Combining risk assessment and value chain frameworks

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Stakeholder workshop on risk analysis in the Borena-Nazareth-Djibouti livestock value chain
Addis Ababa, Ethiopia, 11-14 August 2015

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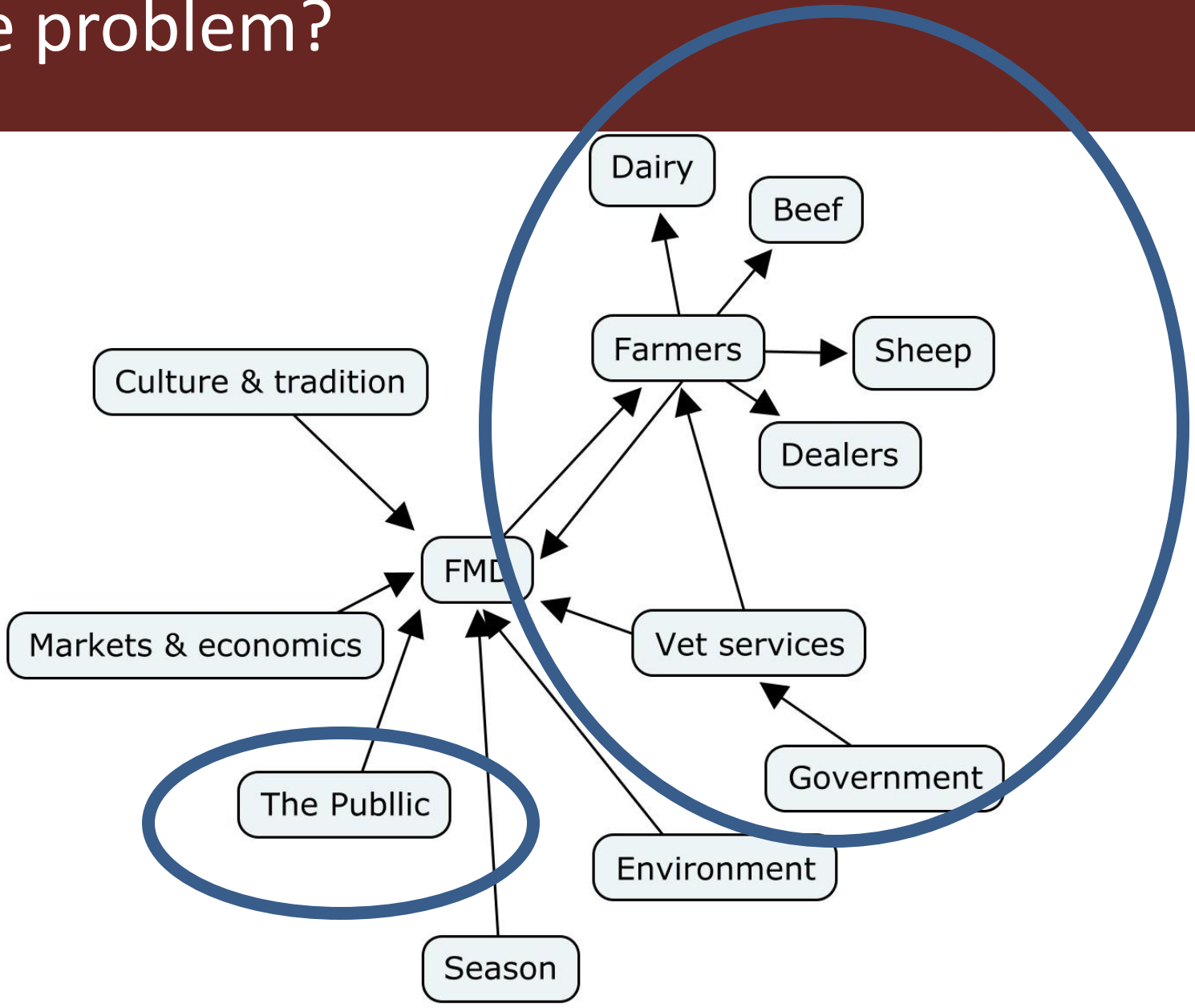
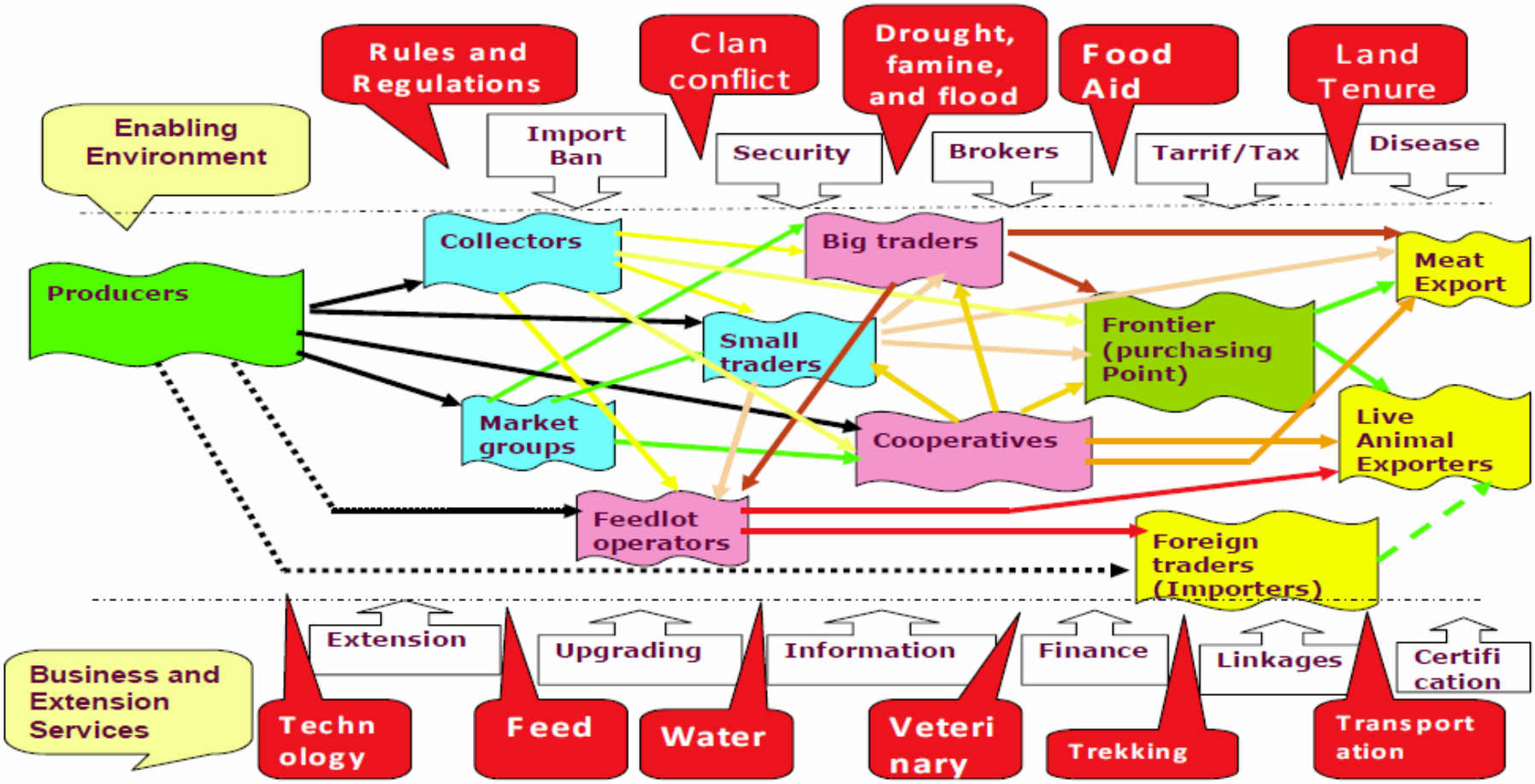
The problem?

