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Introduction to Value Chain Analysis to support animal disease risk management

September 2020





Roadmap

- What is Value Chain Analysis and how can we use it for animal disease risk management?
- FAO's (ECTAD) two-stage approach
- Key elements of VCA
 - Mapping: animal and animal product movements
 - Value Chain diagram: risk pathways
- Examples of applications



What are value chains?

Definition

*Value chains are the **linked groups of people and processes** by which a specific commodity is supplied to the final consumer. These linkages are **governed by institutional and social structures**, which operates under a **legal framework**.*

***Inputs**/Raw materials are moved along the value chain and are transformed by agents, who may interact with **other service providers** to **add value** to the product/service at every stage of the production process.*

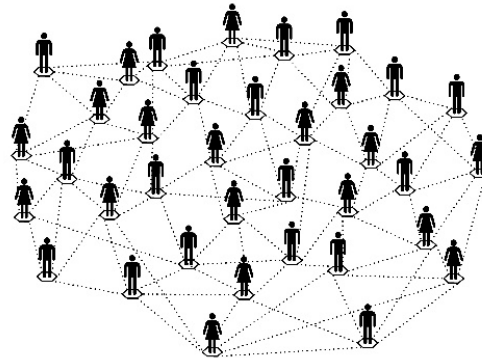


What are value chains?

