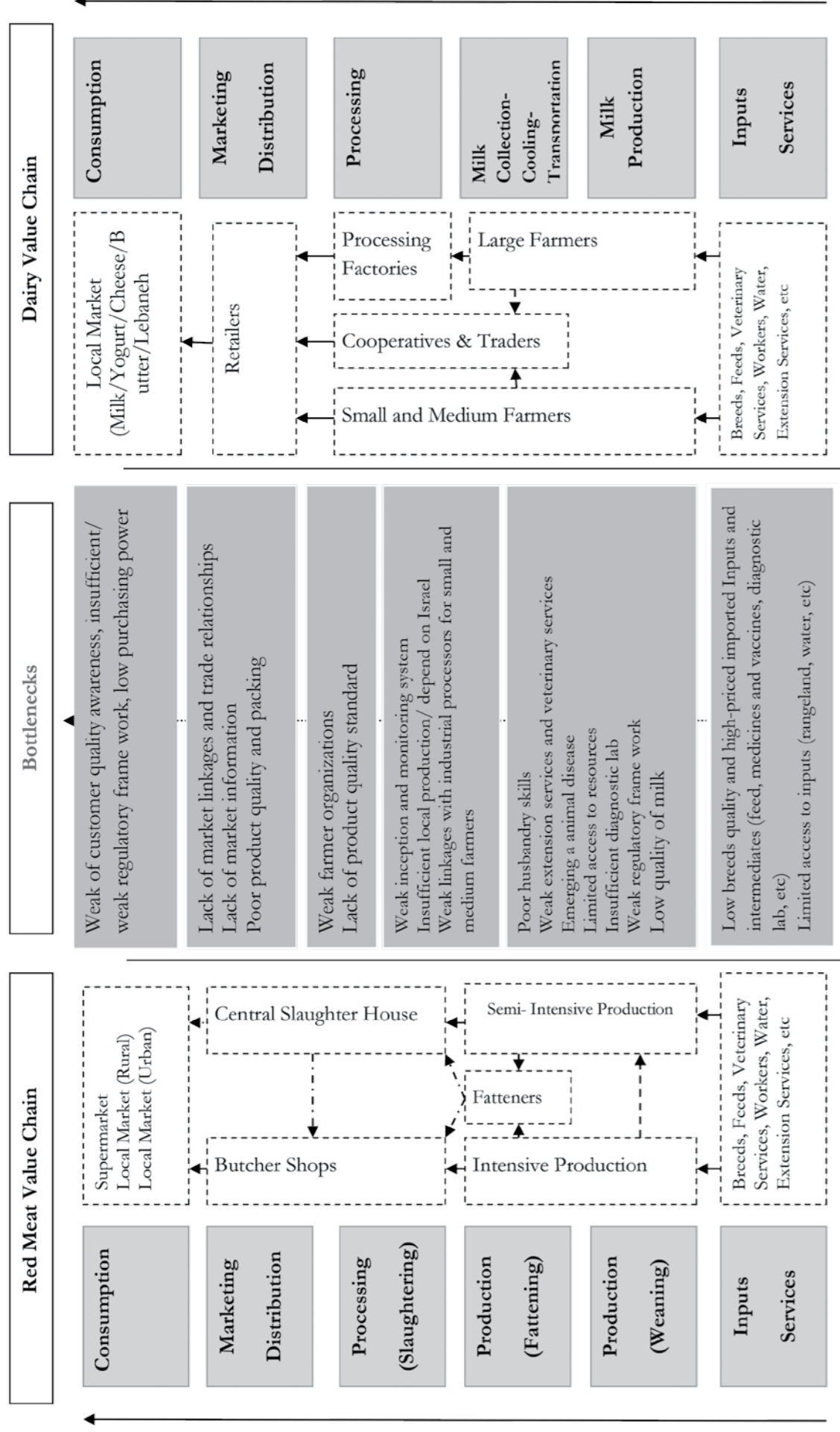


Figure 1: Mapping of the Red Meat and Dairy Value Chain in Palestine

I. Poultry Value Chain in Palestine

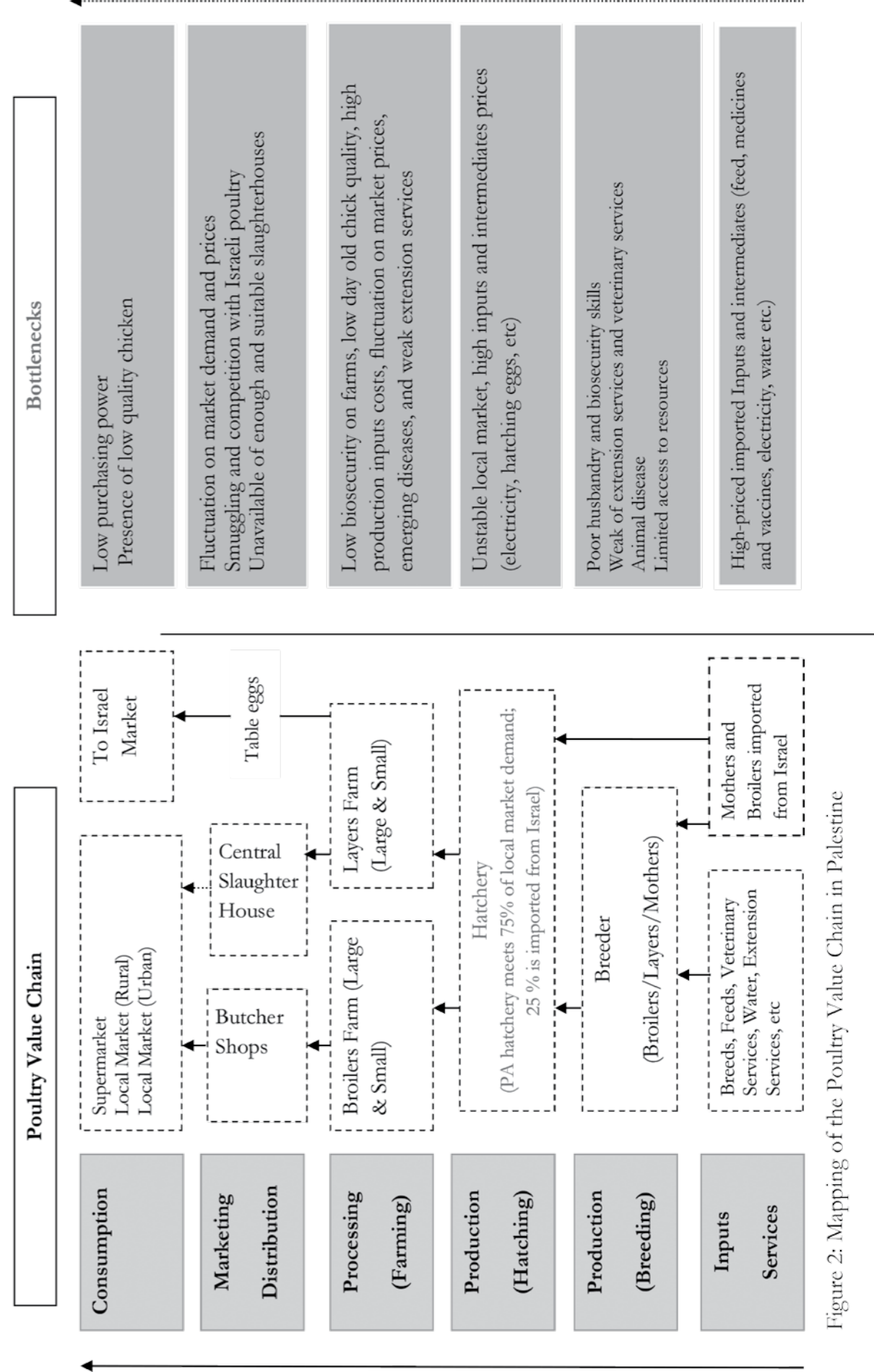


Figure 2: Mapping of the Poultry Value Chain in Palestine

II. Feed Value Chain in Palestine

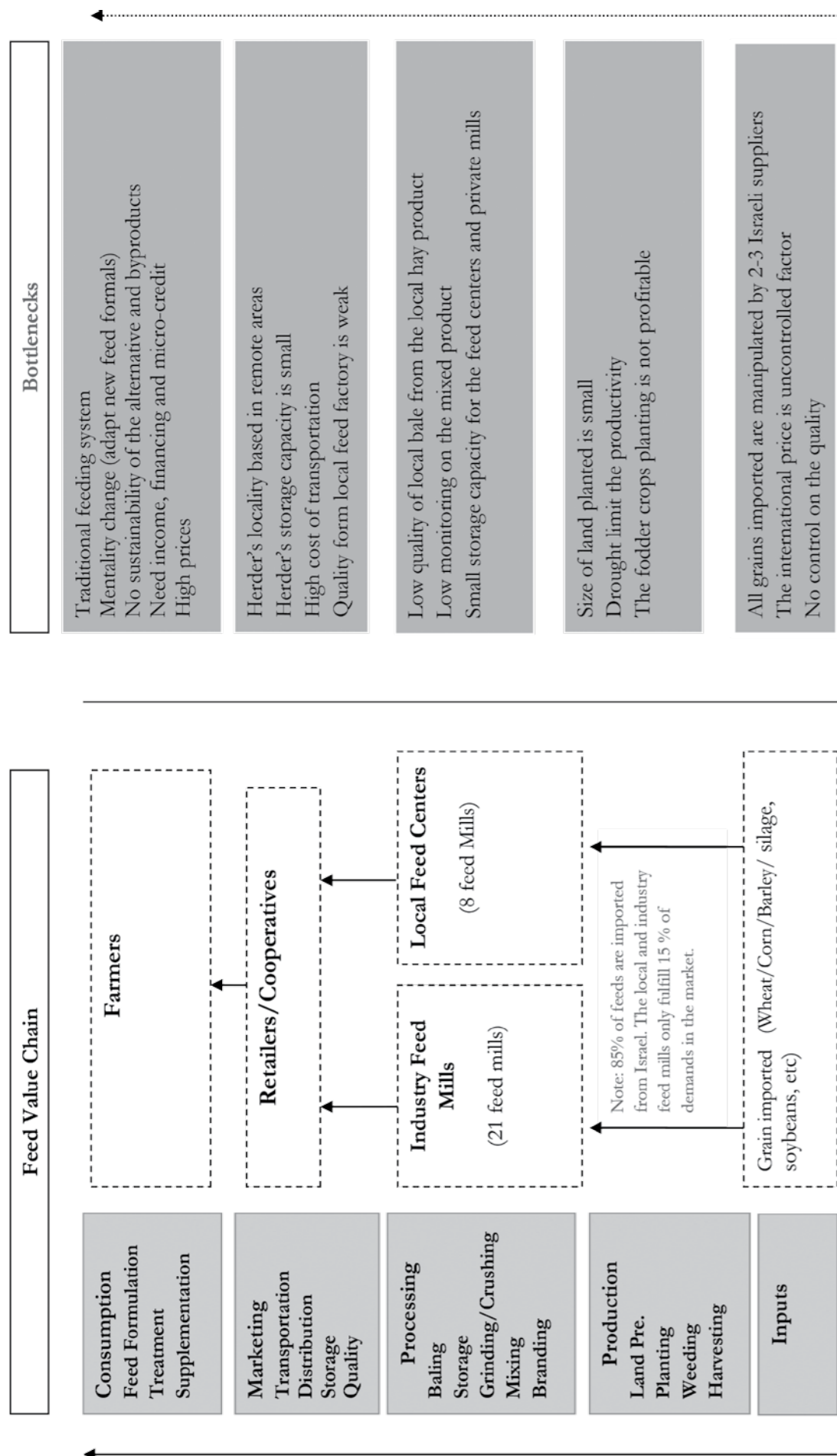


Figure 3: Mapping of the Feed Value Chain in Palestine

3. Livestock Sector Situation Analysis

3.1 Challenges and Constraints

A variety of challenges and constraints hinders livestock production and productivity and must be addressed. These challenges are listed below.

Challenges

a. Inadequate Capacities of Livestock Smallholders

Livestock smallholders are farmers who depend greatly upon livestock for their livelihoods. They are often involved in small-scale farming systems where livestock plays a central role as a source of food, income, saving, assets, insurance and production inputs. The livestock production can be affected by the farmers 'management and husbandry skills, and feeding practices. Empowering livestock smallholders through capacity-building with a view of improving their knowledge, skills, organization and assets, and enabling them to become more market-oriented, as a result they can consistently produce high quality, volumes of livestock to the local market.

b. Heavy Reliance on Imported Inputs (feed supply)

Nearly all animal feeds, which constitute 70% to 85% of the total production costs, are imported from Israel through a local middleman. Feed supply is insufficient both in quality and quantity. The continuous rise of fodder prices in recent years has increased the cost of production, and forced farmers to use lower quality feed to the animals (e.g. lower quality protein mixture). As a result, the high dependence on imported inputs leads to low productivity and low quality.

c. Low Productivity of Small Ruminants

Low productivity of small ruminants in Palestine is triggered by weak breeds, feed and nutrition, animal health, and poor farming management. The source of productivity growth could be attributed to breed improvement, adequate supply of feed and fodder, animal health enhancement, and improved farming management practice.

d. Weak Livestock Products Processing and Marketing

A major constraint to the profitability of the livestock sector is thus poor knowledge of the market and a deficiency in market information. Also, lack of grading and quality of livestock products has little value added in the value chain. In addition, the inadequate infrastructure for processing, and poor handling, transportation and packaging, inadequate quality control, and poor knowledge of the markets for livestock and livestock products constrains the development of the livestock market.

Furthermore, weak livestock producer organisations, which limit the exploitation of economies of scale in marketing of livestock products, lead to high transaction costs and inefficiencies. The linkage among actors in livestock value is not connected or coordinated. These challenges have been the bottlenecks to construct a cost-effective and a market-driven livestock sector.

e. Needed support for Veterinary Services

The trans-boundary animal disease has directly impacted on the livestock production outputs and the public health, and has constrained the development of the livestock sector. The veterinary service, whose role is to prevent, combat and control epidemic or common diseases or other animal health emergencies, is one of important actors in the livestock value chain. In the WBGs, the veterinary services are provided by the public sector. The constraints of veterinary services in the WBGs are listed below:

- Inadequate support and resources for enhancing the capabilities of public veterinary services;
- Limited capabilities of affordable privatization of institutions that deliver veterinary services;
- The need for more qualified veterinarians and specialists in food safety;
- The need to provide specialised professional and management trainings; in order to keep up with rapid technical development in this field
- The need to enhance the application of healthcare measures in the livestock sector;
- Inadequate infrastructure needed for delivery of veterinary services (particularly vehicles and instruments)
- The need for compliance and completion of the legislation and regulations that govern the procedures of veterinary services delivery.

f. Needed support for the Livestock Extension Services

A functional, efficient and cost-effective extension service is a major prerequisite to develop long-term sustainable livestock production systems. However, most of extension agents are under-trained, under-equipped, under-employed, and under-motivated. The constraints of the livestock extension service in Palestine are listed below.

