



Hashemite Kingdom of Jordan
المملكة الأردنية الهاشمية



Jordan Presentation

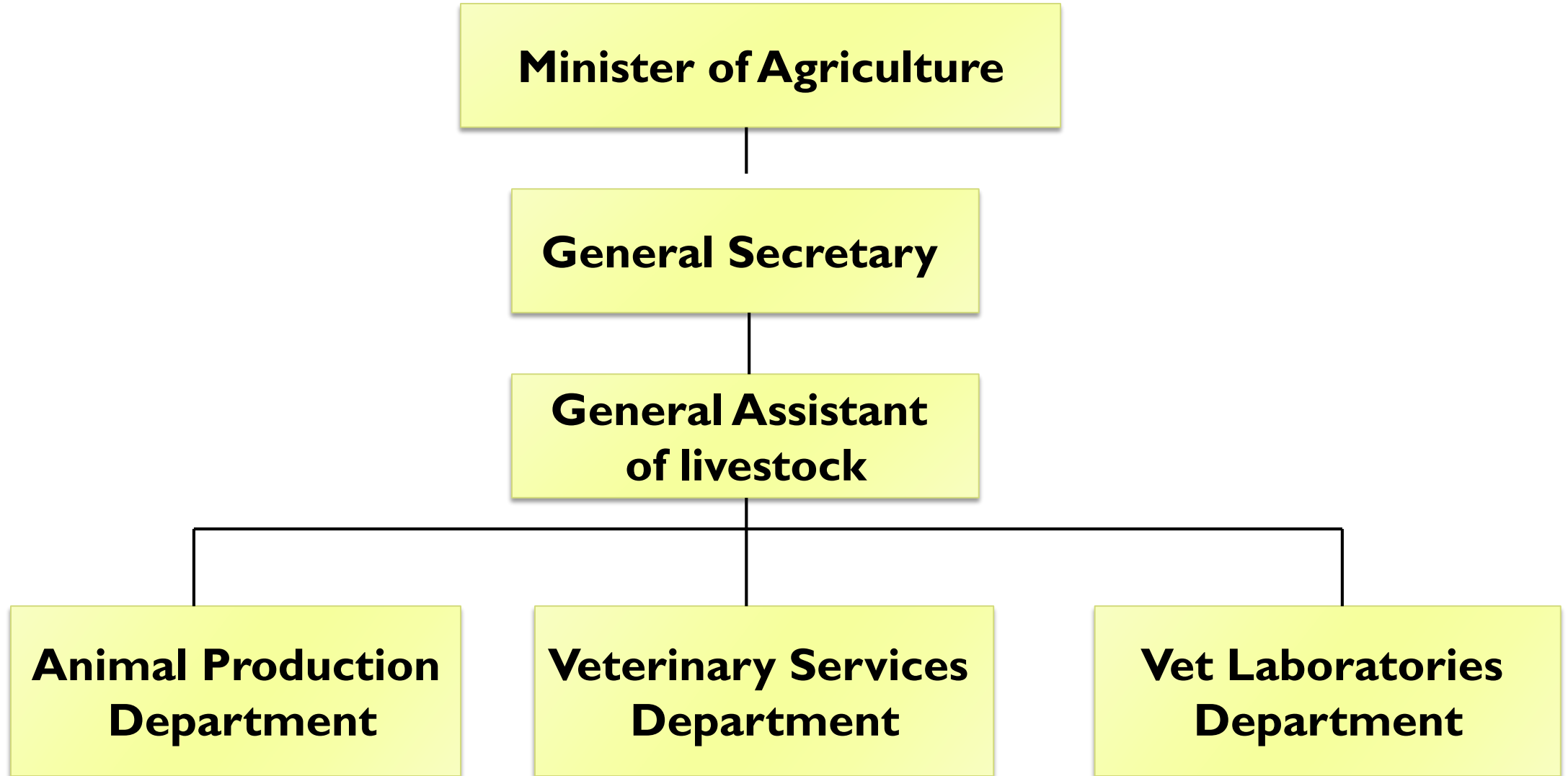
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Map, Population and geography of Jordan