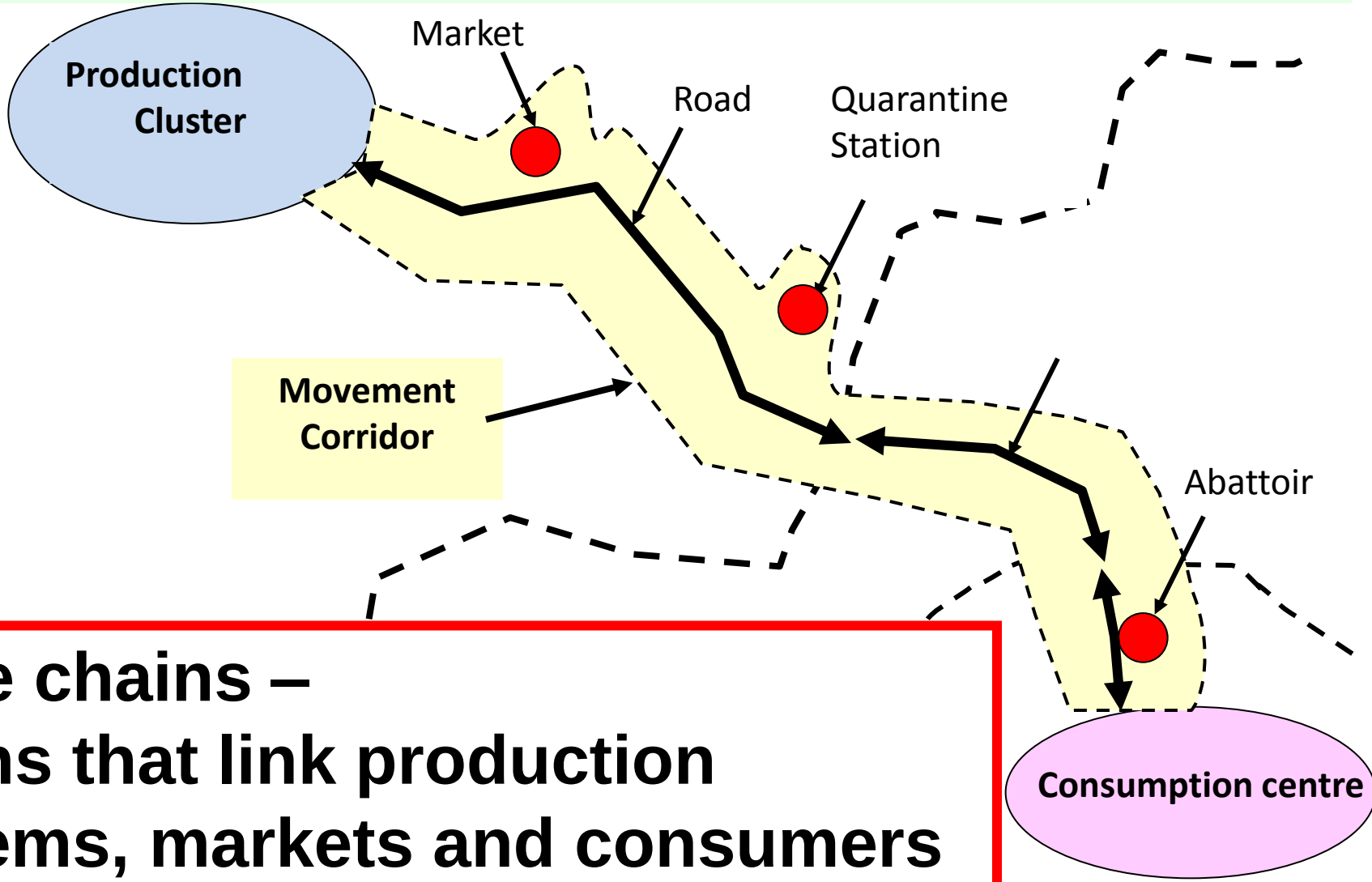

Dairy
Beef
Farmers
Sheep
Culture & tradition
Dealers
FMD
Markets & economics
Vet services
Government
The Publlic
Environment
Season

More complex?



Live animal and meat export value chains for selected areas in Ethiopia: Constraints and opportunities for enhancing meat exports Legese Getachew and Teklewold Hailemariam and Alemu Dawit and Negassa Asfaw

How do activities affect disease risk and control?



Value chains – chains that link production systems, markets and consumers

Value chain and risk analysis

Requires:

1. Value chain analysis
    - Understand livestock production systems
    - Who are stakeholders and how do they behave

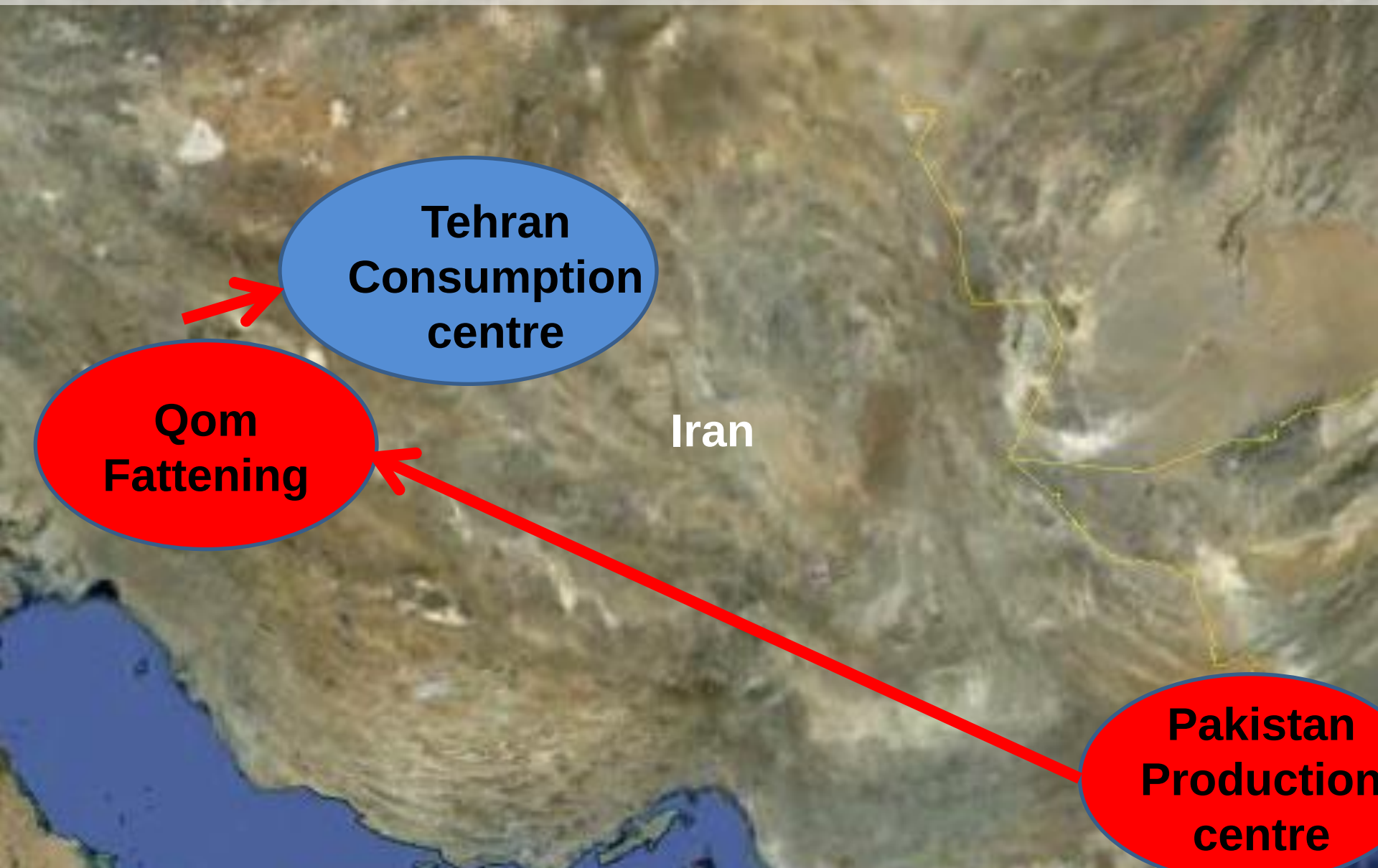
2. Risk analysis
    - Evaluate disease risks and control measures within the livestock production systems

Key questions answered

- Which processes carry risk for disease spread?
  - What are their relative contributions to overall risk?
- Overall, which production systems carry more risk and economic impact?
  -What should be prioritised?
- What will be the impact of interventions (on disease, livelihoods, economics) and how will the value chain react (will trade by-pass controls, protests)?
- Who has most to gain or lose through risk reduction interventions?
- Who are affected by risky processes/points, and by how much?
- How can the state and/or the industry act to promote less risky operating environments for livestock production?
- Where in a country are the ‘risk hotspots’?
- How does risk vary over the year?
- Where and when should surveillance be targeted?

Value chain – cattle for fattening

Pakistan -> Iran-> Qom [fattening/slaughter]-> Tehran



Value chain – cattle for fattening
Pakistan -> Iran-> Qom [fattening/slaughter]-> Tehran

Why?

