Food and Agriculture Organization of the United Nations

World Organisation for Animal Health
Founded as OIE

PPR case study for Kingdom of Bahrain

وزارة الأشغال وشؤون البلديات والتخطيط العمراني
Ministry of Works, Municipalities Affairs and Urban Planning

Prof Dr. Ahmed Almajli

Dr.Fajer Al Salloom

Animal Health Director

GF-TADs
GLOBAL FRAMEWORK FOR THE PROGRESSIVE CONTROL OF TRANSBOUNDARY ANIMAL DISEASES

Food and Agriculture Organization of the United Nations

World Organisation for Animal Health
Founded as OIE

Introduction

- The Kingdom of Bahrain is a group of islands located off the central southern shores of the Arabian Gulf.
- The livestock population in Bahrain, according to the latest censes, is 7816, 63005, and 26447 head of cattle, sheep and goats, respectively. The total population of camels in the kingdom of Bahrain is estimated to be 1092 head.
- Bahrain imports livestock (cattle, sheep and goats) from several countries (Somalia, Oman, Jordan, UAE).

Introduction

- Bahrain has one land port with KSA (King Abduallah Bridge).
- PPR has never been reported in indigenous livestock in Bahrain
- PPR vaccination is prohibited.
- The Veterinary Authority in Bahrain is devoted towards strengthen its surveillance and early warning systems to maintain its health status as historically PPR free country.
- Continuous passive surveillance (at all entry points “sea, air and land”).
- In addition, clinical surveillance is carried on farms and slaughterhouses levels.

STUDY OBJECTIVES

- PPR FREE COUNTRY
- INVESTIGATING LIVESTOCK
- ELUCIDATING RISK FACTORS
- IMPLEMENTING CLINICAL SURVEILLENCE
- MONITORING

METHODOLOGY

1. Study Population →
2. Sampling →
3. Analaysis →

Study Population

- All livestock (small ruminants and camels)
- Ruminant wildlife
- 4 governorates in Bahrain
- livestock are kept indoors with zero grazing
- pre-tested structured questionnaire

SAMPLING

SAMPLE SIZE

Calculated for reach governate by using the following parameters

CAMELS SAMPLED

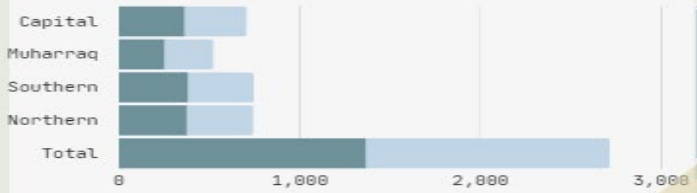
100

without any consideration for stratification

WILD RUMINANTS TESTED

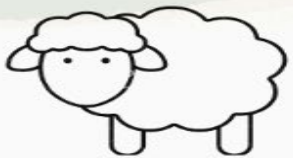
38

SMALL RUMINANTS SAMPLED



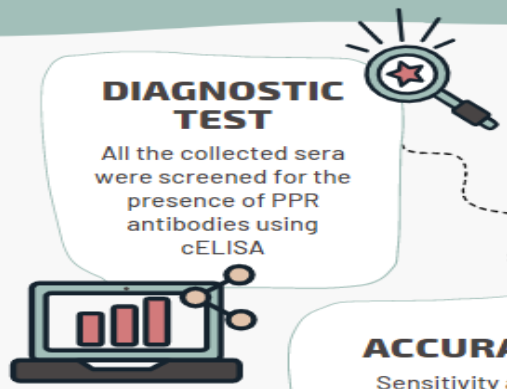
NOTE!

Herds/flocks to be sampled were randomly selected by SPSS



ANALYSIS

4 KEY ELEMENTS



DIAGNOSTIC TEST

All the collected sera were screened for the presence of PPR antibodies using cELISA

ACCURACY

Sensitivity and specificity of this competitive ELISA are 94.5 and 99.4%, respectively

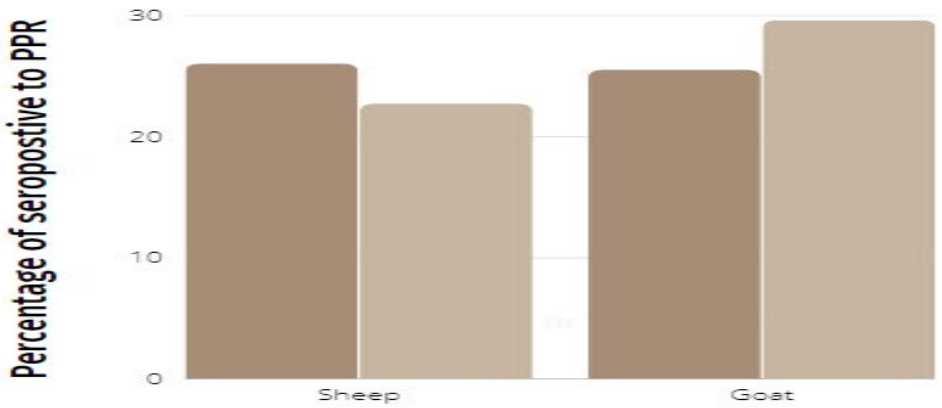
FORMULA

Univariable analysis was performed using x2 and multivariable analysis was performed using regression analysis