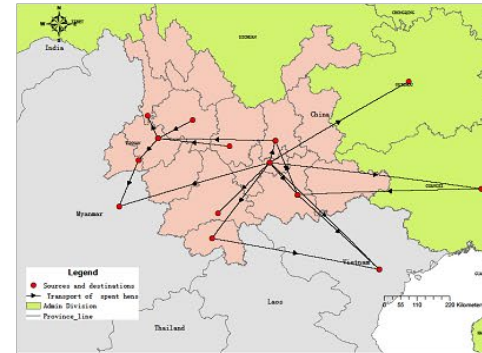
All the relevant
stakeholders



Hotspots for
disease spread and
virus amplification



Trade networks
(local, national,
international) and
high risk zones



Risky practices

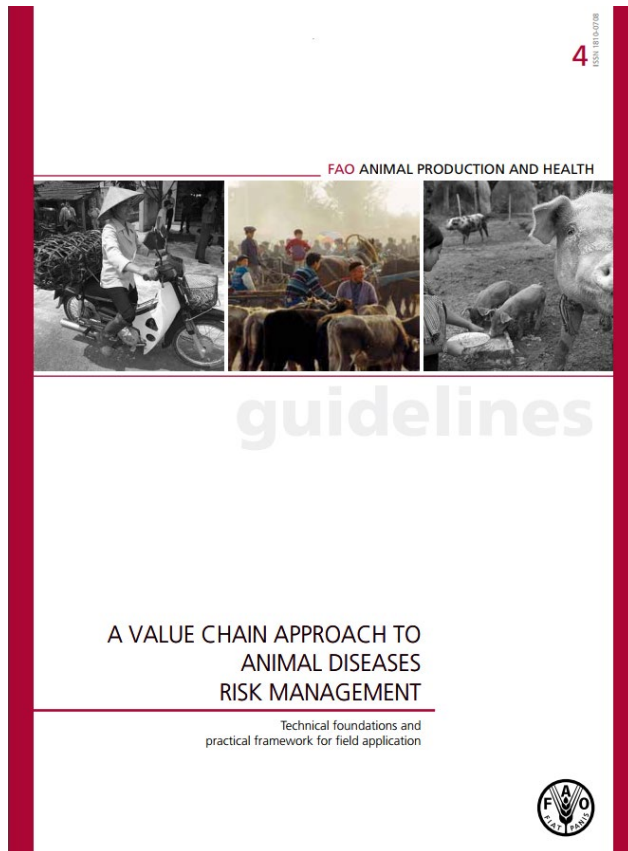


VC ARE NOT MECHANISTIC
Individual and social drivers for animal
movements

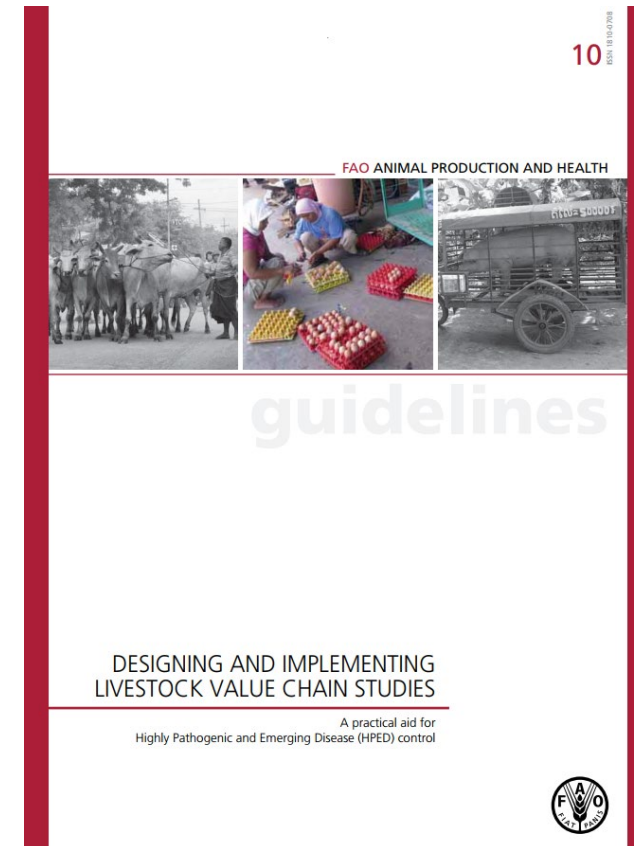




Material for using value chain studies for animal disease risk management



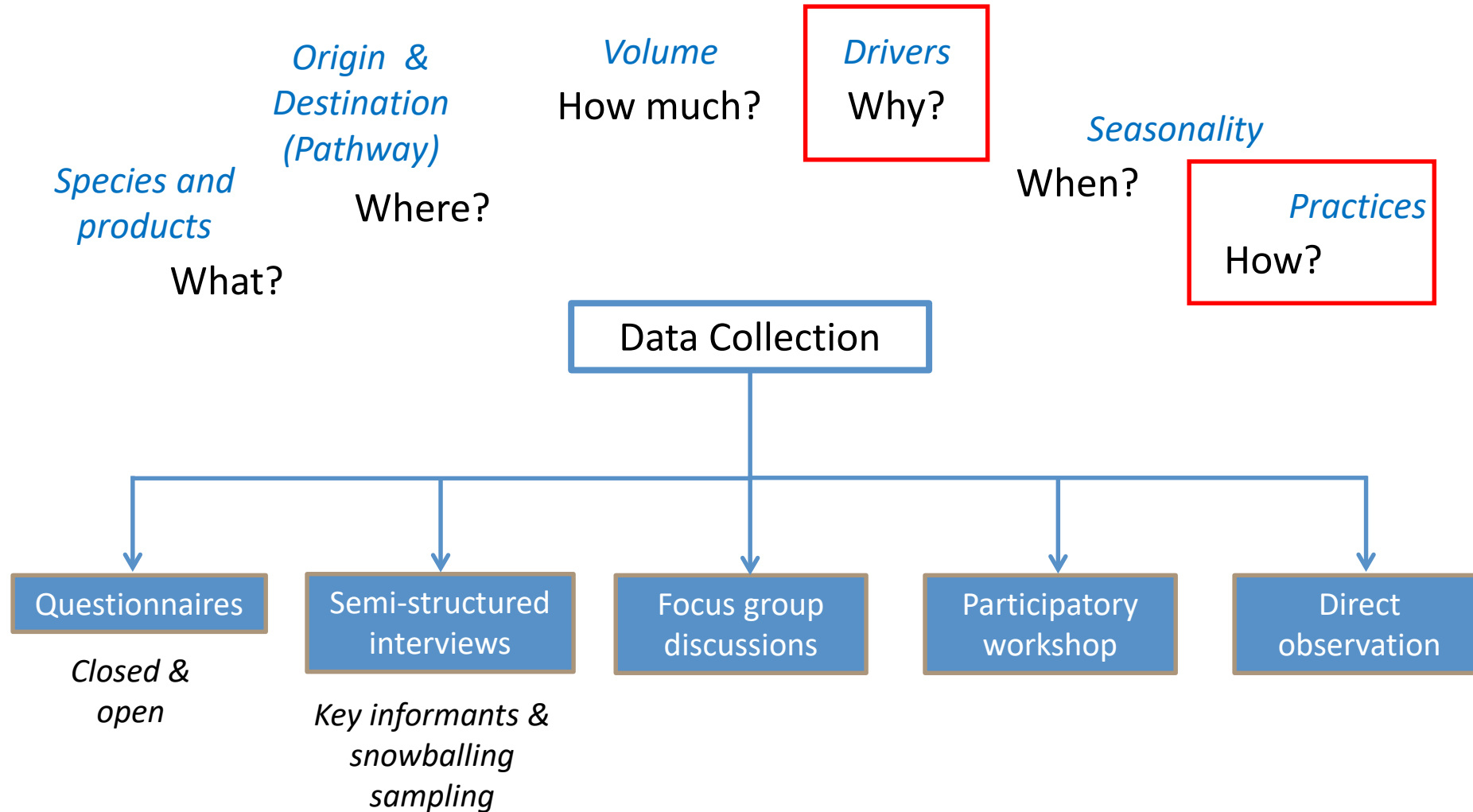
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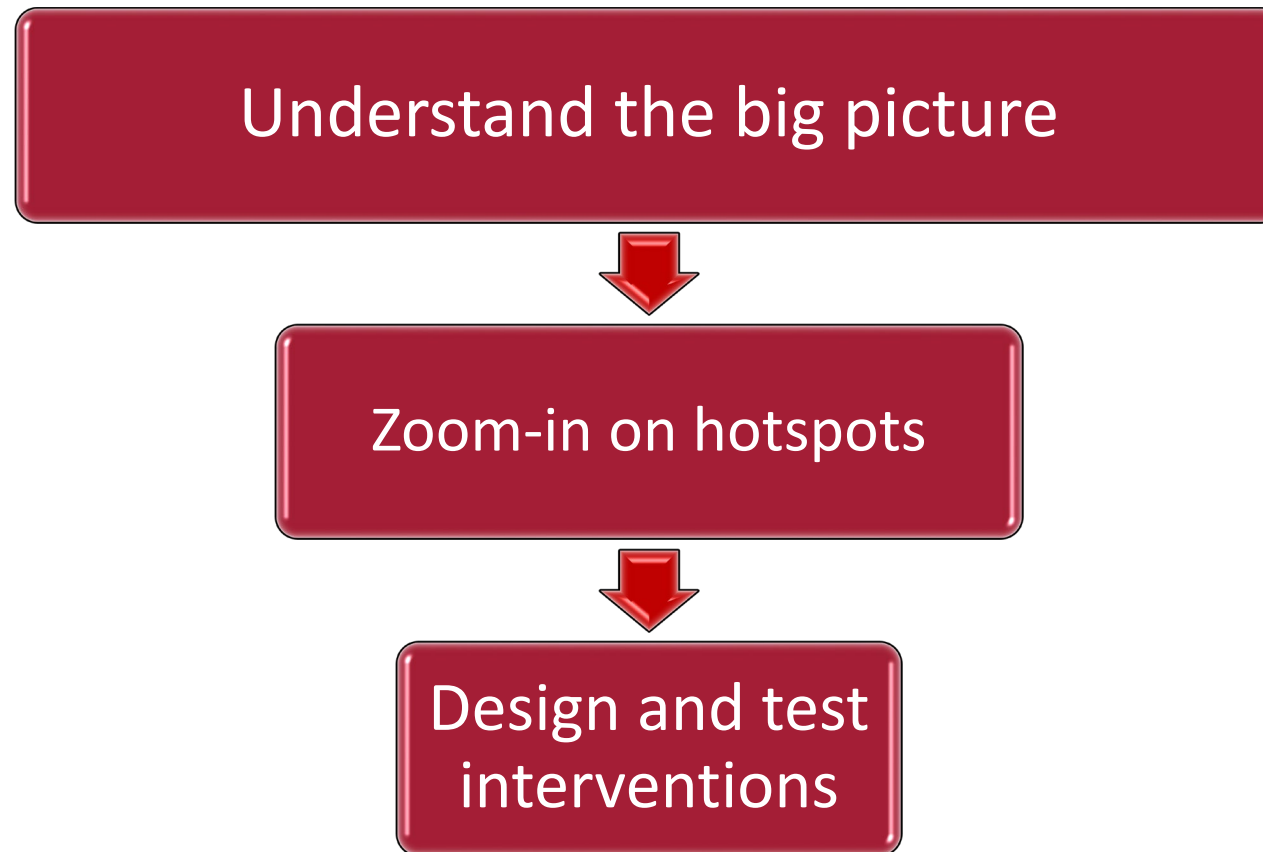