- The need to promote the appropriate knowledge, capacity and skills;
- Inadequate tools and appropriate technical assistance programs to provide extension messages;
- The need to promote managerial, technical and programming qualifications and skills;
- The need to increase funding and logistical support, particularly transportation and basic extension equipment;
- Inadequate coordination between research centres and universities on the one hand, and extension service providers on the other.

g. Inadequate Quality and Quantity of Animal Vaccines and Medicines

Animal vaccines and medicines are the most critical issues in livestock and food safety development. The constraints of the animal vaccines and medicines in Palestine are listed below.

- Inadequacy of some important animal vaccine stocks;
- High cost of animal medicines and vaccines;
- Uncontrolled medicines and vaccines market, weak monitoring system (smuggling and fraud, medicines abuse) ;
- Importation of vaccines subjected to Israeli permission; and
- The need for sustainable funding and logistical support for the sustainability and continuity of the vaccination strategy against epidemic diseases,

h. Inadequate Investments in Livestock Development and Finance

The current banking and financial system in Palestine does not provide adequate support to livestock production, processing and marketing on livestock and its products. Unavailability credits to farmers, producers, traders could limit the development, expansion and commercialisation of the livestock sector. In addition, mediocre support is provided to implement projects in the livestock sector.

Constraints

Livestock in Palestine in particular are facing several constraints that can be summarised as follows:

a. Limited Access to Resources (water and grazing land, production inputs)

Water and grazing land are main resources which support the livestock production system. The continued shrinking of grazing land due to land confiscation, barriers, and Separation Walls by Israeli constrains the sustainability of livestock production system in the WBGZ. Due mainly to the restriction of land access, fodder crops are not sufficiently developed, the available rangeland and natural pastures is overgrazing, and the performance of livestock sector is directly affected.

Water availability and quality are extremely important to animal health and productivity. Livestock production process requires a great use of water from feed production to product supply. Palestinians are restricted to access to a mere 20% of their water sources. On top of it, the water shortage is caused by droughts, and limited and inefficient water network. To cope with water shortages and lack of network supplies, many Palestinians have to purchase water, often low quality, from mobile water tankers at a much higher price. In some Palestinian villages, because their access to water has been so severely restricted, farmers are unable to cultivate the land, or even to grow small amounts of food for their personal consumption or for animal fodder, and have thus been forced to reduce the size of their herds.

The measures taken by the Israeli occupation in the Gaza Strip restrict the entrance of most production inputs, animal vaccines and medicines, which negatively affects the production and productivity of animals. These restrictions also discourage investment in the livestock sector in the Gaza Strip.

b. Weak Animal Genetics

Low genetic quality for breeds has led to poor production and productivity. The livestock in the WBGZ has quality and productive problem with dairy cattle. Due to the lack of local breeding station and access to quality artificial insemination services, most of dairy cows are imported from Israeli. The smallholder farmers usually end up buying low quality animals with high price. This has a significant impact on the cost of dairy production.

Governance, Regulatory and Institutional Constrains

The livestock sub-sector has in the past not been the focus in Agricultural sector in Palestine. As a result, the livestock sector has suffered from weak institutional and regulatory settings. The constraints are described as follow:

- Limited governmental budgetary and institutional constraints and inadequate human resources in livestock research and planning and development, affect the provision of effective extension services, sector planning and implementation capacities;
- Weak institutional linkage between livestock research, extension services and veterinary services, resulting in poor design and delivery of programmes;
- Weak regulatory for the standards and grades of livestock and livestock products;
- Weak mechanisms of enforcement of laws and regulations at the National and Regional government level; and
- Poor regulation of livestock and its markets.

