Healthy animals for healthy food

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First Joint International Conference of the Association of Institutions for Tropical Veterinary Medicine (AITVM) and the Society of Tropical Veterinary Medicine, Berlin, 4-8 September 2016
Zoonoses, food-borne diseases and health in low/middle income countries – from knowledge to action

- Healthy animals for healthy food
- Food safety assessment and challenges along small scale pig systems in Vietnam
- Rift Valley fever virus seroprevalence among ruminants and humans in Northeast Kenya
- *Erysipelothrix rhusiopathiae* infections in pigs and raw pork handlers in Kamuli District, Eastern Uganda
- Microbiological safety of milk and processing and consumption behaviour in pastoral areas in southern Ethiopia
In collaboration with a range of national and international partners
Nutritional divides among 7 billion people today

- Chronic hunger
- Inadequate diets
- Overweight
- Obese
- Balanced diets

11% of GNP lost annually in Africa and Asia from poor nutrition

Chronic disease likely to cost $35 trillion by 2030
Healthy animals for healthy food

Challenges

- Food security: increasing population, increasing inequalities in access to ASF
- Environmental footprint of livestock production, climate change
- Emerging/re-emerging diseases
- Zoonoses, food safety
Animals and human nutrition

Health, education

Animal-source foods
Awareness zoonoses
Example Ethiopia

Anthrax
Tapeworm
GIT
RespTB
Rabies

men
women
Animals and human nutrition

- Income
- Health, education
- Animal-source foods
Use of income from livestock
Example Pig production in Uganda

- Low ASF consumption
- Pigs contributes 20-35% to income
  - Education
  - Inputs to pig production
  - Buy non animal source foods
  - Buy meat (incl. pork)

Source: Kabahenda et al, 2015, MorePORK project
Animals and human nutrition

Livestock products: skins, hides, fibers

Health, education

Income

Animal-source foods

Inputs

Livestock products: skins, hides, fibers
Animal source foods: 4 of 5 highest value global commodities

Cow milk has overtaken rice
Food system analysis

Mapping analysis of meat VC in Nairobi

• people and product profiling (interactions of people and products),
• geographical (routes of animals and products)
• temporal mapping (seasonal fluctuations)
Major themes emerging from analysis of governance leading to risks

- Inadequate business models
- Competition inequality
- Lack of incentives for cold chain (consumer preferences)
- Control gaps (meat transport)
- Lack of enforcement (inspection)
Business models
dexample dairy business hubs in Kenya, Rwanda, Uganda

• Built around an output service (bulking or chilling milk)
• Promote business linkages between smallholder dairy producers and private or public providers of inputs (feeds, veterinary services, AI, extension)
• “check-off” system (credit based on payment for milk deliveries) or local financial institutions
• Business development approach to facilitate process
• Ensures sustainable access to input services

Dairy income (USD/HH/day)

Source: EADD project
Animals and human nutrition

Livestock products: skins, hides, fibers

Inputs

Income

Health, education

Animal-source foods

Outputs

Health, education

Livestock products: skins, hides, fibers

Inputs

Animal-source foods

Income
Productivity
example small ruminants in Ethiopia

Low productivity: lambing rate 1.2/ewe, carcass weight of 10kg, high lamb mortality

<table>
<thead>
<tr>
<th></th>
<th>Animal level</th>
<th>Herd level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia</td>
<td>57.9%</td>
<td>89.2%</td>
</tr>
<tr>
<td>Toxoplasma</td>
<td>38.0%</td>
<td>68.3%</td>
</tr>
<tr>
<td>Coxiella Burnetti (Q-fever)</td>
<td>39.8%</td>
<td>70.8%</td>
</tr>
<tr>
<td>Brucella</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Animal diseases

- Globally disease reduces livestock productivity by 25% - valued at US $300 billion per year
- Livestock diseases cost Africa between US $9 – 35 billion per year
Animals and human nutrition

Livestock products: skins, hides, fibers

Income

Health, education

Culture, social status

Working power: draught, transport

Inputs

Animals-source foods

Livestock products: skins, hides, fibers
Importance of livestock
FGDs and household gender survey in Ethiopia

“Sheep are like money in a pocket”
“Sheep are like ‘Injera’ ready to be eaten”
“Fast growing cabbage in the homestead”
• Docile easy to managed
• Goat milk/meat used as medicine

“cattle are bank for owners”
• Ploughing and threshing crops
• Traditional festivity/social ceremonies
• Manure for fuel and fertilizer
• Hides used as bed sheet

• Pack animal
• Ploughing and compacting of land and threshing
• Cash income either through selling or renting
• Horses riding in traditional ceremonies
• Donkey milk as medicine
Animals and human nutrition

Resilience

Health, education

Culture, social status

Working power: draught, transport

Inputs

Livestock products: skins, hides, fibers

Animal-source foods

Income
Conclusions

- Livestock crucial for food security for poor small holders
- Need to understand complexity of food systems given the rapid changes to ensure sustainability
- Role of gender
- Need to close yield gap: focus on productivity, reduce food safety risks

→ understand why things are the way they are
What can we do?
From knowledge to action through community engagement

Capacity building/R4D
• Biosecurity in pig farms Uganda: champion farmers
• Coenurosis control in Ethiopia

Innovation platforms
• Bringing together stakeholders to jointly identify solutions

Novel business models for service delivery
• Business hubs
• Collaborate with private sector
Thank you for your attention
better lives through livestock

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