Key aspects to analyze





FAO's (ECTAD) two-stage approach





FAO's (ECTAD) two-stage approach

Understand the big picture



Zoom-in on hotspots



Design and test
interventions



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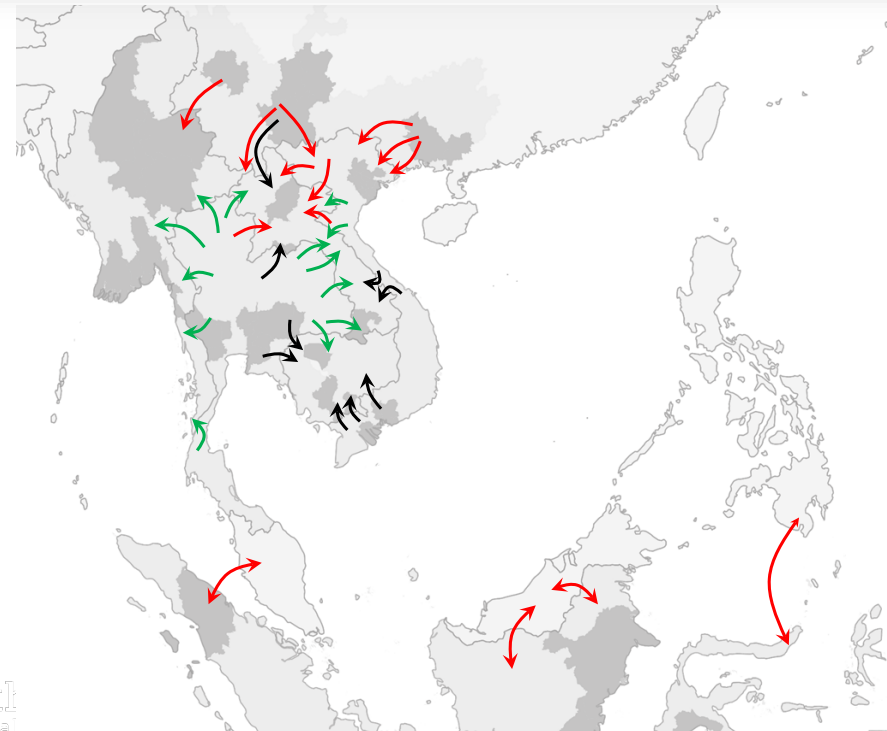


USAID
FROM THE AMERICAN PEOPLE



Livestock Value Chain Analysis for Animal Disease Risk Management

Guidelines: An approach based on expert opinion using participatory methods



- **Objective:** Better understanding of specific value chains that have been identified as high-risk for disease emergence/spread
- **Methodology:** Stakeholder mapping, field investigations, semi-structured interviews, surveys





Semi-structured interview (Philippines 2017)



Participatory workshop (Cambodia 2017)



Key elements of VCA

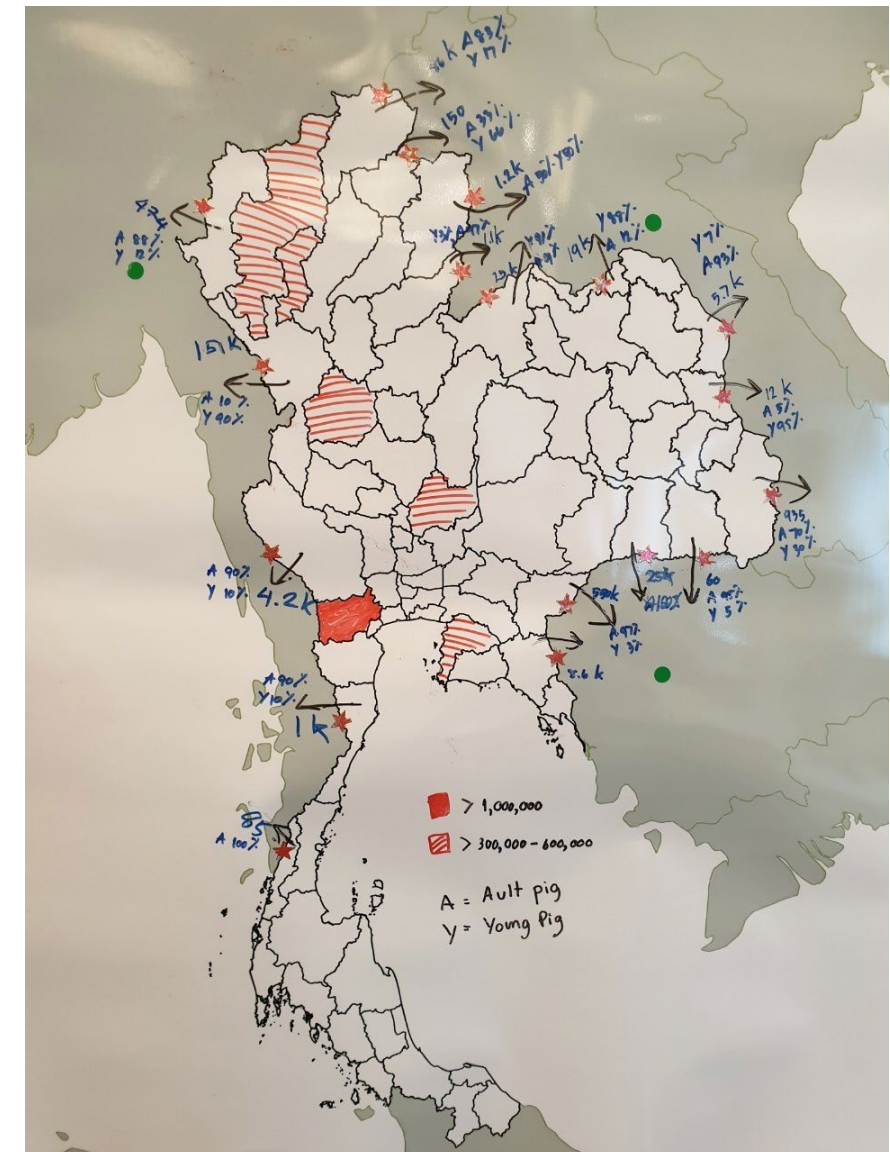
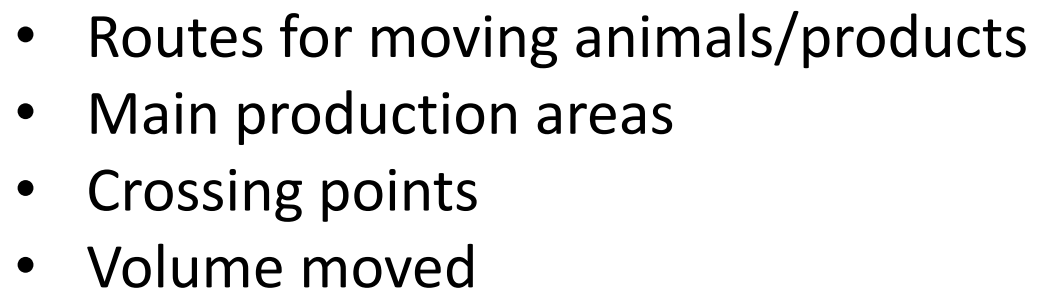
Mapping

