



# Slaughterhouse Zoonoses

## Leptospirosis and Q fever in Kenya

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### Background

- Globally slaughterhouse workers are high risk due to contact with animals
- No previous studies in Kenya investigating zoonoses in slaughterhouse workers
- Poor hygiene practices contribute to transmission of zoonotic diseases

#### Objective

Identify risk factors associated with zoonotic disease exposure in slaughterhouse workers



#### Outcomes

- Prevalence of leptospirosis and Q fever
- Risk factors associated with exposure

### Materials and methods

<p><b>Study site</b> 45km radius from Busia, Kenya</p> <p><b>Study population</b> 142 slaughterhouses 738 slaughterhouse workers</p>	<p><b>Sampling procedure</b></p> <p><b>Questionnaire</b></p> <ul style="list-style-type: none"> <li>• Risk factors</li> <li>• Knowledge of zoonoses</li> </ul> <p><b>Biological samples</b> Blood</p>		<p><b>Sample analysis</b></p> <ul style="list-style-type: none"> <li>• Panbio Leptospira IgM ELISA (Alere, Australia)</li> <li>• Classic <i>Coxiella burnetii</i> Phase 2 IgG ELISA (Serion, Germany)</li> </ul>	<p><b>Data analysis</b></p> <ul style="list-style-type: none"> <li>• Mixed effects multi-variable logistic regression</li> <li>• Risk maps created using Kernel smoothing</li> </ul>
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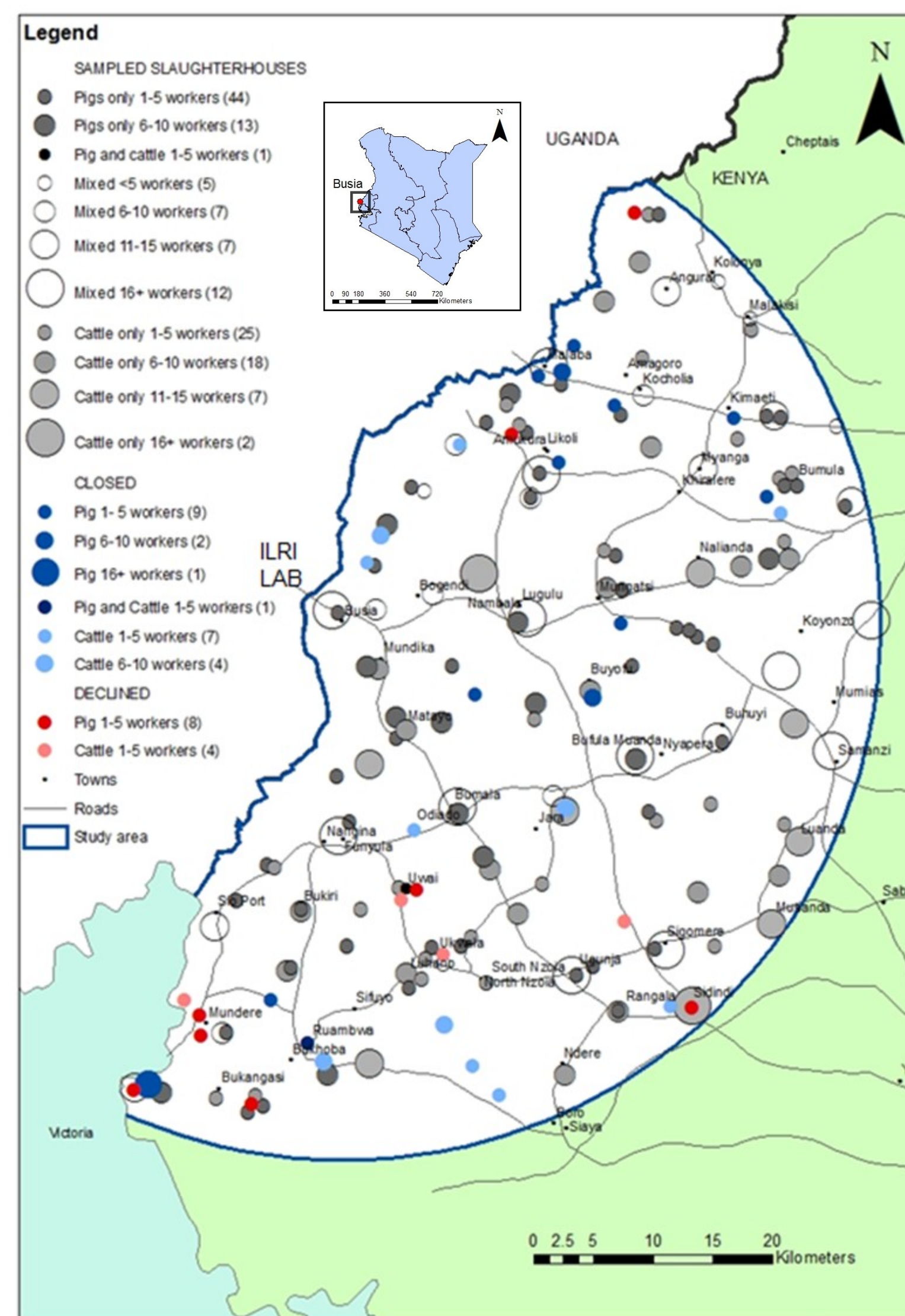
### Results

