

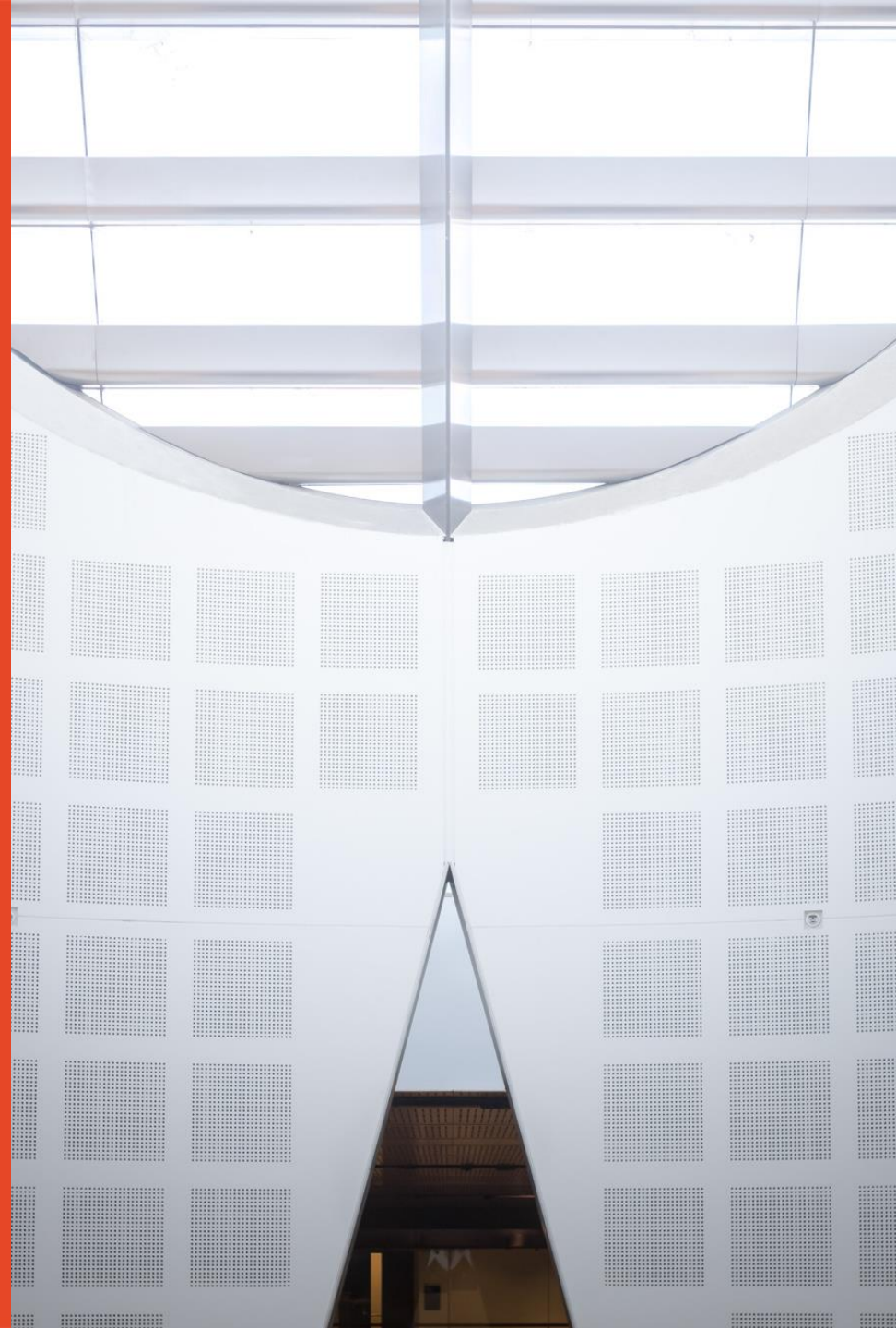
Risk factors for FMD

A study of smallholder farms in Lao PDR

Presented by

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Study rationale

- FMD is endemic in Lao PDR - Pool 1 (historically O, A, Asia 1)
- Investment in control but challenges ongoing
- Significant economic impacts on smallholders
- Understanding of risk factors at the household level lacking