Objective: Identify the pathways for movements of animals and animal products

Sometimes identifying the pathway can be very challenging, so in practice we focus on the origin and destination of such movements

Very powerful tool to:

- Identify high-risk areas
- Identify information gaps
- Communicate (some of) the results of VC studies





Key elements of VCA

Value Chain Diagram

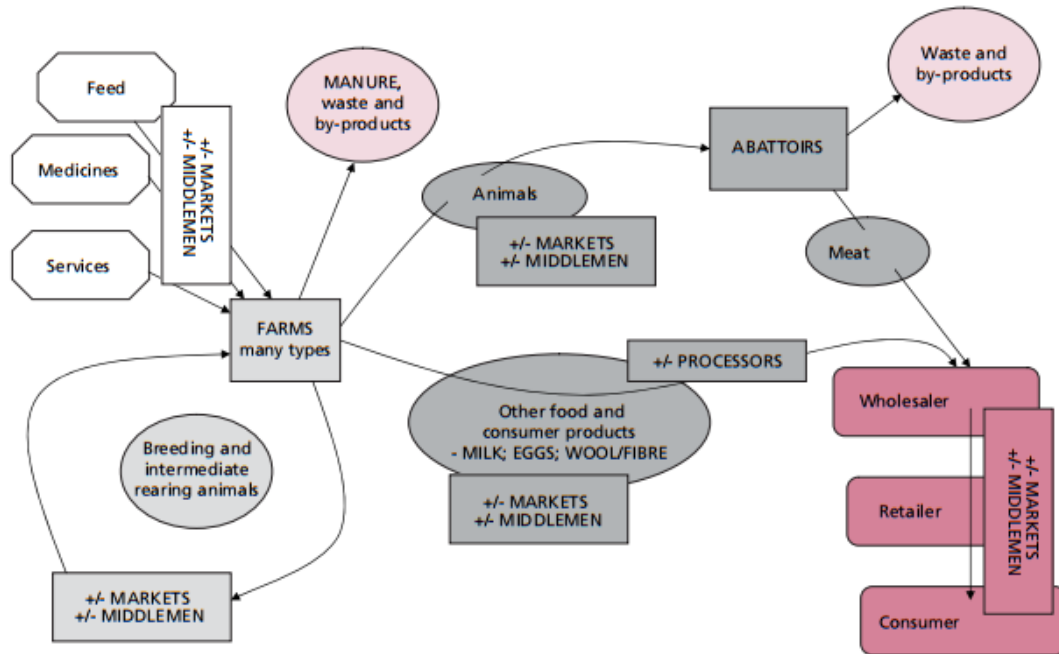
Objective: Identify the connections between different stakeholders and how animal disease risk spreads along the value chain

It is very useful to identify critical control points where interventions can be targeted