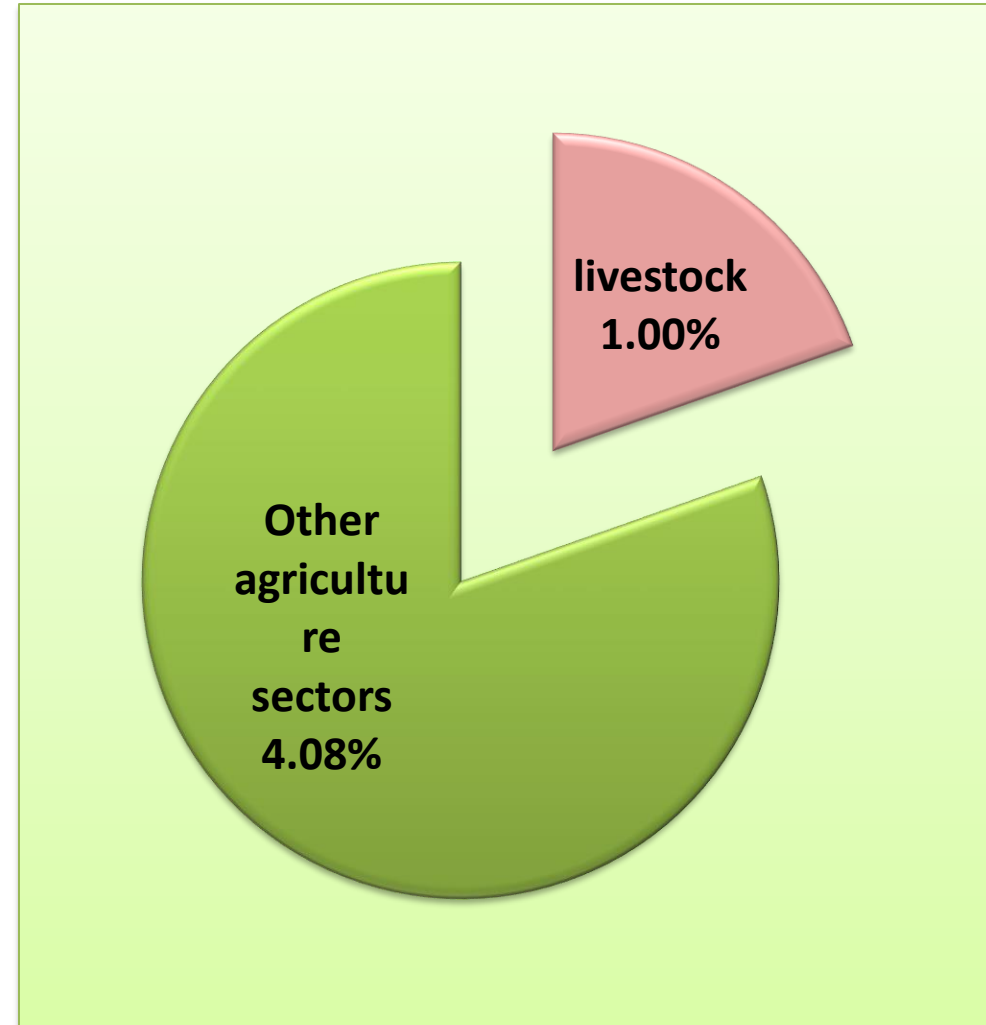
- ❑ Jordan has a land area about 89 200 km²
- ❑ With a population about 9.3 million (The national population and housing census 2015)
- ❑ 30 % of them live in rural areas
- ❑ Agriculture is an important part of the national economy
- ❑ Ministry of Agriculture supervising the sector

Organization structure



Livestock participation in the national economy

- ▶ The agricultural sector contribution in the total national economy is about 5.08%.
- ▶ Livestock sub-sector contributes 1.00% in the national income.
- ▶ Livestock sub-sector occupied the third rank among the highest contributions of the agricultural sectors.



Animal species and numbers

Species	Number
Sheep	3096645
Goat	1035252
Cattle	62400
Camel	10872
Horse	3000

Source: Animal Production Directorate Annual Report 2016, MOA

Local Camel Population & Geographical distribution

Geographical area	Camel Population	Number Of Owners
Amman	1662	121
Zerqa	329	28
Belqa	388	38
Mafraq	2120	145
Irbid	472	21
Kerak	1664	123
Tafilah	711	54
Ma'an	567	61
Aqaba	2574	277
Madaba	385	18
Total	10872	886

Source: Animal Production Directorate Annual Report 2016, MOA

Types of husbandry systems

- ▶ **Pastoral camels** in most of the Jordanian Geographical areas around 9000 camels.



- ▶ **Racing camels** in Aldissa and Ahmaimah in Aqaba governorate around 1000 camels.



- ▶ **Intensive system** Royal Badia forces / Hajjana Unit (not certain about exact populations no.)



Camel products

- ▶ Camels are usually raised either for:
 - ▶ Milk production or
 - ▶ Meat production



Use for transportation

➤ **In Rum area about 60 camels are used for transportation of tourists.**



➤ **In Petra area about 350 camels are used to transport tourists.**



Quarantine

- ▶ Regulations of veterinary Quarantine issued for the interim agriculture law No. (13) for the year 2015.
- ▶ One Quarantine in the northern governorates for large animals.