SOFTWARE

All analysis was performed using SPSS v 25

Results: Prevalence

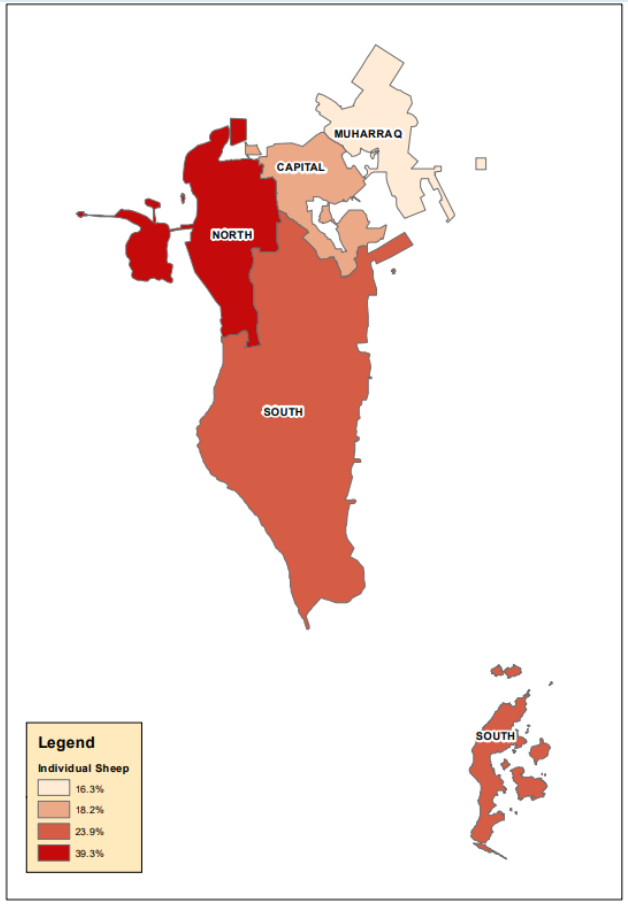


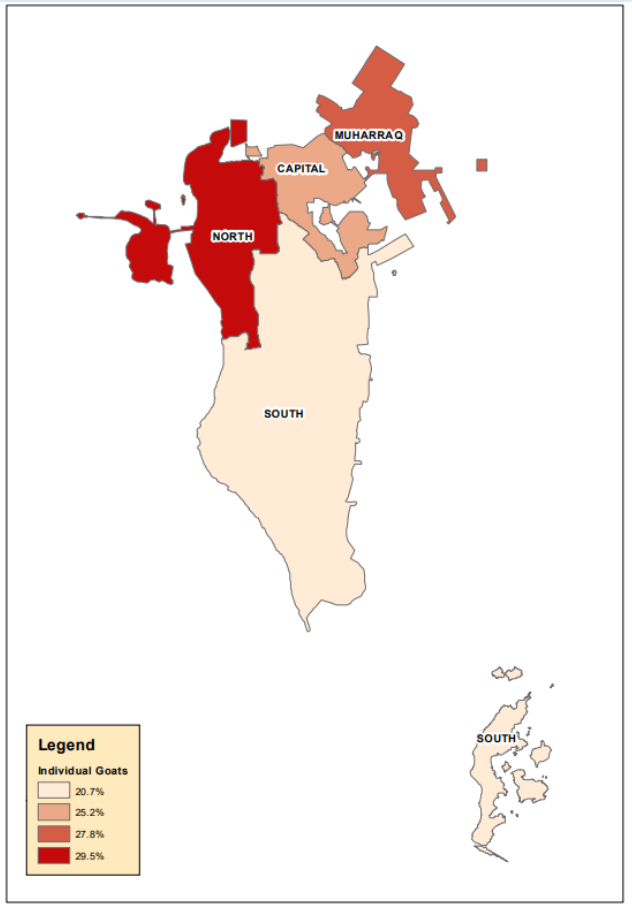
0% None of the tested camels' or wild ruminant's sera were seropositive to PPR

0% No clinical cases were reported during the study period

Results: Map

- The Northern governorate showed the highest prevalence ($p < 0.05$) of PPR seropositive sheep and goats.



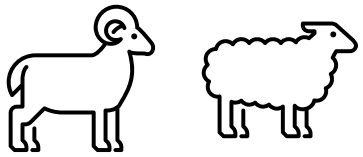


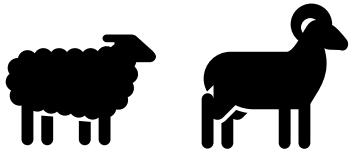
Results: Risk factors analysis

- Sheep and goats from the Northern governorate are more likely to be seropositive to PPR
- On the individual animal level, the univariable analysis suggested; age (< 12 months), sex (male), and health status (weak animals)
- On the flock/herd level, the multivariable logistic regression analysis identified large flock/herd size and semi-intensive farming

THE CONCLUSION

1. Shows the readiness of the Veterinary Authorities
2. Serologically positive cases are believed to be linked to breeds
3. Strict regulations will be followed to prevent importation
4. Continue banning the use or importation of PPR vaccine
5. Perform another surveillance within 2 years
6. Contingency risk-based plan
7. Review the OIE code for PPR





THANK EWE!