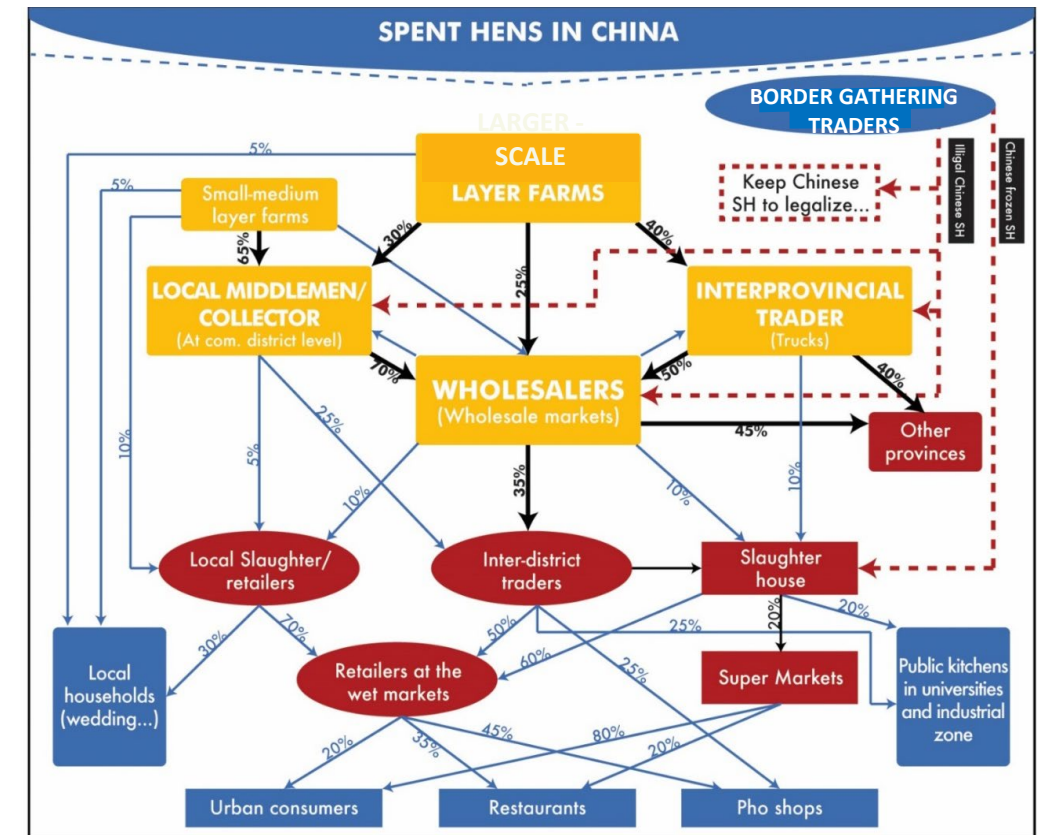
Spatial information is not reflected

- Spatial information is possible but can over-complicate the diagram

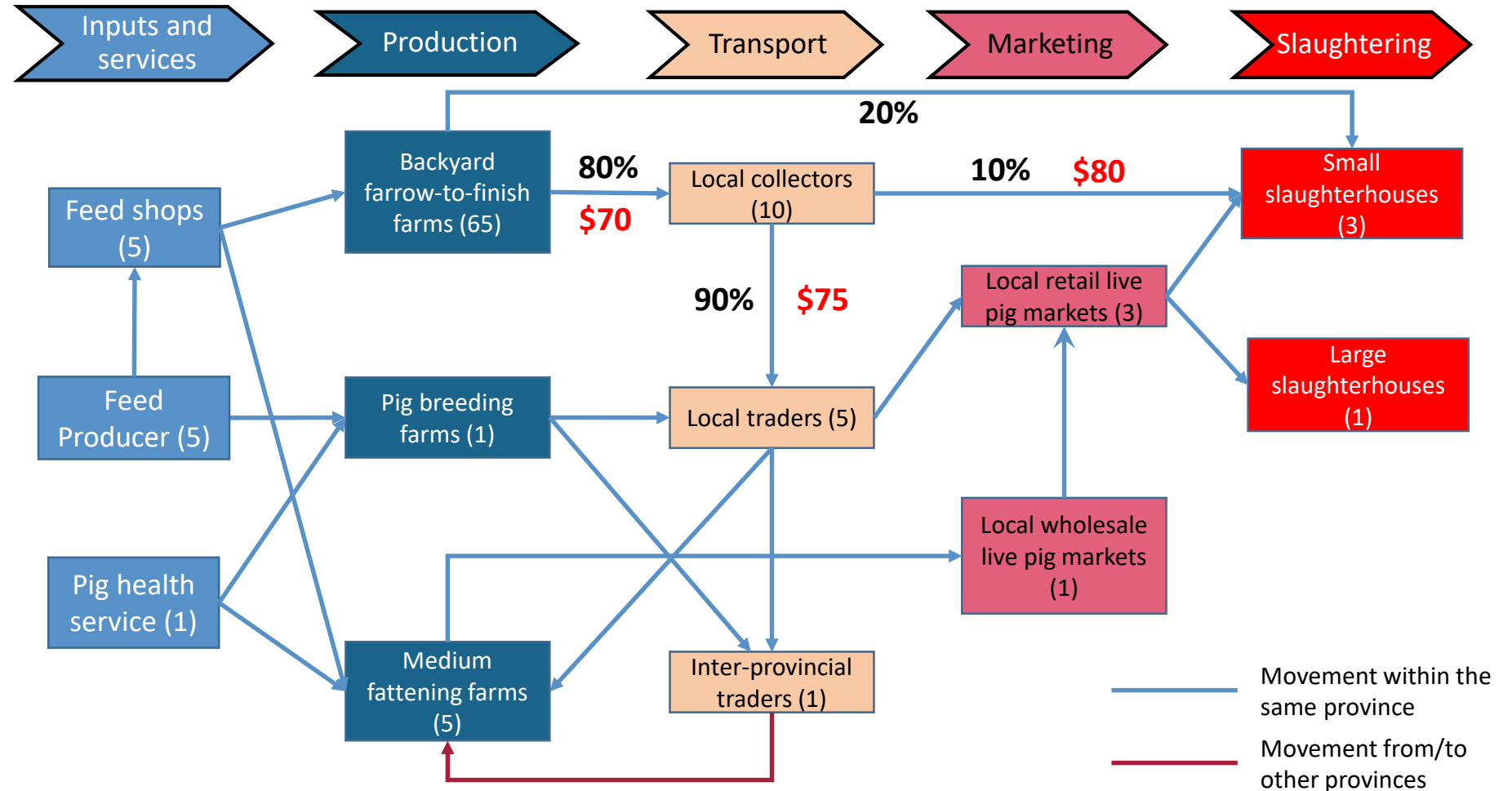
Example 1. Generic framework for livestock value chain



Example 3. Spent hens value chain in Vietnam (2013)