-Consumption centre in Tehran wants meat

-Local supplies cannot meet this demand

-(or more expensive)

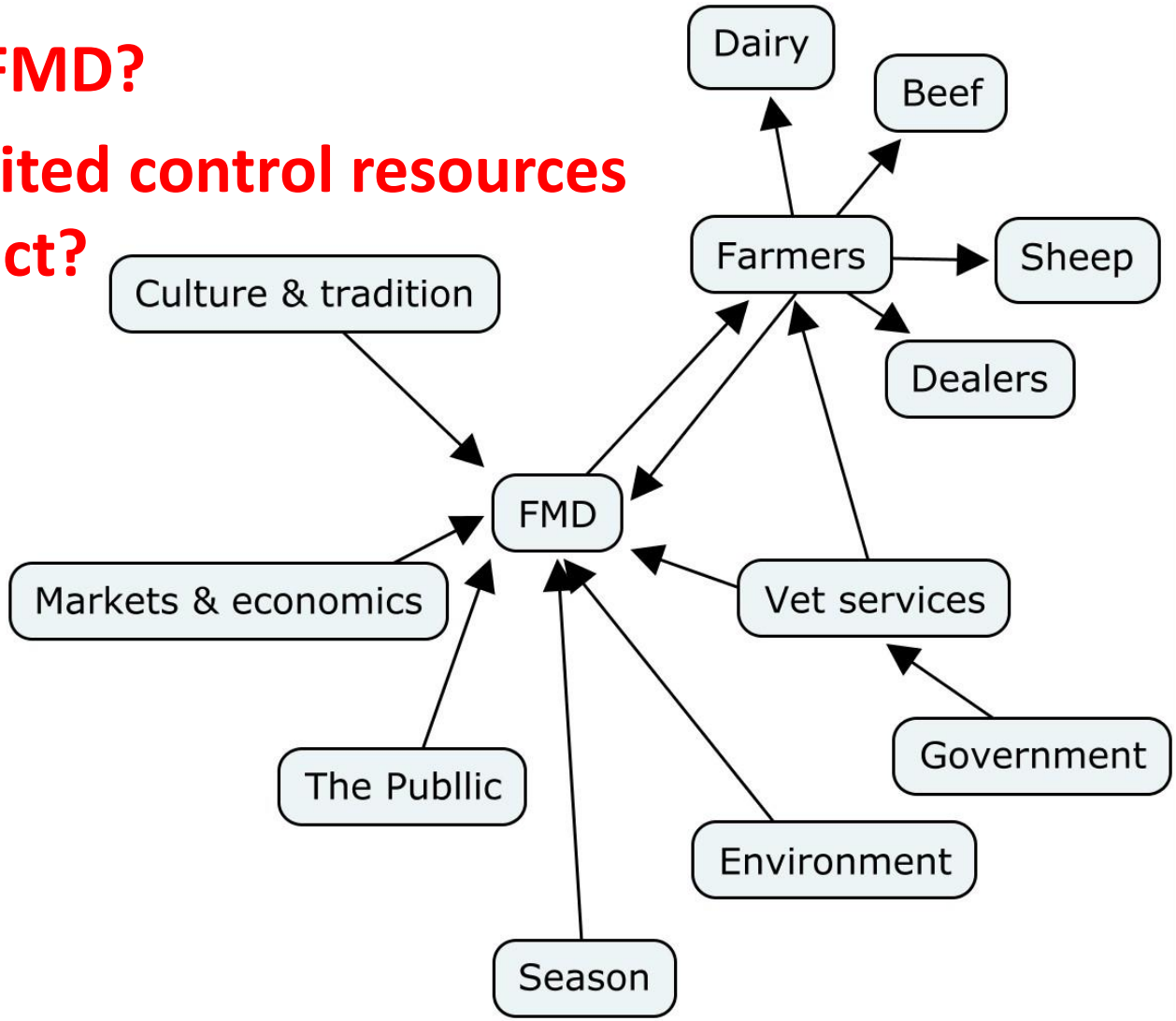
-Low supply/high demand - > high prices

-Attracts cattle from production centres in Pakistan

-This is illegal but the incentives are too great

Who is most important in the control spread of FMD?

Where to focus limited control resources for maximum impact?



Process

What do the farmers do?

(+ consider other stakeholders)

How do these actions affect FMD?

(incentives, compensation, penalties, sanctions,..)

Need to speak to the stakeholders

(farmers, markets, slaughterhouses, etc...)