**Table 1 Prevalence of leptospirosis**

Zoonoses	Prevalence n=738	95% CI
Leptospirosis	13.4%	11.1-16.1

**Table 2 Significant risk factors for leptospirosis**

Risk factor	OR	95% CI
Having wounds	2.7	1.4-5.3
Smoking at work	1.8	1.1-3.0
Eating at work	2.1	1.2-3.6
Cleaning intestines	3.8	1.8-8.2
Antemortem exam	0.6	0.4-0.9
Slaughterhouse >5 workers	2.4	1.2-4.7
Workers wear protective clothing (PPE)	0.3	0.2-0.5



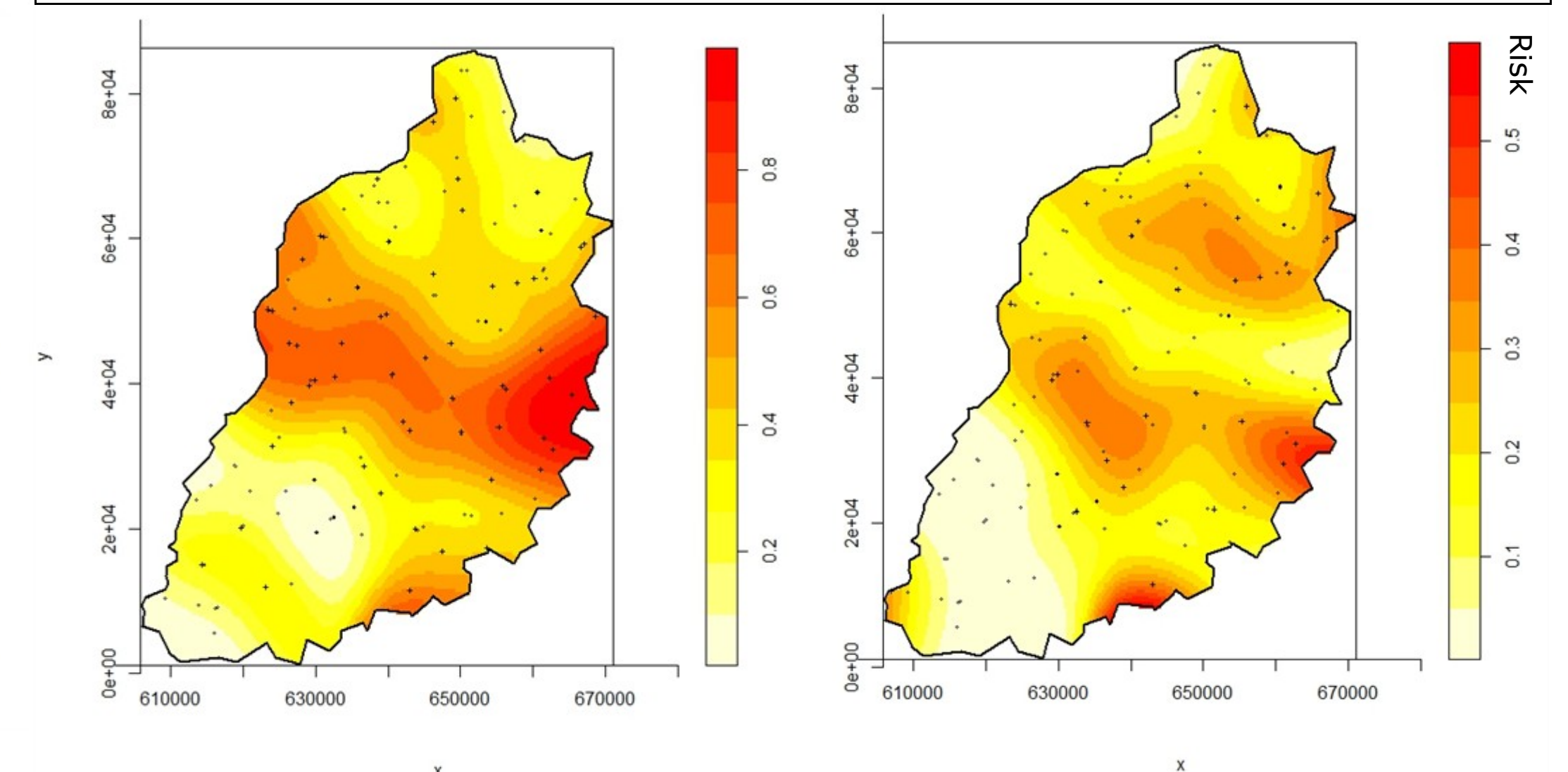
**Fig 1 Map of slaughterhouses in study area in western Kenya**

**Table 3 Prevalence of Q fever**

Zoonoses	Prevalence n=738	95% CI
Q fever	4.5%	3.2-6.2

**Table 4 Significant risk factors for Q fever**

Risk factor	OR	95% CI
Intoxicated at work	3.2	1.1-9.4
Workers wear protective clothing	0.3	0.1-0.9



**Fig 2 Risk maps of leptospirosis (left) and Q fever in workers**

### Conclusions

- Slaughterhouse workers in western Kenya exposed to leptospirosis and Q fever
- Poor hygiene practices associated with exposure
- Identified risk factors will be used to develop targeted interventions
- Targeted interventions discussed with local veterinary and public health officials

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