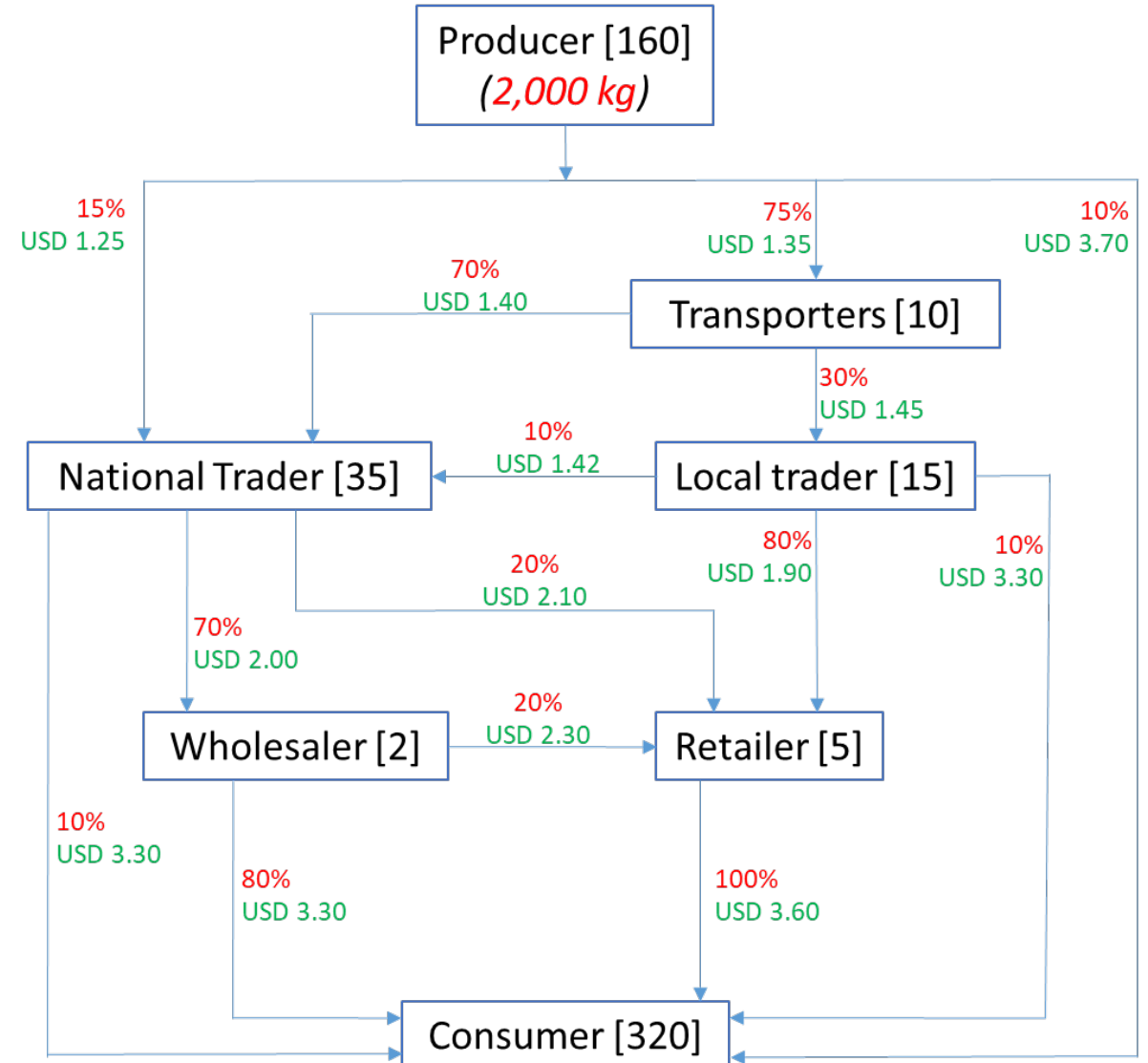
- Identify the process
- Identify stakeholder groups and linkages
- How many of them?
- Main distribution channels (volume)
- Prices



The more specific you are on the stakeholder categories), the more accurate your diagram will be, **but** it will also be more complex to analyze. **Try to keep a balance**

Diagram of the value chain of pigs in district A

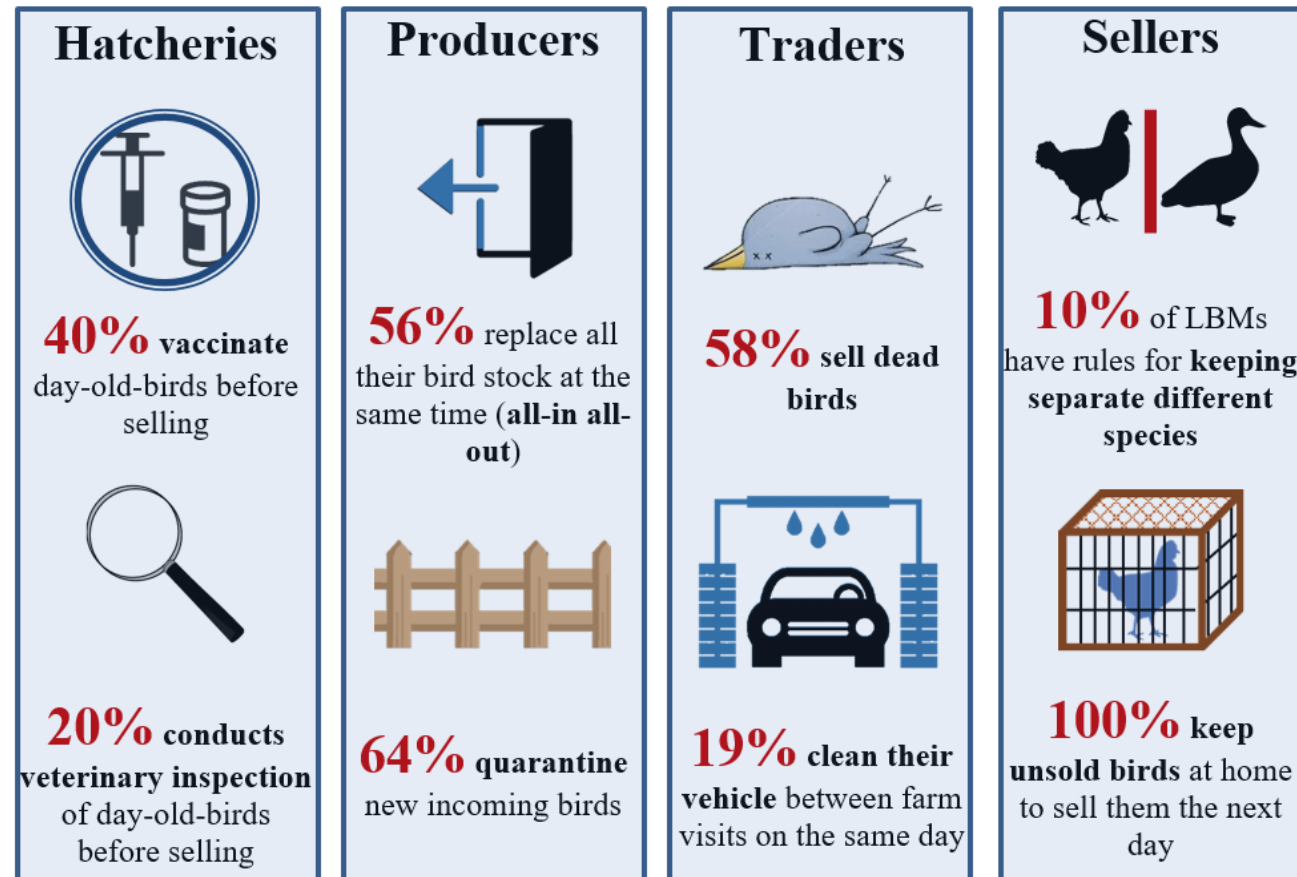
- Values in red represent the percentage of the volume moved from one group to another;
- Values in green represent the average price paid for the transaction;
- Values in brackets represent the number of individuals that belong to each group.