3.2 SWOT Analysis

The MoA, in partnership with FAO, has conducted two “Strategic brainstorming and discussion on Palestinian Livestock Sector: Challenges and Opportunities” workshops on 28 January 2014 in Gaza, and on 12 February 2014 in Ramallah, respectively. The purpose of these two workshops was to provide a platform for an open discussion on the livestock sector. The objective was to identify challenges and opportunities for the livestock sector in the WBGS.

The key stakeholders who participated in the SWOT Analysis include the MoA, international and national NGOs, private sectors, universities and related livestock associations and councils. The outcome of these two strategic brainstorming and discussion workshop was a participatory SWOT analysis of livestock in WBGS, which is summarised below.

Strength	Weaknesses
<p>Inherent Strengths:</p> <ol style="list-style-type: none"> 1. Livestock is part of Palestinian culture and heritage 2. Livestock herding is a vital source of income in the West Bank, and supports household food security 3. The ability of people to cope and adapt (resilience) to hardship in WBGS <p>Competitive Strengths:</p> <ol style="list-style-type: none"> 4. Well-established infrastructure (e.g. well-designed animal sheds; machineries) 5. Access to best practices in livestock management (e.g. harmonized production season; use of alternative fodders; animal disease prevention strategies) 6. Climate and geographic diversity in the WBGS <p>Additional Supportive Factors:</p> <ol style="list-style-type: none"> 7. The livestock sub-sector is one of the strategic focuses of the Palestine National Agriculture Sector Strategy “Resilience and Development, 2014–16” 	<p>Inherent Weaknesses:</p> <ol style="list-style-type: none"> 1. Low productivity of local breeds 2. Seasonal production constraints (e.g. the milk and meat production of small ruminants depends very much on climate change) 3. Use of traditional farming management system (e.g. feeding, shelter, disease control) 4. Lack of livestock services, include training, extension services, research and farmer empowerment <p>Competitive Weaknesses:</p> <ol style="list-style-type: none"> 5. High production costs (e.g. fodder) 6. Low quality of products (e.g. dairy product) 7. Poor marketing and marketing infrastructure for livestock and livestock products (e.g. product standard, quality, and packaging system) 8. Weak linkages or coordination among actors in the livestock value chains 9. Lack of investment in major livestock’s infrastructure (e.g. road; water network; electricity)

10. Weak regulatory framework for setting standards and grades
11. Inactive unions and cooperatives
12. Low competitiveness in term of quality with Israeli products (e.g. quality of meat and dairy products from cattle makes these products non-competitive.)
13. Absence of legislative councils
14. Weakness of extension and veterinary services and research
15. Lack of artificial insemination centres and breeding improvement centres. There is one livestock breeding centre within the Ministry of Agriculture.
16. Absence of animal identification system (A National Animal Identification System has been recently established)
17. Unused of animal by-products (e.g. leather, wool, etc.)
18. Absence of agricultural insurance (An agricultural insurance and mitigation fund is newly established)
19. Insufficient financial mechanisms to support the livestock sector
20. Women subjected to greater workload

Opportunities	Threats
<p>Current Opportunities:</p> <ol style="list-style-type: none"> 1. Access to treated wastewater 2. Available local and growing regional market (e.g. Jordan and Gulf states) 3. Availability of funding and foreign aid 4. Option of alternative feed (e.g. silage and hydroponic) to reduce the feed cost <p>Competitive Opportunities: external opportunities that will help the WBG's livestock sector to compete effectively in national and international markets.</p> <ol style="list-style-type: none"> 5. MoA, international donors and NGOs support for livestock capacity-building 6. High potential local market demand for local livestock products (demand for good quality is larger than supply) 7. Support for local products 8. Introducing alternative fodders 9. Availability of new technologies (e.g. hydroponic fodder production units) <p>Potential Opportunities:</p> <ol style="list-style-type: none"> 10. Availability of livestock gene banking to improve breeds and expand breed diversity 11. Access to new international markets (e.g. Jordan and Gulf states) 12. Expand and promote new dairy products "Made in Palestine" to the market (e.g. cheese) 13. Rehabilitation of the livestock sector in the Gaza Strip <p>Future Opportunities:</p> <ol style="list-style-type: none"> 14. Introduction of new breeds or field crops 	<p>Immediate Threats:</p> <ol style="list-style-type: none"> 1. High dependency on external resources and large potential of being affected by fluctuations in global prices (e.g. imported fodder; funding and investment) 2. Limited access to natural resources (e.g. water, pastures and grazing land) 3. Deterioration of political situation and aggressive Israeli policies 4. Uncontrolled borders and the smuggling of infected animals 5. Power cutting and limitation in Gaza 6. Illegal animal trading and smuggling in Gaza 7. Siege and continuous closure and restriction on imports and exports in Gaza <p>Potential Threats:</p> <ol style="list-style-type: none"> 8. High potential of being affected by climate change, natural disasters (e.g. storm, earthquake and drought) 9. Emerging epidemic and endemic diseases outbreak 10. The war in the Gaza Strip caused high mortality among livestock both directly from the conflict and indirectly from a lack of access to water and feed.

4. Vision, Objectives, Strategic Interventions and Implementation Strategies

The vision and objectives of the Livestock Sector Strategy 2015-19 will respond to farmers' needs and sector development. These are aligned and in harmony with the National Agriculture Sector Strategy – A shared Vision 2011-13, and the new National Agricultural Strategy – Resilience and Development 2014-16. (See Annex III: National Agriculture Sector Strategy – A shared Vision 2011-13, and Annex IV: National Agricultural Strategy – Resilience and Development 2014-16)

4.1 Livestock Sector Vision

The livestock sector strategic vision was formulated to respond to farmers' needs and sector development. This vision provides a direction and a roadmap for the development of livestock sector in Palestine. The strategic vision for the livestock sector in Palestine is:

"A sustainable and productive livestock sector that is competitive both locally and externally, enhances food security in Palestine, promotes resilience of Palestinian breeders, and supports economic growth."

Achieving this vision would require the commitment of the consecutive governments, and relevant stakeholders to fulfil the following **general conditions**:

- **Priority given to the livestock sector in the national agricultural policy, while providing budgets and appropriate support** through the public sector and donor community
- **Improvement of the capability of livestock sector to attract investments** through providing incentives, proper legislations, collateral services and assurances needed to promote the private sector investment and to develop partnerships between the private and public sectors
- **Development of a clear framework of role and responsibilities among public, private sector, civil social organizations, non-governmental organizations, international communities** in a content of transparency, accountability and integrity

4.2 Livestock Sector Strategic Objectives

In order to achieve the livestock sector vision - "A sustainable and productive livestock sector that is competitive both locally and externally, enhances food security in Palestine, promotes resilience of Palestinian breeders, and supports economic growth" over the upcoming five years, **three strategic objectives (SOs)** were formulated as follows:

1. To enhance the resilience of livestock keepers against Israeli occupation, natural hazards, and economic shocks, especially vulnerable farmers.

Severe restrictions imposed by Israeli authorities on access to land and natural resources, movement, economic activities, trade and investment in Palestine have hampered the livelihoods of livestock keepers. Natural hazards, climate change, decline in rainfall and land degradation, environmental threats, weak support services and infrastructure place additional pressure on the Palestinian and leaving people vulnerable, particularly farmers and herder communities in Area C, and Bedouin communities.

Lately the livestock sector in the Gaza Strip has been affected by a real crisis, both directly due to the war, which resulted in the destruction of animal farms causing high mortality, and indirectly, through prolonged electricity outages and the blockade, which negatively affect access to production inputs and seriously affects the production process as a whole.

The effects of climate change on the agriculture sector in general, and on the livestock sector in particular, make it an inherent weakness and a high potential threat. A major challenge comes from increased volatility that can severely affect the livestock sector, where, forage failure in one year can impose constraints on herd dynamics¹⁵. Moreover, altered climate causes changes not only in the quantity but also the quality of the forage. Heat stress limits the capacity of animals and spreads diseases. All these factors enforce the urgency to address the impact of climate change and work on mitigation and prevention planning.

In the view of current status and conditions, the first priority in the livestock sector strategy is to build the resilience of livestock and poultry keepers by providing access to land, natural resources, legal support and infrastructure, and by coping with natural disasters.

2. To improve the livestock productivity, profitability, competitiveness and contribution to food security, employment generation and economic growth.

In a context characterized by political uncertainty and restrictions on movement and access that increase production costs, there are other factors affect the performance of livestock sector, and erode the competitiveness of Palestinian livestock products at home and abroad. In order to establish a vibrant and profitable livestock sector, one of three priorities is given to improve the livestock productivity by increasing the quality and quantity of livestock products, enhancing the breeding and feeding management practices, strengthening veterinary and extension services, preventing and controlling the animal disease, empowering farmers, and linking the farmers to the market.

3. To strength governance, regulatory and institutional capacity of the livestock sector.

Creating an enabling environment for the livestock sector development requires a sound governance system. The third livestock sector strategy is focusing on strengthen the governance, regulatory and institutional capacity of the livestock sector by enforcing and strengthening the livestock related policies, laws, human resources capacity and promoting synergies and harmonisation between PA institutions themselves and with international organisations.

