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# HPAI outbreak responses: An integrated One Health approach [Jordan ]

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# Member's profile

- A brief about Poultry industry in the country: Investment in Jordan's poultry sector has reached nearly US \$1 - 1.5 billion
  - the poultry industry consist of :
    - 1.broiler farms : 1679 , Irbid Governorate is the highest in terms of the number of broiler farms , 80 Parent
    - 2.layers farm:255 , Amman Governorate is the highest in terms of the number of layers farms
    - 3.hatcharies:28
    - 4.Slaughterhouses and marketing
    - 5.feed
    - 6.Veterinary medicines and vaccines



# Broiler

Governorate	No.of farm	Total capacity
Almafraq	342	10382242
Irbid	378	4309215
Amman	183	929748
Maan	174	15200
Alkarak	154	3937240
Madaba	80	98455
Ajloun	69	564350
Albalqa -salt	71	878000
Altafeleh	61	1059918
Zarqa	77	5083630
Jarash	90	111000

# Layers

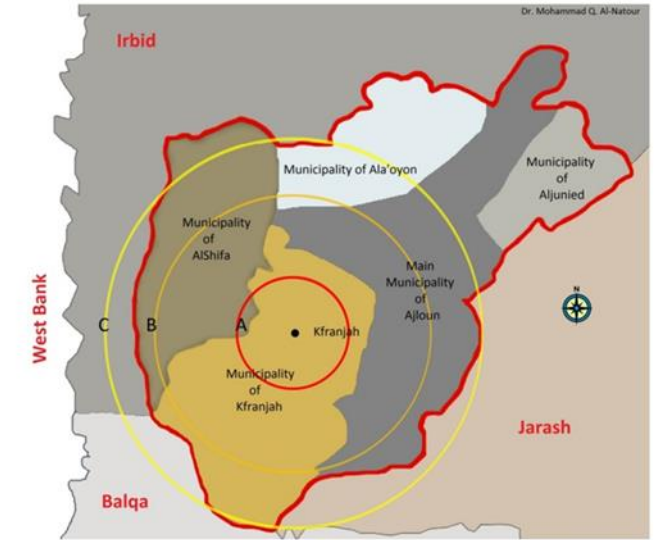
Governorate	No.of farm	Total capacity
Almafraq	36	980591
Irbid	41	852658
Amman	112	7256120
Maan	5	195000
Alkarak	12	686100
Madaba	23	250074
Jarash	4	35000
Albalqa -salt	16	342125
Altafeleh	4	49540
Zarqa	2	61095

# Hatcheries

Governorate	No	Total capacity
Almafraq	11	8793597
Amman	4	42945000
Zarqa	7	6659192
Albalqa	1	169344
Irbid	5	2450000

# Avian disease situations

- avian disease situations in poultry:  
IB, IBD, ND , limited reported cases
- wild birds and mammals : NO Reported cases ,No Surveillanc
- For Avian-influenza positive cases: no positive case ,since 20(
- the suspected turkey samples were tested and proved positive by the rapid test (Capture ELISA) , con- firmed using Real Time PCR for genes A, H5 and N1 later on the same day. Positive samples were sent to WOAHI reference laboratory
- 



A: Red circle: 3 km radius around the index location; stamping out. B: Amber circle: 3 - 7 km radius; stamping out of backyard flocks instead of vaccination. C: Yellow circle: 0 - 10 km radius: Live bird market shutdown, stamping out backyard flocks then active surveillance.

Figure 2. Location of the index holding in Kufanjah village and the extend of the control zones of 3 circles of 3, 7 and 10 km.

# Response measures to avian disease outbreak

- Disinfection, Biosecurity
- Movement control
- Stamping out
- Traceability
- Surveillance within the restricted zone
- Movement restrictions
- Communication ( one health committee)
- public awareness
- Compensation regulation and law under process

## Response measures to avian influenza - surveillance

- Types of surveillance implemented:

1. Active surveillance : in case of suspected cases

2. Passive surveillance: continues ,importation and exportation

3. PCR ,Elisa, HI

- Results of recent surveillance :

No positive cases , AB titer



# Measures of prevention practiced in the country against HPAI

Measures	Y/N	Description
1. Programme to control or eradicate disease	y	Surveillance, contingency plan, Existence of National action plan (MOH, MOA) for AI prevention and control Veterinary and Public Health Measures Taken before the Outbreak of Avian Influenza (H5N1) in Jordan
2. Veterinary legislation	y	Ministry of Agriculture Law, Disease Regulations and Reporting ,License instructions, Waste Disposal Regulations
3. Emergency preparedness and response plans	Y	Contingency plan and training Rapid response team (trained )Many simulation exercises with all ministry and national institutions and international organization to validate the response measures
4. Disease surveillance	Y	Passive ,active ,limited
5. Disease reporting	Y	Privet lab reports ,CVL reports, WOA (WAHIS) ,

# Measures of prevention practiced in the country against HPAI

Measures	Y/N	Description
4. Disease surveillance	Y	Passive ,active ,limited
5. Disease reporting	Y	Privet lab reports ,CVL reports, WOAHA (WAHIS) ,
6. Detection and management of cases	Y	According to contingency plan and woah instruction
7. Measures to prevent introduction or spread of disease	Y	Restricted importation procedures , LAB tests
8. Vaccination		Commercial farm only ,
9. Measures to protect public health	Y	reporting and sharing information ,awareness
10. Communication and collaboration among all competent authorities	Y	One health committee
11. Awareness programme for relevant stakeholders	Y	Need more works

# Laboratory capacity

- A brief description of laboratory capacity for avian diseases
  - Disease covered: HPAI, LPAI, IB, IBD, ND, Salmonella, Sensitivity test, parasitic, fungus and others
  - Type of diagnostic test:  
PCR, ELISA, HI, culture, Sensitivity test, .....

# Challenges and solutions in implementing national plan

Challenges	Solutions
Limited budget	Increase the budget or finding other sources
No robust surveillance system	Enhance the existing surveillance system and activate the active surveillance system in the high-risk areas
Biosecurity and biosafety measures in the live birds market	Enhance the biosecurity and biosafety measures in the live bird's market
Inactive Wild life unit (animal health department)	Training programs ,wild life experts
Climate change effects on bird migration and may increase chances of virus mutation due to unexpected mixing of bird species and bird strains	National team with JCDC, MOA In Jordan, the Royal Society for the Conservation of Nature (RSCN), surveillance



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Thank you

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