Improving smallholder knowledge of biosecurity in Lao PDR

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Introduction

• In Lao PDR > 60% of population live on a <USD 2 per day, 74% live in rural areas, lacking infrastructure & services.
• Livestock productivity is compromised by poor farmer knowledge of health and production, with the Transboundary Animal Diseases (TADs) foot-and-mouth disease (FMD) and haemorrhagic septicaemia (HS) common & low national veterinary service capacity.
• However, livestock now recognised as an opportunity for sustainable economic growth & poverty alleviation in Laos².
• This study assessed the effectiveness of farmer education programs implemented in conjunction with FMD and HS vaccination in Luang Prabang (LPB).
• Knowledge, Attitudes and Practices (KAP) scores from LPB where extension had occurred, were compared with those from Savannakhet (SVK), where minimal livestock extension was conducted.

Methodology

• KAP surveys were conducted by face-to-face interviews in Lao language, questionnaires scored, translated and transcribed into a spreadsheet & analysed in Genstat.
• Linear mixed model analysis was conducted on quantitative traits, data sets transformed if needed, with significance of models initially determined by univariate analysis.
• Categorical data was analysed using logistic binomial regression.
• A P value of less than 0.05 was used for significance.

Results

<table>
<thead>
<tr>
<th></th>
<th>LPB</th>
<th>SVK</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall (/42)</td>
<td>16.4</td>
<td>18.1</td>
<td>0.268</td>
</tr>
<tr>
<td>Parasites (/6)</td>
<td>2.8</td>
<td>2.1</td>
<td>0.011</td>
</tr>
<tr>
<td>Infectious diseases (/24)</td>
<td>7.8</td>
<td>6.7</td>
<td>0.004</td>
</tr>
<tr>
<td>Nutrition (/6)</td>
<td>3.2</td>
<td>4.1</td>
<td>0.010</td>
</tr>
<tr>
<td>Reproduction (/6)</td>
<td>3.6</td>
<td>2.2</td>
<td>0.156</td>
</tr>
</tbody>
</table>

Farmer Knowledge of Endemic Diseases

Restraining a buffalo for vaccination by use of the ‘bleeding pole’

Recommendations

• Results indicate that following vaccination, effective biosecurity and disease management education is necessary & may best be implemented by a separate team, although further investigation of extension worker attitudes to biosecurity education may also be prudent.
• Findings plus similar studies in Laos and Cambodia², ³ indicate intensive training is required for effective biosecurity learning by smallholder farmers in the Mekong⁴, ⁵.

References

⁴ Nampanya, S., et al. 2010. Assessment of farmer knowledge of large ruminant health and production in developing village-level biosecurity in northern Lao PDR, Transbound Emerg Dis, 57, 430-429
⁵ Young, J.R., et al. 2013. Assessment of financial impact of Foot and Mouth Disease on smallholder cattle farmers in southern Cambodia, Transbound Emerg Dis, 60, 166-174

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