4.3 Livestock Sector Strategic Interventions and Implementation Strategies

The table below outlines the implementation strategies and the strategic interventions required to achieve the vision and objectives of the livestock sector strategy.

Vision	
<i>“A sustainable and productive livestock sector that is competitive both locally and externally, enhances food security in Palestine, promotes resilience of Palestinian breeders, and supports economic growth”</i>	
Strategic Objective 1: To enhance the resilience of livestock keepers against Israeli Occupation, natural hazards, and economic shocks, especially vulnerable farmers	
Implementation Strategies	Strategic Interventions
Ensure grazing land and pastures conservation, management and development	<ul style="list-style-type: none"> • Ensure access to grazing eland, pastureland, and agricultural water. • Protect and preserve rangelands through fencing, rehabilitation, rotational grazing, cultivating water-soil-conserving and drought-tolerant plants, building retaining walls, and applying optimal water harvesting and collection systems for public and private land. • Establish a coordinated and cooperative grazing conservation program for private grazing land management through providing technical, educational, and related assistance to herders and farmers through awareness and implement applicable laws. • Conduct a mapping and stipulating public and state properties to identify suitable grazing areas to be developed • Application of animal manures and other by-product nutrient resources • Produce and utilise improved pastures seeds and fodder trees shrubs • Increase the planting areas with foddors or forges (e.g. buffer zone, forest, eastern slopes) • Promote forage conservation if the form of hay and silage • Establish and develop seed bank for drought tolerant and slot tolerant seeds.

¹⁵ FAO. 2015. Climate change and food systems: global assessments and implications for food security and trade. Food Agriculture Organization of the United Nations (FAO)

<p>Increase availability and access to agricultural water</p>	<ul style="list-style-type: none"> • Utilise treated water in cultivation of fodder, grazing tress and drought tolerant shrubs. • Establish or connect water networks to vulnerable areas • Rehabilitate water infrastructure (wells, springs, pools) • Develop rainwater harvesting system and apply modern irrigation and cultivation water harvesting technique. • Access the water supply system and improve the efficiency of the water use by training farmers how and when to irrigate, stalling water metres at the farmer level, and increasing the institutional capacity of the Palestinian Water Authority to improve the water regulation • Capacity building for herders, farmers and engineers • Encourage water collection management through civil society organisations and local councils
<p>Rehabilitate and construct infrastructure for livestock improvement</p>	<ul style="list-style-type: none"> • Rehabilitate and restore the agricultural roads, water networks, fishing port, and local markets infrastructure • Exploit alternative energies for livestock development such as solar, wind and biogas. • Rehabilitation of livestock sector infrastructure in the Gaza Strip, including improved breeding and animal barns etc.
<p>Improve living conditions of vulnerable farmers and herders in Area C, Bedouin communities and Gaza Strip</p>	<ul style="list-style-type: none"> • Provide vulnerable herders with livestock production inputs, and services including seeds, fodders, fertilisers, and medicines, animal sheds and treatment; as well as rehabilitate and restore irrigation systems and barracks conditional to crises and emergency situation through coordination with the Livestock Sector and MoA. • Provide in-kind support to vulnerable farmers and herders in Area C, Bedouin communities and Gaza Strip.

<p>Establish effective natural disaster management mechanisms</p>	<ul style="list-style-type: none"> • Develop and institutionalise emergency plan and preparedness plan for early warning system for droughts and floods and impending water shortages for livestock • Develop a national emergency response mechanism to cope with natural disaster and emerging diseases • Establish a emergency response committee involving all actors in the livestock sector • Activate and support the National Disaster Fund
<p>Strategic Objective 2: To improve and increase livestock productivity, profitability, competitiveness and contribution to food security, employment generation and economic growth</p>	
<p>Implementation Strategies</p>	<p>Strategic Interventions</p>
<p>Improve farm and flock management</p>	<ul style="list-style-type: none"> • Improve and apply quality standards to livestock products • Raise awareness among farmers, processors and traders on the importance of quality standards and market requirements • Capacity enhancement of farmers on technology, Good Agriculture Practices (GAP), Good Veterinary Practices (GVP), Good Manufacturing Practices (GMP), social mobilization, marketing, business skills, etc. through training, exposure, etc. • Provide basic infrastructures for livestock development by establishing Artificial Insemination centres and research centres, and activating agriculture stations
<p>Improve livestock breeds and breeding management system</p>	<ul style="list-style-type: none"> • Adopt a national programme for improvement of livestock breeding • Support Animal Gene Bank Unit in promoting characterization, evaluation and selection of all types of conventional and non-conventional livestock species for increase productivity • Apply modern techniques for genetic improvement (e.g. A.I, embryos transfer, cross breeding) • Develop Breed Improvement Center services (e.g. Artificial Insemination, establishment of improved breeding station, embryo transfer techniques, etc.) • Enhance livestock production though effective reproduction and breeding management practices

<p>Improve livestock feeds and feeding management system</p>	<ul style="list-style-type: none"> • Promote the adoption of alternatives in forage nutrient • Promote supplementary feeding with concentrate mixtures rich in protein • Utilization of agricultural by-products, e.g. animal (fishmeal) or crop residues • Provide technical assistance to local feed mills to improve quality and quantity of feed produced • Enhance farmer knowledge of efficient and effective feeding practices through training • Increase the supply of seeds through development of resource centres (seed bank) designed for seed assessing production, testing and certification • Encourage feed cropping using treated waste water
<p>Enhance economic utilisation of livestock by-products</p>	<ul style="list-style-type: none"> • Utilization of livestock by-products as fertilizer or feed additives • Biogas production from manure • Encourage the leather processing factories in compliance with the applicable laws.

<p>Prevent and control animal disease and public health risks</p>	<ul style="list-style-type: none"> • Harmonize national and international policies on transboundary animal disease prevention, control and eradication • Supporting the veterinary services on drawing and implement various progress contingency plans to control animal diseases. • Establish mechanisms for public and private animal health sectors to share responsibility of controlling non-transboundary infectious diseases • Establish a disease early warning system and emergence preparedness unit • Upgrade, develop and enforce policies and guidelines for veterinary and animal health information exchange, disease management, and disease outbreak reporting system for local, regional and international organizations • Educate farmers and herders regarding the economic losses caused by animal diseases and raise awareness on animal diseases (endemic, zoonotic and epidemics), and promote vaccination campaigns. • Provide training to farmers and headers in diseases preventive measures to reduce the incidence of disease and through better farming practices • Insure availability of livestock vaccines on enough quantity and on time to ensure satisfied vaccination coverage and ensure satisfied diseases' prevention and control and food safety. • Promote animal disease and public health campaigns • Strength the veterinarian surveillance system. • Control animal drugs residues, through regulations and enhance the capacity of food safety laboratory. • Enhance veterinary services capacities on food inspection, testing and controlling
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<p>Strengthen veterinary services and livestock extension services</p>	<ul style="list-style-type: none"> • Strengthening technical capabilities from veterinary legislation to veterinary services implementation to create a solid and well-organized service and guidelines according to animal health code • Support veterinary manpower development and training • Facilitate the cooperation with the private sector and other public bodies in the delivery of animal health services • Equip veterinary services offices with logistics/equipments and increase frequency of mobile service (veterinary clinical/ AI service), infertility and treatment camps in remote areas • Establishment of community managed service centers and develop a mechanism linking them to the production farmers • Capacity building of extension personnel and private service providers through training, exposure/study visits and continuing education • Promote private sector participation in provision of livestock extension services through developing incentives including subsidizing the cost of delivery of extension services (e.g. field services,) • Promote mobile clinic services to delivery livestock extension services in rural areas • Strengthen coordination and collaboration amongst stakeholders in livestock interventions • Create subject matter specialist (SMS) for both animal health and extension • Support livestock mass-media
<p>Empower livestock farmers' cooperatives and councils</p>	<ul style="list-style-type: none"> • Strength viable horizontal networks and vertical linkages with partners, farmers, private sectors and public sector • Establish up-to-date information exchange mechanisms on the price of products, the volume of production, the type of activities and government policies • Encourage knowledge sharing between representative of livestock cooperatives and councils • Enhance the capacity and livestock farmers' cooperatives and councils on livestock production to adopt quality livestock production practices, farm operations management, quality testing and certification mechanism • Engage cooperatives and councils in export and domestic livestock marketing activities, financial transactions and social capital development

<p>Enhance veterinary laboratory diagnosis and epidemiological surveillance</p>	<ul style="list-style-type: none"> • Implement a capacity building programme about the veterinary laboratory system to ensure relevant conductance to national health surveillance • Establish a national epidemiological control and surveillance system to collect, analyse and disseminate data and information • Enhance risk analysis programme, and improve veterinary services personnel in utilize and manage epidemiological risk analysis system.
<p>Support livestock research programmes and strengthening the research-extension-farmer linkages</p>	<ul style="list-style-type: none"> • Promote and support scientific and academic applied research programs and studies on Animal and animal products development • Develop a mechanism for coordination and linkage between research results to be used for improving animal health and productivity. • Activate the utilization of researches' results by the extension for increase the farmers best practices • Establish specialized experimental stations for livestock and livestock products
<p>Establish efficient livestock marketing infrastructure and management along livestock value chain</p>	<ul style="list-style-type: none"> • Develop livestock-value chain with deepened gaps analysis. • Develop domestic and external market linkages • Conduct a comprehensive wholesale and local market practices study • Support existing processors to engage with small farmers • Conduct updated feasibility study for different livestock products • Develop or rehabilitate market infrastructure support facilities for both the internal and external markets and with maximum private sector participation • Raise consumer awareness about food quality, safety and associated risks.
<p>Establish market information system (MIS)</p>	<ul style="list-style-type: none"> • Create eligible human resources for tackling market data, analysis and presenting market's interpretations • Design and implementation a comprehensive livestock management system, including data and information collection, harmonization, management, and dissemination • Facilitate the cooperation and collaboration with livestock stakeholders on collecting reliable and updated livestock census, database and market information