National camel sector stakeholders

- ▶ Public sector: Ministry of Agriculture
- ▶ Royal Badia forces / Hajjana Unit
- ▶ Traders and importers

Roles of public sector.....1

▶ Camel identification – accurate population



Source: Animal production Directorate, identification unit

Roles of public sector....2

- ▶ Free vaccination
- ▶ Free treatment and drugs
- ▶ Control of External parasites

Type of vaccinations

► For 2016

Type	Vaccinated animals
Anthrax	97
Clostridia	555
Camel pox	211

Source: Veterinary services Directorate, Annual Report 2015, MOA

Type of vaccine used and origin

Trade Name of vaccine	Type of vaccine	Uses	Vaccine origin	Origin of vaccine Strain
Orthovac [®]	Inactivated vaccine	Camel pox	Jordan Bio-Industries Center (JOVAC)	CPV jouf-78 strain/KSA
Anthravac [®]	Live attenuated spore vaccine	Anthrax	Jordan Bio-Industries Center (JOVAC)	Sterne 34F2 strain/UK
Jovaclost t [®]	Inactivated vaccine	Clostridial diseases	Jordan Bio-Industries Center (JOVAC)	toxin

Camel main pathologies

Disease	Cases
Internal parasite	174
Lung worms	2
Blood parasites	60
Mastitis	53
Mange	415

Source: Veterinary services Directorate, Annual Report 2016, MOA

Clinical surveillance system in the field

- ▶ Enhanced surveillance of trans-boundary animal disease in rural areas of Jordan affected by the crisis in Syria project
 - ▶ This project funded by FAO about \$ 425000 for one year (from July 2015-June 2016)
 - ▶ **First stage: The 1400 camel samples were tested for brucellosis with 0.7% positive.**
- ▶ Other project with FAO started in 2016 on MERS COv of camels and bats in Jordan.
- ▶ 36 positive samples from camels in Alramtha and Azraq we notify OIE in August 2016.

The national laboratories

Name of Lab	Geographical area	Used tests	Staff
Central laboratories	Amman	Virology, Bacteriology, Parasitology, Hematology and serology.	12 vets 18 technicians
Irbid lab	Irbid	Bacteriology, Parasitology, Hematology and serology.	3 vets 2 tech
Bini-kenana lab	Bini-kenana	Bacteriology, Parasitology and serology.	1 vet 1 tech
Ajlon lab	Ajlon	Bacteriology, Parasitology and serology.	1 vet 1 tech
Jareh lab	Jareh	Bacteriology & Parasitology	1 vet 1 tech
Al Mafraq lab	Al Mafraq	Bacteriology & Parasitology.	1 vet 1 tech
AzZarqa lab	AzZarqa	Bacteriology Parasitology and serology.	1 vet 3 tech
Al Karak lab	Al Karak	Bacteriology Parasitology and serology.	2 vet 2 tech
Wadi Al-Urdunlab	Wadi Al-Urdun	Bacteriology and Parasitology.	1 vet

Used techniques for diagnosis of camel diseases

Disease name	Used techniques
Internal parasite	Direct smear Sedimentation technique Floatation technique
Trypanosomiasis <i>Trypanosoma evansi</i>	Quick-Diff 3 stain Giemsa stain
Anaplasmosis	Quick-Diff 3 stain , Giemsa stain
Lung worm	Bearmman technique
Manage	Direct microscopy of a skin scraping
Toxoplasmosis	Toxolalex
Anthrax	Direct smear
Brucellosis	Rose Bengal
Camel pox	Real time PCR
Rift valley fever	Elisa for detection of IgG & IgM antibodies
Foot & mouth disease	3ABC Elisa
Mastitis	Bacterial culture

Laboratory diagnostic for camel diseases 2016

Disease	specimen	Used technique
Internal parasite	Feaces	Direct smear Sedimentation technique Floatation technique
Trypanosomiasis <i>Trypanosoma evansi</i>	Whole blood	Quick-Diff 3 stain Giemsa stain
Anaplasmosis	Whole blood	Quick-Diff 3 stain Giemsa stain
Lung worm	Feaces	Bearmman technique
Ectoparasitoses Sarcoptic mange	skin	Direct microscopy of a skin scraping
Anthrax	Whole blood	Direct smear
Brucellosis	Serum	Rose Bengal
<i>Mastitis</i>	milk	Bacterial culture

Camel laboratory network

- ▶ Camel laboratory networking is required.
- ▶ 10% of the total population in every governorate to be sampled
- ▶ Diseases to be tested for camel pox, Brucellosis, Rift valley fever and Trypanosoma.



THANK YOU FOR YOUR ATTENTION