Key elements of VCA

Do not forget about practices and drivers!





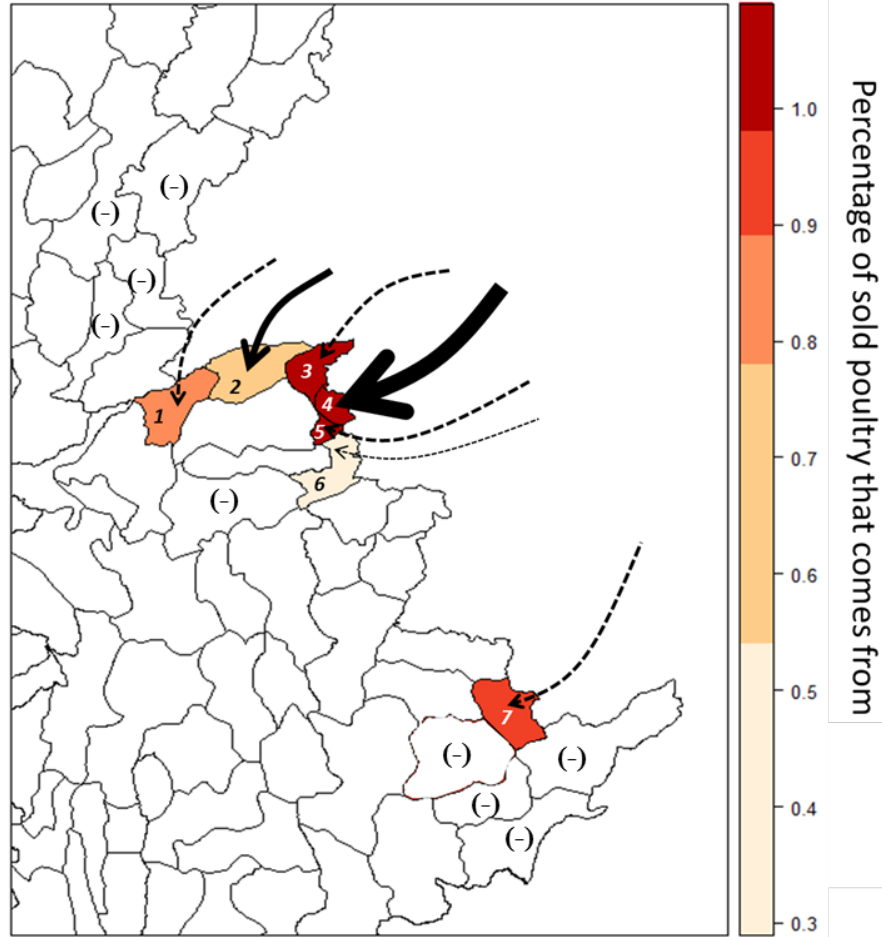
Examples of applications

Prevention:

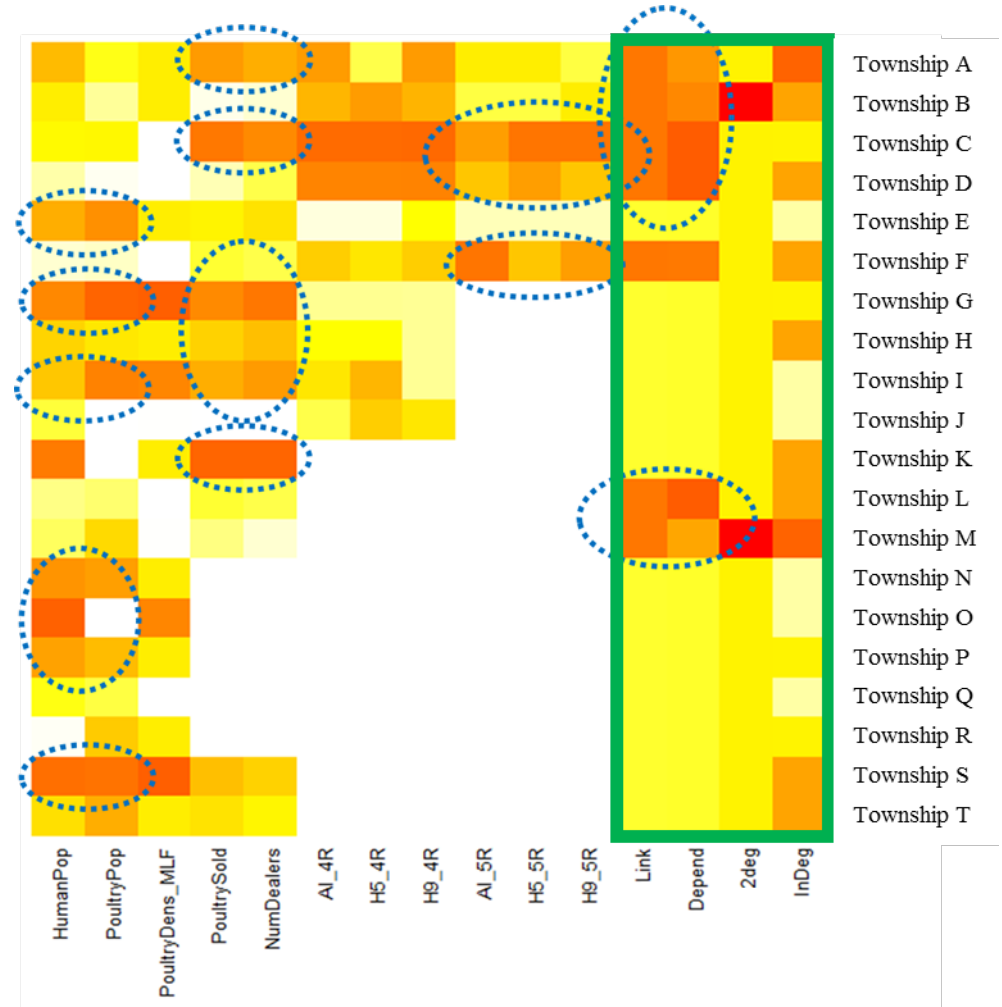
- Risk-based surveillance – identify hotspots for disease introduction in order to rapidly detect through active surveillance
- Target interventions – campaigns to raise awareness, trainings