Improve livestock products processing	<ul style="list-style-type: none"> • standardise operating procedures and establish national quality assurance • Collaborate with private entrepreneurs and local government for construction of slaughter facilities under public private partnership arrangements • Encourage private entrepreneurs to establish meat and dairy processing facilities • Enact and activate laws to protect national products and market
Strategic Objective 3: To strengthen governance, legal framework and institutional capacity of the livestock sector	
Implementation Strategies	Strategic Interventions
Ensure livestock sector-related policies, programmes, regulations and laws development, reform and advocacy	<ul style="list-style-type: none"> • Establish and enforce Grazing Land Act to regulate the land use • Establish and enforce by-laws for the conservation of water catchment areas • Enforce and functionalizing animal biologics , vaccine, medicine and feed supplements by law • Develop food quality control policy, updating food safety strategy , law and regulation, developing or updating the quality standards • Improve and functioning livestock insurance system. • Enact laws for protecting national market and national products. • Monitoring market transactions (sales & purchase) and commodities (goods & services)
Establish of inter-ministerial and cross-cutting coordination mechanisms	<ul style="list-style-type: none"> • Develop terms of reference and guidance for a national inter-ministerial and cross-cutting coordination mechanism, aiming at achieving the livestock sector strategic objectives in a coherent manner • Enable national and regional government structure to fulfil the legitimate role in providing legal framework and regulations related to livestock sector

Enhance the public-private partnerships (PPPs)	<ul style="list-style-type: none"> • Assist private sector in production, marketing, processing and export activities with support for private associations • Develop a policy, legal and regulatory framework for the Public-Private Partnership as a tool for the provision of improved public services and public infrastructure based on the principle of better value for money, appropriate risk transfer and management.
Establish the National Animal Identification System (NAIS)	<ul style="list-style-type: none"> • Improve the functioning of National Animal Identification System so as to include all animals of all age groups • Improve animal movement control • Establishment of Animal and animal products traceability system
Apply of food safety and sanitary phytosanitary (SPS)	<ul style="list-style-type: none"> • Adopt the SPS strategy • Adopt the food safety law • Improve the slaughterhouses conditions, registration and bio safety
Stimulate partnerships and cooperation between Animal Health Laboratory and International Reference Labs	<ul style="list-style-type: none"> • Establishment of laboratory network • Establishment of partnership/ twining with international or regional animal health laboratory
Accredit animal health and food safety labs	<ul style="list-style-type: none"> • Accreditation of animal health laboratory • Accreditation of food safety laboratory
Support public/private sector investments, financing and credit for improving the livestock sector value chain	<ul style="list-style-type: none"> • Support for the provision of micro credit for smallholder farmers • Support for the provision of loan and credit for the livestock sector • Support the development of lending schemes • Improve slaughterhouses services • Improve dairy and meat firms products quality and varieties • Exempting livestock holders from Value added tax (VAT) • Subsidise animal fodder

<p>Mainstream gender in livestock development</p>	<ul style="list-style-type: none"> • Provide gender awareness, sensitisation and training for all extension service providers to explore and understand the function of livestock for men and women, the various gender roles played in the animal management, and the economic and cultural roles of livestock within the household and in the community • Encourage and support women’s participation in livestock value chain activities • Sensitise male and female livestock keepers on the contribution and benefits of gender mainstreaming in livestock sector by educating and advocating
<p>Ensure environment conservation</p>	<ul style="list-style-type: none"> • Conduct an assessment on land tenure and usages to pastoral communities. • Awareness raising for conservation and utilization of biodiversity and environmental • Collect and document experience heritage and ancestral knowledge pertaining to environmental conservation. • Enforce the laws and regulations against wrongdoings to environment. • Solve solid and liquid pollutants as per sanitation system • Collaboration among stakeholders for launching biodiversity conservation and utilization programs such as gene banks • Scheme to protect plant landraces within area
<p>Provide legal support to vulnerable farmers in Area C, Bedouin communities and Gaza Strip</p>	<ul style="list-style-type: none"> • Mobilise legal support and media to enable farmers to access pastoral lands in Area C • Protecting the right to access to range land and natural resources through advocacy and campaigns • Provision of legal assistance to vulnerable farmers and herders in Area C, Bedouin communities and Gaza Strip • Encourage land reforestation and reconstruction, and investment in Area C. • Provide Area C with enabling environment for living and withstanding continuously livestock activities.

5. Institutional Framework for Implementing the Livestock Sector Strategy

5.1 Main Actors

The main actors in the implementation of the LSS will include internal livestock chain actors, such as producers, processors, traders, and external actors who provide services, expert and have influence on the performance of livestock value chains, such as local government. The table below lists the direct and indirect actors involved in the value chain.

	Direct Actors	Indirect Actors
<p>Public Sector</p>	<ul style="list-style-type: none"> • Ministry of Agriculture (MoA) • Ministry of Health (MoH) • Ministry of National Economy (MoNE) • Ministry of Local Government (MoLG) • Ministry of Labour (MoL) 	<ul style="list-style-type: none"> • Ministry of Planning and Administrative Development (MoPAD) • Ministry of Finance (MoF) • Palestinian Standards Institute (PSI) • Palestinian Central Bureau of Statistics (PCBS)
<p>Private Sector</p>	<ul style="list-style-type: none"> • Smallholder Farmers • Large-scale Farmers • The Palestinian Livestock Cooperatives Union (PLCU) • Cooperatives 	<ul style="list-style-type: none"> • Veterinarians • Dairy Firms • Meat Firms • Slaughter houses
<p>NGOs and Civil Society Organizations</p>	<ul style="list-style-type: none"> • PLDC • UAWC • PARC • Oxfam 	<ul style="list-style-type: none"> • Universities and research centers
<p>Donors and International Organizations</p>	<ul style="list-style-type: none"> • Food and Agriculture Organization (FAO) • OIE • European Union (EU) • Canada Government 	<ul style="list-style-type: none"> • World Trade Organization (WTO) • World Health Organization (WHO) • Codex Alimentarius

5.2 Roles and Responsibilities

Public Sector Lead Ministries	
Partners	Responsibilities
Ministry of Agriculture (MoA)	<ul style="list-style-type: none"> • Preparation and implementation of strategies, plans and programs aimed at the development of the livestock sector cooperation and full coordination with all partners in the process of livestock sector development • Preparation of laws, regulations and rules and regulations governing the work of the agricultural participation of all relevant parties • Provide a system for monitoring and evaluation, and control of all operations and activities in the livestock sector • Provision of agricultural support services for workers in the livestock sector • Implementation of some of the activities, projects and programs that are being implemented by other institutions • Conclusion of cooperation agreements and regional agricultural and open foreign markets for livestock products in cooperation with the concerned authorities • Working to improve the competitiveness of livestock products in domestic and overseas markets and protection • Provision of databases and information systems for the livestock sector in coordination with the relevant authorities
Ministry of National Economy (MoNE)	<ul style="list-style-type: none"> • Contribute to the development of the productive sectors and improve trade • Consumer protection and promote the product and enhance national competitiveness • Raise the efficiency of the use of the available natural resources and the rationalization of consumption and regulate the movement of trade • Economic policy-making in support of the capabilities and potential of the private sector and strengthening the competitiveness of the national economy • Contribute to the improvement of the level of economic well-being • Work to increase the capacity to provide jobs

Ministry of Local Government (MoLG)	<ul style="list-style-type: none"> • The empowerment of local bodies of owning an effective institutional capacity • Raising the efficiency of the ministry to enable planning, directing and overseeing the local government sector • Strengthening the concept of partnership between local authorities and private and public sectors to contribute to the creation of local development and promote financial independence for local bodies
Ministry of Planning and Administrative Development (MoPAD)	<ul style="list-style-type: none"> • Participate in the development of necessary public policies and link between sectoral policies and include them in executive plans and programs. • To achieve the best utilization of the capacities, potentials, and competencies of Palestinian citizens, living on the Palestinian territories and in Diaspora, in the development of an integrated strategy that matches between the different requirements of this process, including all economic, social, cultural, environmental, constructional, and technological requirements. • To provide means of suitable financial, technical, and technological support that match Palestinian People's needs and development plans adopted by the government. • To establish modern and effective Palestinian institutions that cope up with international advancement, through trained and competent human resources consistent with local needs and aspirations and with the PA development plans.
Ministry of Finance (MoF)	<ul style="list-style-type: none"> • Manage the public fund effectively and efficiently through enhancing the revenues and rationalizing expenditures using transparent financial systems supported by regulatory procedure • Review taxation system to stimulate economic development including livestock development • Allocate adequate funds for livestock development • Promote legal and policy environment for private sector participation in various activities related to livestock sector development

