Foot and Mouth Disease Status in LaoPDR

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Outline

1. Background information.
2. Structure of public veterinary services in Lao PDR.
3. FMD outbreak status in 2014 in Lao PDR.
4. FMD Control in Upper Mekong Zone.
5. Foot and Mouth Disease pilot immunization in FMD hotspots area Upper Mekong Control zone.
Lao People’s Democratic Republic

landlocked country in SE Asia

- Total Land area: 230,800 Km²
- Population: 6.5 million (49 ethnic groups)
- Capital city: Vientiane
  (2012 pop. est. 853,000)
- Mekong river is the main waterway for the country
Lao People’s Democratic Republic

Agriculture sector is very important:

- 70 % of the population participate in the agriculture and livestock production.
- Contributing about 33% of national GDP and Livestock production contributes about 15% of agricultural GDP.
- Human Consumption per caput per year 50.4 kg
- 80% of the livestock producer is smallholder farmers.
<table>
<thead>
<tr>
<th>Animal</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>1,830,800</td>
</tr>
<tr>
<td>Buffalo</td>
<td>1,270,700</td>
</tr>
<tr>
<td>Pig</td>
<td>3,232,300</td>
</tr>
<tr>
<td>Goats</td>
<td>619,800</td>
</tr>
<tr>
<td>Poultry</td>
<td>32,450,000</td>
</tr>
</tbody>
</table>
Major infectious diseases of cattle and buffalo in Lao PDR

- Foot and Mouth Disease (FMD)
- Haemorrhagic Septicaemia (HS)
- Anthrax
- Black leg
Major infectious diseases of pigs in Lao PDR

- Foot and Mouth Disease
- Classical Swine Fever
- PRRS
Major infectious diseases of poultry Lao PDR

- HPAI (H5N1)
- Newcastle Disease
- Fowl Cholera
FMD zoning approach

1. **Control zone**:
   - Phongsaly province
   - Huaphanh province
   - Oudomxay province
   - Luang Prabang province
   - Xayabouly province

2. **Buffer zone**:
   - Luangnamtha province
   - Borkeo province
   - Xiengkhuang province
   - Vientiane province

3. FMD control strategy and sero-surveillance activities have been focused and implemented in these provinces more than other areas of the country.
In 2012 FMD have been reported in 7 districts of 6 provinces namely:

- Champasak
  - Paksong district
- Vientiane Capital
  - Pakngeum district
- Borkeo
  - Huay-sai district
- Luangnamtha
  - Sing district
- Vientiane Capital
  - Pakngeum district
- Phongsaly
  - Mai & Khua district

- Infected 1,448 cattle and Buffalo
- FMD type O
In 2013 FMD have been reported in 5 districts of 4 provinces namely:

- Champasak
  - Soukhumma & Champasack district
- Khammuame
  - Yommalath district
- Borkeo
  - Huay-sai district
- Xayabouly
  - Parklay district

- Infected 630 cattle, 416 Buffalo
- FMD type O and A
In 2014 FMD have been reported only 1 outbreak in Champasak province

- Soukhumma district (2 village)
- FMD Type O
Thailand
Myanmar
PR China
Vietnam
Lao PDR
Cambodia

FMD situation 2014
FMD control in Upper Mekong Zone

I. FAO/ADB-GCP/RAS/233/ASB (2010-2011)

II. OIE RCU SEACFMD
- STANDZ/SGF/2011-01
- STANDZ/SGF/2012-02
- STANDZ/SGF/2013-03

FMD project in Northern provinces of Lao PDR (2014-2016)

III. OIE Regional representation for Asia and the Pacific and National Animal Health Research Institute of Japan (2012 and 2013)
FMD Vaccine Strain

MERIAL - FMDV vaccine:

virus strain O Manisa, O-3039, A 22 Iraq, A Malaysia 97 and Asia1Shamir
Foot and Mouth Disease pilot immunization and field vaccine monitoring in Xiengkhuang province

Supported by:

- OIE Regional representation for Asia and the Pacific
- National Animal Health Research Institute of Japan
Project target areas

Xiengkhuang province

1) Paek district
2) Kham district
3) Nonghad district
4) Khoun district
5) Phoukhouth district
6) Phaxay district
7) Mok district
8) Thathom district
Objectives