Rapid response to an outbreak:

- Trace-back the origin of the outbreak (outbreak investigation)
- Send early alerts to areas that are at high-risk to avoid further spreading
- Implement animal movement controls (optimal location for checkpoints) and intensify surveillance in high-risk areas

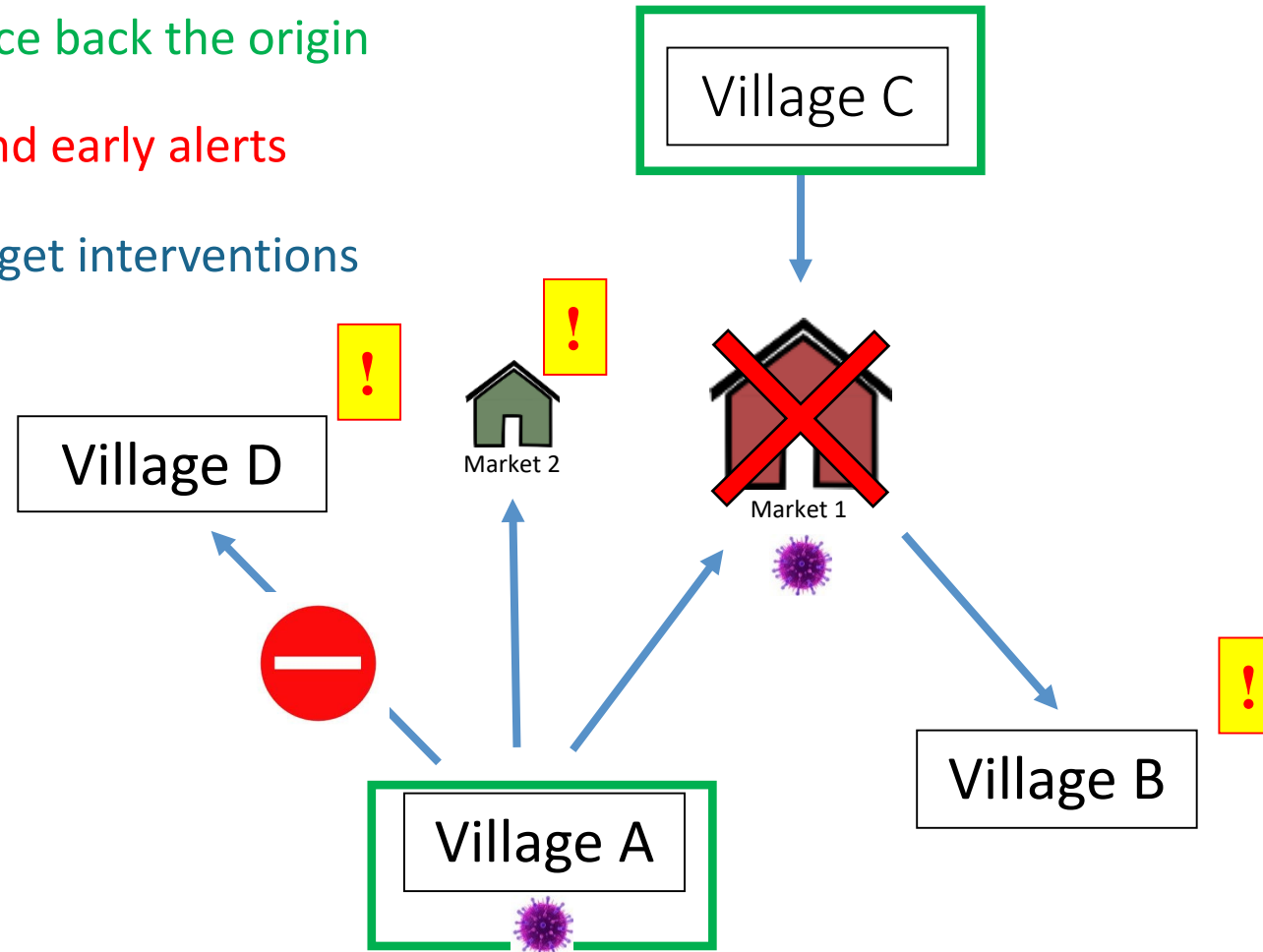


No evidence of poultry travelling further
inland to other townships



Rapid response to an outbreak:

- Trace back the origin
- Send early alerts
- Target interventions





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Thank you



Protecting people, animals, and the environment every day



Do you currently have the information and data required to conduct Value Chain Analysis to improve animal disease outbreak detection and response in your country?

If not, what data do you need to collect?



What challenges can you expect in your country when collecting field data relevant to value chains and animal diseases?

How do you overcome such challenges?