Ministry of Health (MoH)	<ul style="list-style-type: none"> • Consistency and coherence in response to nutritional needs • Quality and effective response in nutrition programming • Set guidelines on health, hygiene and sanitation for service providers • Formulate food safety policy • Provide and implement relevant regulatory services on health, hygiene and sanitation • Strengthen measures to control communicable and infectious diseases
Ministry of Labour (MoL)	<ul style="list-style-type: none"> • Create a favorable environment for job creation • The development of vocational education and training • Mobilization of the cooperative sector • Improve the terms and conditions of employment • Promote regional and international cooperation
Palestinian Central Bureau of Statistics (PCBS)	<ul style="list-style-type: none"> • Develop and enhance the Palestinian official statistical system that organize the process of data collection and utilization for statistical purposes • Collect livestock sector data and produce statistical reports
Palestinian Standards Institute (PSI)	<ul style="list-style-type: none"> • Develop guidelines on grades and national food standards • Support Small and Medium Enterprises (SMEs) to promote and monitor implementation of standards for sustainable industrial, social and economic development • Ensure the livestock products in the country conform to standards

Cooperatives and Associations	
Partners	Responsibilities
Milk Council	<ul style="list-style-type: none"> • Regulate activities in the dairy industry • Promote processing, marketing, and consumption of safe and quality dairy products • Support and promote research on dairy processing technology • Promote establishment of dairy and processors associations • Work with PSI to ensure compliance with food safety standards
Sheep Council	<ul style="list-style-type: none"> • Regulate activities in the meat industry • Promote processing, marketing, and consumption of safe and quality meat and meat products • Support and promote research on meat processing technology • Promote establishment of meat and processors associations • Work with PSI to ensure compliance with food safety standards
Civil Society Organizations (NGOs, CBOs, CSOs)	
Partners	Responsibilities
CSOs	<ul style="list-style-type: none"> • Collaborate with other stakeholders in reviewing and implementing the livestock sector strategy • Target vulnerable farmers, including low-resilience households and marginalized groups with assistance to facilitate livestock production, processing and marketing of livestock and livestock products • Provide emergency responses to livestock caused by natural disasters • Work to improve capacity building of small-scale farmers • Conduct livestock studies and research • Collect livestock data
NGOs	
Universities and research centres	

Private Sectors	
Partners	Responsibilities
The Palestinian Livestock Cooperatives Union (PLCU)	<ul style="list-style-type: none"> Fulfil the partnership ,livestock coops, and livestock needs in order to improve the members economic, social, cultural and environmental and organizing them based on the principles and existing coop values which build on the self-support and self-reliance, democracy , equality , justice , solidarity
Producers	<ul style="list-style-type: none"> Participate in livestock programmes and activities Participate in the development and adoption of profitable technologies and best practices for livestock production, processing and marketing Provide employment opportunities Participate in the implementation of national and international standards for livestock products Enhance capacity of small-scale livestock producers Invest in the infrastructure of the livestock sector Participate in data collection
Processors	<ul style="list-style-type: none"> Participate in livestock programmes and activities
Traders	<ul style="list-style-type: none"> Implement livestock production activities
Livestock farming house	<ul style="list-style-type: none"> Participate in generating information on livestock production and related activities
Donors and International Organizations	
Partners	Responsibilities
International donors and regional organizations	<ul style="list-style-type: none"> Contribute designated funds in support of the Palestinian Livestock Sector Support the livestock sector in international forums, particularly in relation to advocacy to cease the settlement activity and separation wall, as well as to ensure freedom of movement Provide technical support to the livestock sector Support the livestock sector with a view to conserve Palestinian land as an international right Support the development of the livestock sector and related infrastructures
WHO	<ul style="list-style-type: none"> Support prevention and control of zoonosis diseases via MoH
WTO	<ul style="list-style-type: none"> Provide international standards and regulations for international trade

Codex Alimentarius	<ul style="list-style-type: none"> Provide international standards and regulations
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5.3 Coordination Mechanism

To successfully implement the LSS, a coordination mechanism will need to be established and mainstreamed in the existing governmental bodies. This includes the coordination of the MoA with other livestock sector related stakeholders. The coordination mechanism framework should be established as described below:

National Level:

Establishing a national coordination mechanism for the livestock sector can facilitate collaboration between MoA, MoPAD, and other ministries and bodies working on the livestock sector issues who may not regularly exchange information and implement activities jointly. Inter-ministerial coordination is essential to ensure a clear division of roles and responsibilities and identify areas for collaboration in the implementation of national livestock sector strategies.

Key ministries and institutions which should be engaged in coordination include those responsible for: livestock resource; animal disease control, veterinary services and public health; livestock support services delivery and empowerment; livestock products marketing; legal and institutional framework; cross cutting or cross-sectoral issues (e.g. women/ gender); community affairs/ local government. Representatives of national and international civil society organizations or NGOs providing frontline services to livestock holders or farmers should also participate in national-level coordination.

Establishing an inter-ministerial or multi-sectoral committee which meets regularly can contribute to:

- Developing a clear national, regional and community level system or process for livestock sector
- Ensuring that all service providers at local and national levels understand the livestock sector value chain; their responsibilities addressing the issue; and how to work with others in the livestock sector value chain
- Developing a national strategy to respond to farmer's needs and livestock sector development
- Setting up national campaigns on the livestock sector issue
- Identifying clear roles and responsibilities for relevant ministries
- Coordinating with international actors and partners in other countries
- Improving government-civil society collaboration

Regional Level:

Establishing a regional livestock working group can facilitate the inter-sectoral collaboration between PA, civil society organizations, private sectors, international organizations, livestock service providers, and cooperatives working on the livestock sector issues who may not regularly exchange information and implement activities jointly.

Establishing a regional livestock multi-sectoral committee or which meets regularly can contribute to:

- Coordinating the implementation of policies, legislations and regulations for livestock sector
- Enhancing regional collaboration and create consensus among technical livestock research

institutions, humanitarian and development actors

- Promoting appropriate policies that enhance livestock trade and market
- Encouraging the development of a commercially oriented, efficient and internationally competitive livestock industry
- Launching joint advocacy with donors, regional government bodies and other stakeholders for common positions on livestock
- Establishing a regional livestock database
- Providing emergency support to livestock to ensure food security and safety and livelihood resilience
- Providing technical inputs/feedback on regional livestock technical materials (e.g. training manuals, guidelines and standards, including peer reviewing of good practices)
- Presenting the joint position on livestock situation at regional level and draw attention of decision makers through discussions sharing key messages and discussions to stimulate appropriate short and long term investments

6. Resource Allocation

A key factor to successful implementation of the Livestock Sector Strategy is provision of budgets needed to implement proposed programmes, projects, and interventions. Although some indicators show an increasing support delivered to the agriculture sector, the livestock sector is still impeded by short funds. Total support continues to be less than overall requirements of the agriculture sector – a vital sector of a high potential in Palestine.

In consistency with budget line items set by the National Agriculture Sector Strategy “Resilience and Development 2014-16”, budgets earmarked to the livestock sector are in line with reasonable limits of financing. Many sector activities will be funded by the private sector and some civil society organisations. The budgeting process is also informed by a fair allocation of resources to various programmes and projects. To ensure effective, efficient and transparent resource allocation and use, cooperation will be in place between all stakeholders in the livestock sector.

As described in the table below, development budget line items appropriated to the Livestock Development Programme is US\$ 127,950 and Veterinary Services Programme US\$ 110,000 over the upcoming five years. The total development budget of both programmes is US\$ 237,950.

Programmes/projects		2015	2016	2017	2018	2019	Total (US\$ '000)
		1000	1000	1000	1000	1000	
1	Livestock Development Programme						
1.1	Pastureland Development	1000	1000	1000	1000	1000	5000
1.2	Sheep and Goat Productivity Enhancement	6000	10000	10000	10000	10000	46000
1.3	Beekeeping Development	1000	1500	1500	1500	1500	7000
1.4	Poultry Productivity Improvement	625	625	500	500	500	2750
1.5	Cattle Productivity Improvement	1250	1250	1000	1000	700	5200
1.6	Livestock Production Inputs Development (e.g. feeds)	6000	6000	6000	6000	6000	30000
1.7	Livestock Product Development	500	500	500	500	500	2500
1.8	Support for Farmers Affected by Israeli Measures and Natural Disasters	5000	5000	2500	2500	2500	17500
1.9	Support for Breeders	1000	2000	3000	3000	3000	12000
	Total						127,950
2	Livestock Services Programme						
2.1	Veterinary Service Development	3000	3000	3000	3000	3000	15000
2.2	Extension and Training Service Development	3000	5000	5000	5000	5000	23000
2.3	Human Resource Development	375	375	500	375	375	2000
2.4	Production and Marketing Service Development	5000	5000	5000	5000	5000	25000
2.5	Livestock-related Research Development	5000	5000	5000	5000	5000	25000
2.6	Livestock Medicine and Vaccine Development	1500	2000	2000	2000	2000	9500
2.7	Develop animal disease and plant health control and traceability system	2000	2000	2000	2000	2000	10000
2.8	Develop policies and legislative frameworks needed to improve the livestock sector	100	100	100	100	100	500
	Total						110,000
Grand Total		42,350	50,350	48,600	48,475	48,175	237,950

7. Monitoring and Evaluation

The Monitoring and Evaluation (M&E) is an essential part in implementing the strategy. M&E is an ongoing process, and is aimed to focus on the measurement of efforts and resources on expected results, improve effectiveness and sustainability of the implementation of the strategy for the livestock sector, and improve accountability for resources used.