O/ME-SA/Ind2001d

- Multiple trans-pool movements in recent years
- First reported outbreak in Pool 1 in Naxaythong District, Lao PDR (April/May 2015)
- Suspected novel virus presented opportunity to investigate risk factors for FMD at household level

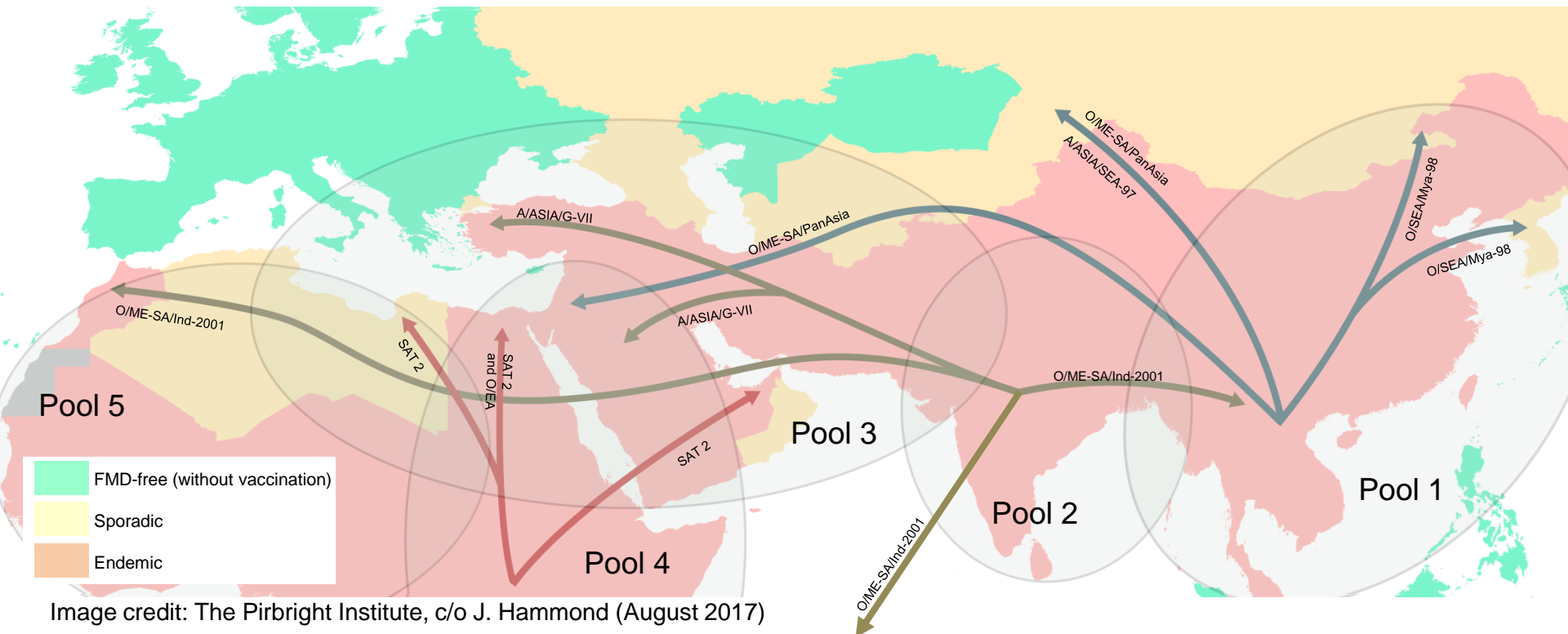


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Aim

- To understand the household-level risk factors associated with FMD viruses in Lao PDR, using the O/Ind2001d outbreak

Hypothesis

- That households with exposure to identified risk factors will have a higher likelihood of FMD in their herds

Risk factors:

- herd size and composition
- restocking sources
- livestock husbandry practices
- biosecurity practices
- historical FMD infection and vaccination status.