1) Assessing the likelihood of protection against future FMD outbreak by using FMD vaccines in a FMD hotspot areas upper Mekong control zone Lao PDR

2) Providing recommendations for improved management of future outbreaks in regional FMD ‘hotspots’

3) Enhancing regional and global FMD control
Xiengkhuang province

1) Paek district
2) Kham district
3) Nonghad district
4) Khoun district
5) Phoukhouth district
6) Phaxay district
7) Mok district
8) Thathom district
## Summary of target villages, number of animals, number of staffs

<table>
<thead>
<tr>
<th>No</th>
<th>District</th>
<th>Total villages</th>
<th>Animals population</th>
<th>Target villages</th>
<th>Target animals</th>
<th>Number of DAFO staffs involve</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Paek</td>
<td>111</td>
<td>47,679</td>
<td>25</td>
<td>23,000</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>Kham</td>
<td>98</td>
<td>16,451</td>
<td>47</td>
<td>10,000</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Nonghad</td>
<td>109</td>
<td>27,832</td>
<td>38</td>
<td>9,000</td>
<td>13</td>
</tr>
<tr>
<td>4</td>
<td>Khoun</td>
<td>52</td>
<td>22,030</td>
<td>30</td>
<td>8,000</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>Phoukhouth</td>
<td>42</td>
<td>28,642</td>
<td>35</td>
<td>19,000</td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>Phaxay</td>
<td>33</td>
<td>12,217</td>
<td>18</td>
<td>7,000</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>Mok</td>
<td>25</td>
<td>13,966</td>
<td>20</td>
<td>7,000</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>Thathom</td>
<td>23</td>
<td>5,633</td>
<td>23</td>
<td>3,500</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>493</strong></td>
<td><strong>174,450</strong></td>
<td><strong>236</strong></td>
<td><strong>86,500</strong></td>
<td><strong>90</strong></td>
</tr>
</tbody>
</table>
Feasibility study  mission

- Mission team from OIE-RR Asia-Pacific visited Laos to finalize implementation plan 17-22 June 2012
- Planning workshop 18 June 2012 (Xiengkhuang)

1. Dr. Kenichi Sakamoto (NIAH, Japan)
2. Dr. Takehisa Yamamoto (NIAH, Japan)
3. Dr. Chantanee Buranathai (OIE-RR-AP)
Implementation period

- August 2012 - March 2013
- January 2014 - April 2014
Implementation team

- Regional Office of Department of Livestock and Fisheries (Luang Prabang) - 4 persons
- Xiengkhoung Provincial Agriculture and Forestry office (PAFO) - 12 persons
- District Agriculture and Forestry office (DAFO) - 32 persons
- National Animal Health Centre (NAHC) of DLF in Vientiane - 2 persons
- Village veterinary worker (VWW, 1 person per village)
- Livestock smallholder farmers
Technical support team

- Department of Livestock and Fisheries
- OIE Regional representation for Asia and the Pacific
- National Animal Health Research Institute of Japan
- OIE RCU SEA CFMD have been consulted to foster partnership and collaboration
Vaccine

- Ministry of Agriculture Forestry and Fisheries donated in Total 400,000 doses of FMD vaccine
- Vaccine monitoring undertaking by NAHRI of Ministry of Agriculture, Forestry and Fisheries
Prepare equipments, public awareness material and vaccines
Refreshment training
(1 October 012)
Field activities

- Conduct a pilot FMD immunization and animal identification in 8 district of Xiengkhuang provinces
- FMV vaccine serology study conducting in 2 village Kham district

(to analyze the efficiency of FMD vaccine by LPB ELISA and Neutralization test)
Blood Collection Team
(OISHI )
Vaccination and Animal identification team
( Beer Lao)
Outcome

- Reduction in outbreaks in Northern Lao PDR
- Not outbreak of FMD in Xiengkhuang province since 2012
- Capacity building for local staff / on-the job refresher training
- Establishment of functional communication with stakeholders
- Demonstrating a good collaboration and friendship
Acknowledgment

- OIE RR Japan trust Fund
- Ministry of Agriculture Forestry and Fisheries of Japan
- National Animal Health Research Institute of Japan (NAHRI)
Thank you