Investing in GMS livestock: a regional approach to improving livestock production, health and trade

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Outline

1. Context
2. An example: crossborder cattle trade
3. Findings from national consultations
4. A regional approach
Global Livestock and poultry production (per protein basis)

Growth in beef demand 2000-2030

Sources: National Geographic and T.P. Robinson and F. Pozzi, 2011
Chinese beef trading prices
USD/kg, 2001-2018

Source: https://tradingeconomics.com/commodity/beef
Mainland China meat and bovine imports

Meat imports per year

Live bovine imports per year

Source: China Customs, Rabobank, 2016

Source: China Customs, Rabobank, 2019
Transboundary animal diseases
African Swine Fever outbreaks

Source: https://jimrpy.github.io/epidemiology/asf-outbreaks.html

Estimated >950,000 pigs culled to date
Recent cattle study

- 1 million cattle into Yunnan
- 2,398 serological samples
- Over 200 samples qPCR for FMD virus RNA

Data source: YASVI 2016.
Global burden of foodborne illness

Data from Havelaar et al. (2015)
Antimicrobial resistance

AMR infections currently cause an estimated 700,000 deaths per year globally.

Unchecked AMR infection could result in ten million deaths and a $100tn in healthcare costs by 2050.

“as big a danger to humanity as climate change or warfare”

– UK Health Secretary Matt Hancock, Jan 2019

Source: CDC 2014
“In Asia, antimicrobial consumption in chicken and pigs is expected to grow by 129% and 124%, respectively, by 2030”

– Van Boeckel et al. (2015)
Antimicrobial consumption in 2010 (kg/10km²)

Chickens

Pigs

Source: Van Boeckel et al. (2015)
Risk of zoonoses

Example: human-poultry contact rates and relative risk of emergence

The arguments for adopting a regional approach are compelling

- Supply and demand and an increasingly interconnected GMS
- Pathogens do not recognize national borders
- Outbreaks threaten neighbouring countries
- Therefore, it is in the interests of GMS countries with greater capacity to strengthen neighbouring country systems
- This will better protect industries and consumers and strengthen livelihoods and food security throughout the GMS
What do current crossborder value chains in look like?

Example: Yunnan cattle
Current cattle value chains

Lower GMS and South Asia

Cow-calf systems

Domestic market

Fattening

ILLEGAL ANIMAL MOVEMENT

Yunnan

Fattening Brahmin/Sindh crosses

Cow-calf-fatten

Slaughter

Processing

Retail

PRC – Sichuan, East Coast, etc.

Slaughter

Processing

Wholesale/retail

ILLEGAL ANIMAL MOVEMENT
What might safer, more sustainable cattle value chains look like?
LEGAL ANIMAL MOVEMENT

Lower GMS and South Asia

Cow-calf systems

Domestic market

Fattening

Yunnan

Fattening – primarily Brahmin/Sindh crosses

Slaughter-Evisceration-boning-out-chilling

Cow-calf-fatten

Slaughter

Processing

Retail

Domestic market

DISEASE CONTROL ZONE

PRC
Sichuan, East Coast etc.

Wholesale/retail

PRODUCT ONLY
Benefits

➢ Consumers get the beef they want

➢ Businesses get animals to fatten, slaughter and profit from

➢ Improved smallholder livelihoods—grower stock & feed; gender benefits

➢ Improved ability to manage disease & foodborne hazard risks

➢ Support more effective regulatory environment

➢ Increased trade in a valuable product

➢ Improved waste management and CC mitigation
Why will this work?

Unlike the borders there are only a handful of main thorough-fares from Yunnan and Guangxi to the greater Chinese market.

Source: YASVI 2016
How can this be achieved?

(1) Strengthen livestock value chains
(2) Establish animal disease control zones
(3) Harmonize systems and formalize trade

This will facilitate:

Private sector investment in feedlots, slaughtering and cold chains

Improved traceability

More effective routine surveillance, outbreak responses and control of TADs and foodborne hazards
Priorities identified in national consultations
Infrastructure

➢ Breeding facilities
➢ Feedlots & quarantine facilities
➢ Live animal markets & collection points
➢ Slaughtering facilities
➢ Cold chain related infrastructure
➢ SPS & trade facilitation related facilities
➢ Transport & logistics infrastructure, including rural roads
Capacity building

➢ Sample collection:
  o TADs, zoonoses, foodborne hazards
  o AMU and AMR

➢ Laboratory technical & operational; accreditation

➢ Animal and product traceability

➢ Slaughtering & meat inspection

➢ Risk analysis

➢ National & regional animal health information systems; communication

➢ Private sector development
Policy support

➢ Food/feed safety laws, policies and regulation
➢ AMU/C and AMR governance
➢ Sample movement between countries
➢ Mutual recognition of risk management systems
➢ Harmonization and trade facilitation
➢ Value chain studies; gender, social, environmental studies
➢ Business enabling environment
➢ R&D
Best practices and novel approaches?

➢ Zoning in Botswana
➢ Thai chicken industry compartmentalization
➢ Reusable reticular bolus ID in Botswana
➢ GS1 track and trace for product -> extending upstream?
➢ RFID
➢ Advanced loss/waste reduction & management from feed to fork
➢ Climate change mitigation measures from feed to fork
➢ IOT - waste management, slaughtering, processing, cold chains
A regional approach
## Proposed GMS Cross-Border Livestock Health and Value Chains Improvement Project

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<tr>
<th>Impact</th>
<th>Increased health, safety, value and trade in GMS livestock and livestock products</th>
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<tbody>
<tr>
<td>Outcome</td>
<td>Livestock disease control zones established and livestock value chains strengthened</td>
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<td>Outputs</td>
<td>1. Livestock value chain and disease control infrastructure expanded and upgraded</td>
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<td>2. Capacity to produce and supply livestock and livestock products and to control transboundary animal diseases, foodborne hazards and non-foodborne zoonoses strengthened</td>
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<td>3. Enabling policy environment for livestock and livestock product supply, health, food safety and trade enhanced</td>
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Infrastructure investments

Strategic expansion/upgrading of critical infrastructure in Cambodia, Lao PDR and Myanmar:

- Breeding centres
- Feedlot and quarantine
- Market infrastructure
- Slaughtering & processing
- Laboratory
- Cold chain
GMS Technical Assistance

- Social & environmental safeguards; mainstreaming
- Livestock value chain analysis & development
- Breed improvement, animal health services & extension
- Feedlot and quarantine design & operation
- Improved field epidemiology, hazard monitoring; laboratory accreditation
- Emergency preparedness & response, risk management
- Slaughterhouse DED; meat inspection; ISO22000; cold chain management
- Policy & regulatory support e.g. information & expertise sharing between countries; harmonization & mutual recognition of equivalence
There are infrastructure, capacity and policy gaps relating to livestock production, health and trade in the GMS that can best be addressed through regional initiatives.

A coordinated approach to investment and technical assistance that engages government, technical agencies and value chain stakeholders is needed to effectively bridge these gaps.
Thank you
Contact: tom@weaverconsulting.org
Panel discussion topics

- Current efforts in your country/organization and challenges
- Needs, gaps and any best practices for replication and scaling up – infrastructure, capacity and policy?
- Priorities for action over the next 5-10 years
- Challenges of adopting a regional approach