Study method

- **Outbreak area:**
 - Villages in Naxaythong District in 5km radius of confirmed outbreak (total villages = 10)
- **Target population:**
 - Smallholders with large ruminants (total households = 63)

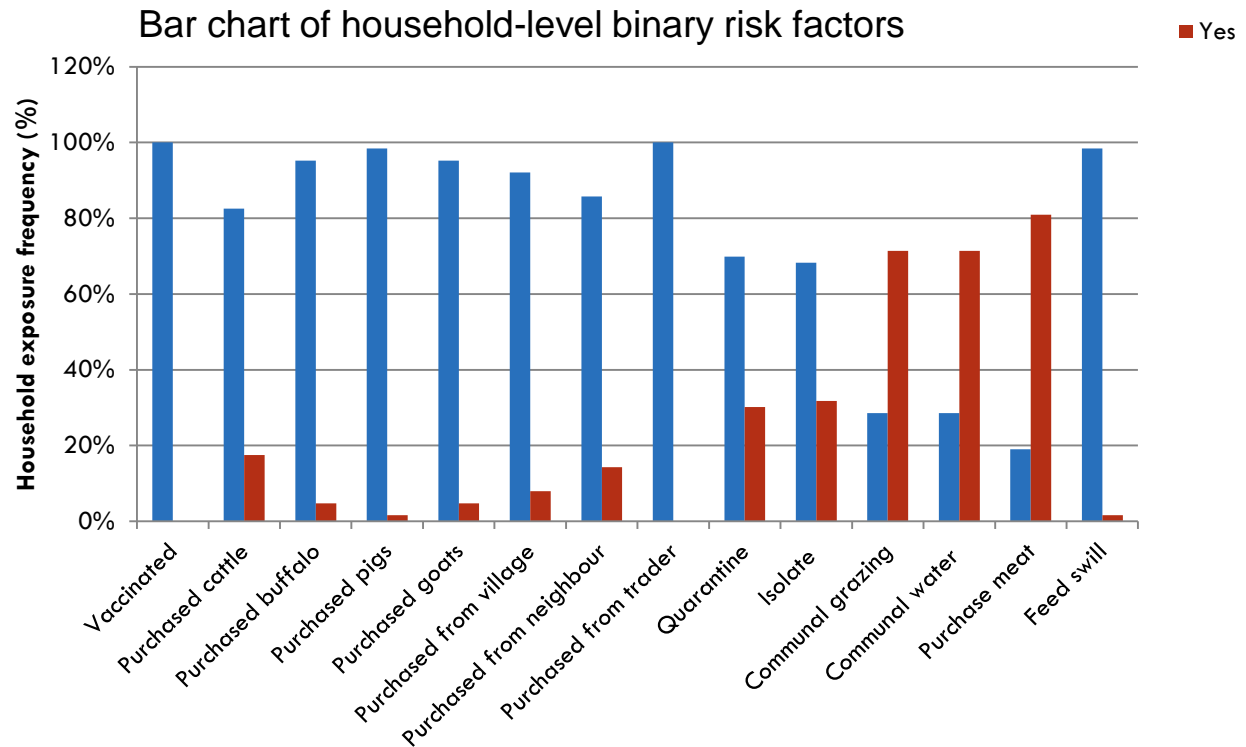


Study method

- **FMD infection status:**
 - NSP-Ab ELISA sero-positivity
 - Clinical FMD during O/Ind2001d outbreak
- **Sampling:**
 - Questionnaire (risk factors, clinical reports)
 - Clinical examination
 - Serology (NSP-Ab ELISA)
 - Oro-nasal swabs, probang, LPB ELISA



Results



- ❖ Multivariable analysis of household-level risk factors for clinical FMD during the 2015 outbreak

	p value	Exp(β)	95% CI
Quarantine	0.033	0.225	0.06, 0.88

- ❖ Multivariable analysis of household-level risk factors for NSP sero-positivity

	p value	Exp(β)	95% CI
Communal grazing	<0.001	5.500	6.16, 49.10

Conclusions and Recommendations

- ❖ The practice of **quarantining** new livestock for a minimum of two weeks prior to introduction was a significant protective factor during the 2015 outbreak (OR 0.225, CI_{95%} [0.06, 0.88], *p*-value 0.003).
- ❖ Sharing of **communal resources** with neighbouring villages was a significant risk factor for FMDV NSP-Ab sero-positivity (OR 5.5, CI_{95%} [6.16, 49.11], *p*-value <0.001).
- ❖ Implementing **basic biosecurity** and **improved husbandry** measures are important to minimise FMDV circulation at the household level.
- ❖ Supports recent studies in the GMS identifying the need for farmer-level biosecurity education and change management practices to reduce the risk of infectious diseases occurring at the household level.

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