Monitoring is an ongoing process to obtain regular feedback on the progress being made towards achieving strategic objectives. Evaluation is an independent assessment of either completed or ongoing activities to determine the extent to which they are achieving stated objectives and contributing to decision making. Combining planning, monitoring and evaluation together comes as Result-based Management (RBM), a results-oriented management tool which provides a coherent framework for strategy planning and management.

Funded by the GIZ, the MoA is currently in the process of developing an M&E system. Currently, in the data entry phase, this system will be launched in six months. Informed by agriculture sector programming and service delivery approach, the M&E system includes a livestock and veterinary service programmes. Livestock Sector Strategy is part and parcel of this system. A strategic plan of action will be developed in line with set criteria to promote a results-based M&E activity. The system ensures successful implementation of the Livestock Sector Strategy and measures objectives achieved through designed activities. It also helps ensure that the Strategy has materialised planned goals and fed into the Agriculture Sector Strategy objectives, ultimately achieving higher government goals.

Covering various layers, the M&E system monitors and evaluates departments in charge of planning and implementing activities and interventions, relevant umbrella organisations, MoA, MoPAD, donors, and civil society organisations.

The RBM approach and three principles adopted under the Livestock Sector Strategy (LSS) 2015-2019 ensure that the programming translates into a manageable set of results (impacts, outcomes and outputs). The three principles of managing for results are as follows:

1. **Accountability:** The M&E will be carried out at various levels, including actors who are immediately responsible for implementing activities and interventions. MoA and MoPAD are the primary owners of LSS, and are accountable for delivering the national livestock sector strategic objectives. The implementation partners or input providers, including local authorities, international organizations, and civil society have an implementation role and thus have mutual accountability for the delivery goods or services. At each level, there is an expectation that an accountable party has the capacity to undertake its responsibilities to make its contributions to outcomes or expected results.
2. **Managing for Results (MFR):** In RBM, the result should inform decision-making on the design, resourcing and delivery of programmes and activities as well as for accountability and reporting, and lead to continuous improvement and change.
3. **Inclusiveness:** Engagement of all relevant stakeholders in all stages of the programming process maximizes the contribution of desired results. By using a consensus-building and participatory approach from the onset to define and agree upon indicators and results with relevant stakeholders, will lead to success of the implementation of LSS.

Main components in the table below and in the table of Strategic Objectives and Interventions are part and parcel of the new M&E system. The system will help monitor and evaluate achievements and implementation impacts. It will also contribute to enhanced improvement, effective management, and efficient functions. Accordingly, strengths are built on, shortfalls avoided, and implementation adjusted.

Programmes/ Indicators	Results	Annual Indicators					Verification Sources	Responsibility
		2015	2016	2017	2018	2019		
1. Livestock Development Programme								
1. Area of land reclaimed for grazing	25,000 dunums of land reclaimed for grazing	Increase area of land reclaimed for grazing by 5,000 dunums	Increase area of land reclaimed for grazing by 5,000 dunums	Increase area of land reclaimed for grazing by 5,000 dunums	Increase area of land reclaimed for grazing by 5,000 dunums	Increase area of land reclaimed for grazing by 5,000 dunums	<ul style="list-style-type: none"> Project reports MoA directorate reports Contractor takeover report 	<ul style="list-style-type: none"> MoA directorates Directorate of Land Development and Protection Directorate of Forests and Pastureland Donors Project management
2. % of increased goat milk production	Increase goat milk production from 57,222 to 80,000 tonnes, over the next five years	Increase goat milk production by 60,000 tonnes	Increase goat milk production by 65,000 tonnes	Increase goat milk production by 70,000 tonnes	Increase goat milk production by 75,000 tonnes	Increase goat milk production by 80,000 tonnes	<ul style="list-style-type: none"> Project reports MoA directorate reports Cooperative society reports Company reports 	<ul style="list-style-type: none"> Project management MoA Cooperative societies Private companies
3. % of increased goat reproduction rate	Increase goat reproduction rate by 25%	Increase goat reproduction rate by 5%	Increase goat reproduction rate by 5%	Increase goat reproduction rate by 5%	Increase goat reproduction rate by 5%	Increase goat reproduction rate by 5%	<ul style="list-style-type: none"> Project reports MoA directorate reports Cooperative society reports Company reports 	<ul style="list-style-type: none"> Project management MoA Cooperative societies Private companies

4. % of increased honey production	Increase honey production to 300,000 kg over the next five years						<ul style="list-style-type: none"> Project reports MoA directorate reports Cooperative society reports Company reports 	<ul style="list-style-type: none"> Project management MoA Cooperative societies Private companies
5. % of increased poultry production	Increase poultry production to 80 million broiler hens a year						<ul style="list-style-type: none"> Project reports MoA directorate reports Cooperative society reports Company reports 	<ul style="list-style-type: none"> Project management MoA Cooperative societies Private companies
6. % of increased egg production	Increase egg production by 5%	Increase egg production by 1%	Increase egg production by 1%	Increase egg production by 1%	Increase egg production by 1%	Increase egg production by 1%	<ul style="list-style-type: none"> Project reports MoA directorate reports Cooperative society reports Company reports 	<ul style="list-style-type: none"> Project management MoA Cooperative societies Private companies
7. % of increased cow milk production	Increase cow milk production to 65,000 tonnes a year over the next five years						<ul style="list-style-type: none"> Project reports MoA directorate reports Cooperative society reports Company reports 	<ul style="list-style-type: none"> Project management MoA Cooperative societies Private companies
8. % of increased cow reproduction rate	Increase cow reproduction rate to 15,000 calves a year over the next five years						<ul style="list-style-type: none"> Project reports MoA directorate reports Cooperative society reports Company reports 	<ul style="list-style-type: none"> Project management MoA Cooperative societies Private companies
9. % of increased fodder production	Increase fodder production by 2.5%	Increase fodder production by 0.5%	Increase fodder production by 0.5%	Increase fodder production by 0.5%	Increase fodder production by 0.5%	Increase fodder production by 0.5%	<ul style="list-style-type: none"> Project reports MoA directorate reports Cooperative society reports Company reports 	<ul style="list-style-type: none"> Project management MoA Cooperative societies Private companies

10. Number of breeders who receive support	Number of breeders who receive support drooped by 5%	Number of breeders who receive support drooped by 1%	Number of breeders who receive support drooped by 1%	Number of breeders who receive support drooped by 1%	Number of breeders who receive support drooped by 1%	Number of breeders who receive support drooped by 1%	Number of breeders who receive support drooped by 1%	Project reports • Gaza-based MoA directorate reports	• MoA
11. Number of Gazan herders whose animal farms are rehabilitated after the war	Increase the number of herders whose livestock farms are rehabilitated by 45%	Increase the number of herders whose livestock farms are rehabilitated by 2%	Increase the number of herders whose livestock farms are rehabilitated by 8%	Increase the number of herders whose livestock farms are rehabilitated by 15%	Increase the number of herders whose livestock farms are rehabilitated by 10%	Increase the number of herders whose livestock farms the rehabilitated by 10%	Increase the number of herders whose livestock farms the rehabilitated by 10%	Projects reports	• MoA
2. Veterinary Service Programme									
1. Number of animal immunised against diseases (brucellosis and FMD)	500,000 animals immunised against FMD and 10,000 against brucellosis every two years	500,000 animals immunised against FMD and 700,000 against brucellosis	500,000 animals immunised against FMD and 300,000 against brucellosis	500,000 animals immunised against FMD and 700,000 against brucellosis	500,000 animals immunised against FMD and 300,000 against brucellosis	500,000 animals immunised against FMD and 700,000 against brucellosis	500,000 animals immunised against FMD and 700,000 against brucellosis	Veterinary Department reports • Records of quantity of vaccines distributed to directorates	• MoA • Directorate of Veterinary Services
2. Reduce disease outbreak	FMD and brucellosis infection reduced by 0.5%	FMD and brucellosis infection reduced by 0.5%	FMD and brucellosis infection reduced by 0.5%	FMD and brucellosis infection reduced by 0.5%	FMD and brucellosis infection reduced by 0.5%	FMD and brucellosis infection reduced by 0.5%	FMD and brucellosis infection reduced by 0.5%	Reports of the Directorate of Veterinary Services • Ministry of Health reports	• MoA • MoH • Veterinary Department reports
3. Develop and implement an extension programme targeting breeders	Extension programme targets 15,000 breeders	Extension programme targets 3,000 breeders	Extension programme targets 3,000 breeders	Extension programme targets 3,000 breeders	Extension programme targets 3,000 breeders	Extension programme targets 3,000 breeders	Extension programme targets 3,000 breeders	Programme format • MoA directorate reports	• MoA • Directorate of Extension • Directorate of Veterinary Services • Directorate of Forests and Pastureland

