Impact of animal rabies on local economy

Rabies in Livestock and Working Animals

Katinka de Balogh
Outline

- Local economy
- Rabies transmission
- Impact of rabies
- Country examples
- Way forward
Local economy

Production, income, consumption and expenditures of individuals and families within a community

Community

Neighbours

People
Livestock and working animals
Rabies transmission to production animals

Dog → Dog → Human
Dog → Livestock
Wild animals → Livestock
Bats → Livestock
Rabies impact on production animals

- **Livestock mortality impact**
  - Food availability/security and safety (i.e. meat, milk)
  - Non-consumable products
    - Draught power – transportation and plowing
    - Leather
    - Manure
  - Societal costs
    - Banking, bride prices, etc.
Rabies impact on production animals

- Canine mortality impact
  - Herding and hunting
  - Security
  - some countries a food source
Rabies impact on people

- **Direct impacts**
  - **Death**
    - loss of income
    - loss of labor within household
    - funeral expenses
  - **Treatment**
    - cost of hospitalization/post-exposure treatment
    - days of work lost during treatment
  - Loss of assets - forced to sell animals and other assets to pay for treatment
  - Psychological trauma due to rabies death in family or community
Estimated impact of rabies in livestock

<table>
<thead>
<tr>
<th>Livestock losses (Knobel et al. 2005)</th>
<th>Africa estimate</th>
<th>Asia estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total no. cattle</td>
<td>230 000 000</td>
<td>423 000 000</td>
</tr>
<tr>
<td>Rabies incidence rate/100 000 cattle</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Annual no. of cattle deaths from rabies</td>
<td>11 500</td>
<td>21 150</td>
</tr>
<tr>
<td>Cost per head of cattle</td>
<td>US$ 150.00</td>
<td>US$ 500.00</td>
</tr>
</tbody>
</table>
Competing priorities – lack of data

Source: Dodet 2009

including socio-economic cultural aspects

What gets measured gets done!
Country examples
Rabies in Brazil and Peru

- Increase bat mediated rabies in livestock in Latin America
- Reason – cattle populations encroaching into bat habitat (land-use changes, de- and re-forestation)
- Bat species most involved- *Desmondus rotundus*

**Results**

- Rabies in new areas
- Exposed humans often unaware of rabies
- Presence of unvaccinated livestock
Rabies in Bali

- Introduced in 2008 by a rabid dog from infected islands
- First cases detected in humans (109 human case ProMed)
- Increase in dog rabies
- Spill over of cases into livestock (cattle and pigs)

Photo by Betsy Miranda
Rabies in Azerbaijan

- Rabies endemic (humans/domestic and wild animals)
- Rise of human and animal cases in 2009 after flooding
- Displacement of wild carnivores (jackals, wolves and foxes)
- Increase in wildlife attacks on people and livestock
Mauritania and Uganda

- Dogs transmitting rabies to donkeys, sheep and camels
Rabies in production animals

Increased impacts because of

- Expansion of human populations
- Increased interaction with wildlife
- Limited institutional capacity to deal with incidences?

Local economy impacts

- Increased demands for human and animal medical capacity
- Increased mortality of livestock
- Increased communal fear
Way forward and FAOs role

- Enhance **surveillance** and define **risk factors** – including livestock and working animals (historical and disaggregated data needed)
- Deliver on the ground activities
- Support (operational) research/ in country (pilot) activities
- Develop innovative approaches for data/information collection
  - Social incidence assessment
  - Risk perceptions
  - Economic impact, production, livelihoods, food security
- Explore with communities intervention options
What can FAO do?

- Call for Ministries of Agriculture to commit resources for rabies control
- Closely link with OIE and WHO and other partners (PRP, GARC)
- Promote rabies control and multisectoral cooperation at global, regional, national and local levels
- Promote rabies blueprint (www.rabiesblueprint.com)
- Increase rabies awareness (animal health clubs in schools, extension channels, farmer field schools, rural radio, educational packages)
- Engage in World Rabies Day
  http://www.youtube.com/watch?v=yGS3s0Mw590
Thank you for your attention

katinka.debalogh@fao.org