4. % of increased medicines and vaccines that have been registered	100 medicines and vaccines registered	20 medicines and vaccines registered	20 medicines and vaccines registered	20 medicines and vaccines registered	20 medicines and vaccines registered	20 medicines and vaccines registered	20 medicines and vaccines registered	MoA and MoH reports	• MoA • Directorate of Veterinary Services • MoH • Private sector
5. Plan to develop a livestock research centre	Develop and endorse a plan to establish a livestock research centre							Project reports • MoA directorate reports • Cooperative society reports	• MoA • National Centre for Agricultural Research
6. % of research on the use of locally produced offal in livestock feed	Submit three research papers on the use of offal							Project reports • MoA directorate reports • Cooperative society reports	• MoA • National Centre for Agricultural Research
7. % of research on efficient productivity of local breeds under different administrative conditions. Attempts will be made to improve breeds through cross-breeding, introduction of genes, or other modern scientific methods	Develop three research papers on development of sheep and cattle milk and meat production							Project reports • MoA directorate reports • Cooperative society reports	• MoA • National Centre for Agricultural Research
8. % of research on isolation of pathogen agents, diagnosis of animal diseases and zoonosis (diseases transmitted from animals to humans)	Submit three research papers on types and control of pathogen agents							Project reports • Cooperative society reports • MoA and MoH reports	• MoA • National Centre for Agricultural Research

Annexes

Annex I:

Supervisory Committee

Mr Abdullah Lahlouh, Deputy Minister of Agriculture
Dr. Azzam Saleh Ayasa, FAO Head of Programme

List of LSST Committee Members

Organisation	Name
MoA	Samer Titi
MoA	Mahmoud Fatafta
MoA	Ayman Amro
MoA	Samah Abu Heikal
MoA	Eyad Badran
MoA	Najeh Bane Odeh
FAO	Khawla Njoum
FAO	Amro Kaloulti
Oxfam Italy	Mathew Crosetti
ACF	Riyadh Abu Hashem
CARE	Ayman Al Shuabi
PARC	Mohammed Omar
UAWC	Omar Titi
PLDC	Merie Shawahne
Milk Council	Kamel Mujahed
Sheep Council	Mohammed Abu Dahok

Annex II: Consultation Workshop Reports

Date	Workshop/Meeting Title	Achievements
28 January, 2014 13:30 – 15:30	Livestock-based Livelihood Support Programme, Institutional Component Livestock Sector: Challenges and Opportunities, Brainstorming and Discussion Session in Gaza	<ul style="list-style-type: none"> Discussions on the challenges and opportunities in regards to livestock sector in Gaza, as a preliminary SWOT analysis for livestock subsector strategy.
12 February, 2014 13:30 – 15:30	Livestock-based Livelihood Support Programme, Institutional Component Livestock Sector: Challenges and Opportunities, Brainstorming and Discussion Session in Ramallah	<ul style="list-style-type: none"> Discussions on the challenges and opportunities in regards to livestock sector in the West Bank, as a preliminary SWOT analysis for livestock subsector strategy.
28 April, 2014 10:00 – 12:00	Livestock Strategy Development Kick-off Meeting in Ramallah	<ul style="list-style-type: none"> Established the LSST. Clarified the purpose, goal, and role and responsibilities of LSST. Clarified the timeframe and process of livestock strategy development. Reviewed the "National Agricultural Strategy 2011-2013 A shared vision" and "Resilience and Development 2014-2016".
5 May, 2014 10:00 – 15:00	Livestock Strategy Vision Development Workshop in Ramallah	<ul style="list-style-type: none"> Reviewed the Livestock Value Chain (Meat/Dairy/feed/poultry). Identified the bottlenecks of value chain Created a livestock sector vision for the next five years (2015-2019). Brainstormed the livestock sector strategy objectives.
2 June, 2014 10:00 – 15:00	Livestock Strategy Components and Interventions Brainstorming Workshop in Ramallah	<ul style="list-style-type: none"> Finalized the vision and strategic objectives. Developed the strategic components under each strategic objective based on the needs and priorities of the livestock sector.
11 June, 2014 9:30 – 15:00	Livestock Strategy Development Workshop in Gaza	<ul style="list-style-type: none"> Reviewed and approved the livestock sector strategic vision, objectives, components and sub-components. Consulted with interventions <i>under each</i> strategic objective.
18 June 2014 10:00 – 12:00	Livestock Strategy Development Interventions Brainstorming Workshop in Ramallah	<ul style="list-style-type: none"> Finalized the strategic components under each strategic objectives based on the needs and priorities of the livestock Sector
26 June 2014 10:00 – 14:00	Livestock Strategy Stakeholder Workshop in Ramallah	<ul style="list-style-type: none"> Discussed on the interventions for each strategic objectives
September 2014	Livestock Strategy Consultation Workshop	<ul style="list-style-type: none"> Presented the livestock sector strategy to all stakeholders

Annex IV: National Agriculture Sector Strategy “Resilience & Development 2014-16”

Vision	Sustainable and feasible agriculture, that is capable of achieving food security, competitive in the local and foreign markets through an optimal use of resources as part of comprehensive development, and cementing the bonds and sovereignty of Palestinians over their land, there on towards building the state.
Strategic Objectives and Policies	<ol style="list-style-type: none"> 1. Ensure farmers’ resilience and attachment to their land, while fulfilling the contribution of the agriculture sector in providing requirements for development of the State of Palestine <ol style="list-style-type: none"> 1.1 Intensify efforts to rehabilitate the agriculture sector in Area C 1.2 Rehabilitate what the Israeli occupation has destroyed and support farmers who are affected by Israeli acts aggression 1.3 Support and protect marginalised group, especially small-scale farmers, impoverished people in rural areas, women and Bedouins 1.4 Provide agricultural control at borders and build national laboratories 1.5 Palestine signs agreements and joins regional and international agricultural organization 2. Efficient and sustainable management of natural resources <ol style="list-style-type: none"> 2.1 Improve management of supply and demand on water used in agriculture 2.2 Sustainable management of land, increase in land area, reclamation of land, and sustainable utilization of agricultural biodiversity 2.3 Reduce the negative impacts of climate change and natural disasters 3. Enhanced agricultural production, productivity and competitiveness, as well as enhanced contribution of agriculture to food security <ol style="list-style-type: none"> 3.1 Support as sector-wide shift towards intensive and semi-intensive production systems and apply modern agricultural production systems in line with sustainable development requirements 3.2 Steer agricultural production to meet domestic and external market needs and enhance competitiveness 4. The agriculture sector has effective and efficient capacities, institutional frameworks, legal environment, and agricultural services <ol style="list-style-type: none"> 4.1 Improve the efficiency and effectiveness of agricultural institutions and develop their legal and coordination frameworks 4.2 Train and rehabilitate the human resources involved in agriculture (men and women) 4.3 Provide incentives to investment and partnership between the public and private sectors 4.4 Improve extension services, plant protection, veterinary services, research and agricultural marketing 4.5 Develop the systems of lending and financing for rural areas, risk prevention and agricultural insurance

Annex V: Livestock Sector Risk Analysis Matrix

Key Risks	Impact	Probability	Assumptions
Political Context/Security Risk Factors			
Political context dramatically worsens	A dramatic deterioration in political situation could hamper the implementation of strategy due to security considerations and access to beneficiaries	Moderately probable High level of violent conflict is not expected, however the ongoing smaller incidents may lead to tightened security measures	High-level political negotiations about the WBGs reduces the likelihood of a deterioration in the political and security situation
Dramatic reduction in access to agricultural areas and natural resources	A further reduction in access to agricultural land and water will result in lower productivity and further economic losses for herders and a general further decline in the rural economy	Highly probable Continued settlement expansion, settler violence, movement restrictions and the Separation Barrier continue to further restrict access to land and water	The political/security context does not see a significant increase in Israeli settlement expansion and security checkpoints, etc. The blockade of Gaza is lightened and becomes more conducive to the movement of livestock production inputs and produce.
Insufficient and/or uneven delays in funding due to the financial uncertainty of the global aid sector	Interrupted livestock sector strategy implementation	Moderately probable	The political cooperation with donors will continue and the financing for livestock sector development will be provided
Environmental Risk Factors			
Increased frequency and higher severity of climate shocks	Drought and climate change in pastoral and agricultural areas would further worsen the water supply for herders (rangeland) and farmers (fodder crops) and reduce yields	Highly probable	Climatic conditions remain acceptable for livestock-rearing activities
Outbreak of animal disease	Outbreaks of transmissible animal disease would increase the risk of livestock mortality and morbidity and affect the public health	Moderately/highly probably Insufficient sanitary and phytosanitary related regulatory frameworks and capacities coupled with the absence of proper and effective border inspection significantly increases the likelihood of transmission of transboundary diseases.	Outbreaks will be contained and loss of livelihood assets among the population will be minimal

Annex V: Livestock Sector Risk Analysis Matrix

Key Risks	Impact	Probability	Assumptions
Financial/Economic Factors			
Fluctuations of increasing prices are experienced worldwide for fodder and agricultural inputs	Continued spikes in the cost of agricultural inputs such as fodder will jeopardize livestock sector development	Highly probable	International markets remain relatively stable and predictable over the coming years
Institutional Factors			
Increasing institutional deficits as a result of shrinking resources, reduced institutional planning, coordination and implementation capacities, and declining MoA services	Reduced services would increase production costs and decrease fodder and livestock production revenues	Moderately probable	Donor coordination and better cooperation between emergency operations and development support reduce the likelihood of increasing institutional deficits
Insufficient involvement of the MoA in the programme	Difficulties to implement the strategic interventions	Highly probable	Continuous dialogue and sensitization from the programme team of the MoA at a political level Definition of appropriate coordination mechanisms



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