Common grazing


Animal market

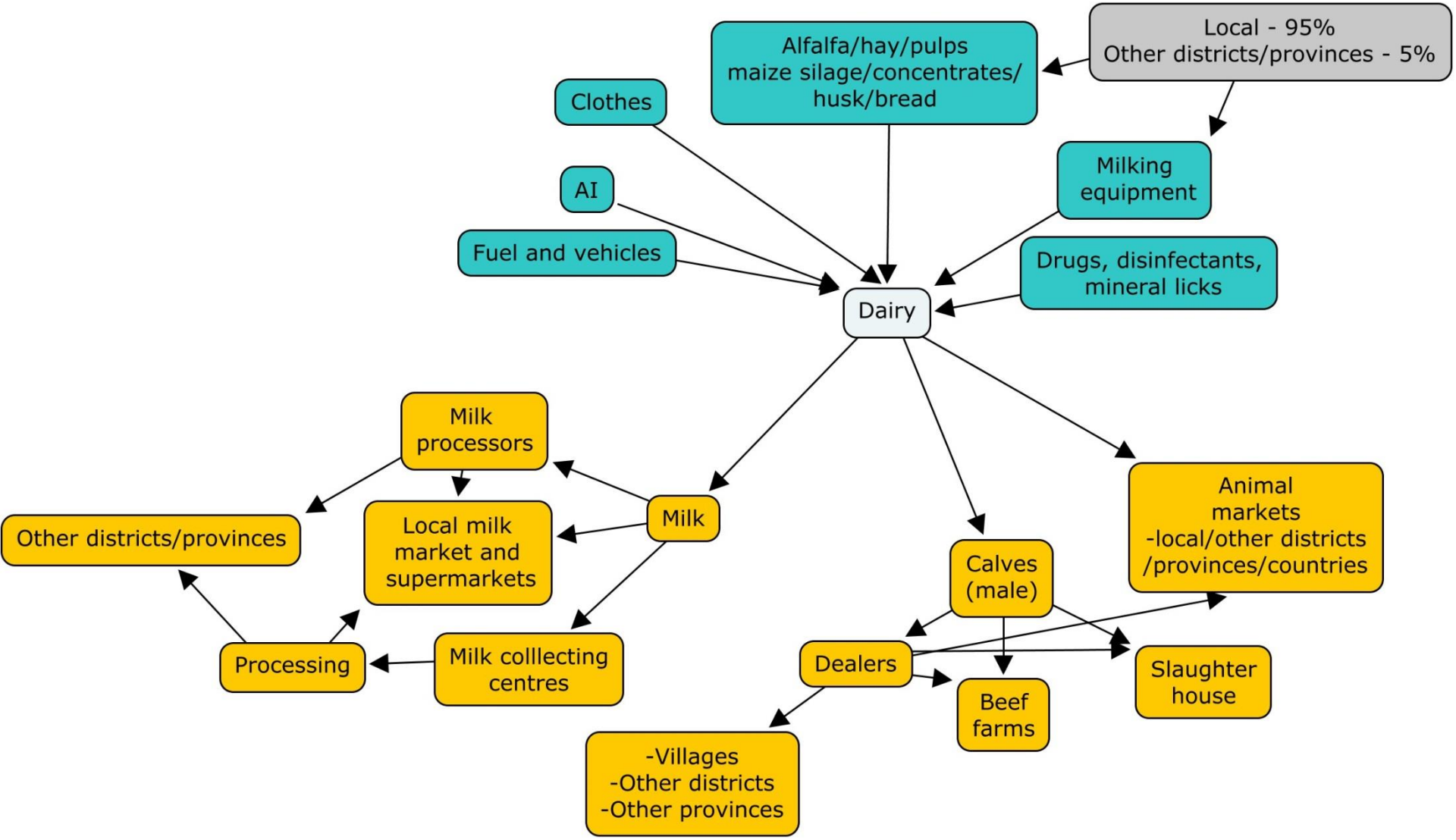
Group work:

- List all relevant livestock products produced in the area of interest
- List products imported into the area of interest
- List main markets
- List processing infrastructure (slaughterhouses, large butchers, dairy plants etc)
- List input supply infrastructure – AI centres, feed mills, and medicine and veterinary input supply chain.

Group work: mapping - livestock and product movements

Group work: seasonal calendars *– e.g. lambing time & vaccination*

Value chain inputs & outputs



Identify “risk hotspots”

- Within each point in the value chain: consider whether FMD virus could
  - Enter, survive and be carried out from that point to infect other points in the chain and/or other value chains.

AND

- Assess impact of FMD infection on stakeholders

Identify “risk hotspots”

Risk hotspots: points in the value chain where the *combined* effect of the probability of FMD entry/spread and the consequences of FMD entry/spread are greatest.

Which parts of the value chain are important for foot and mouth?

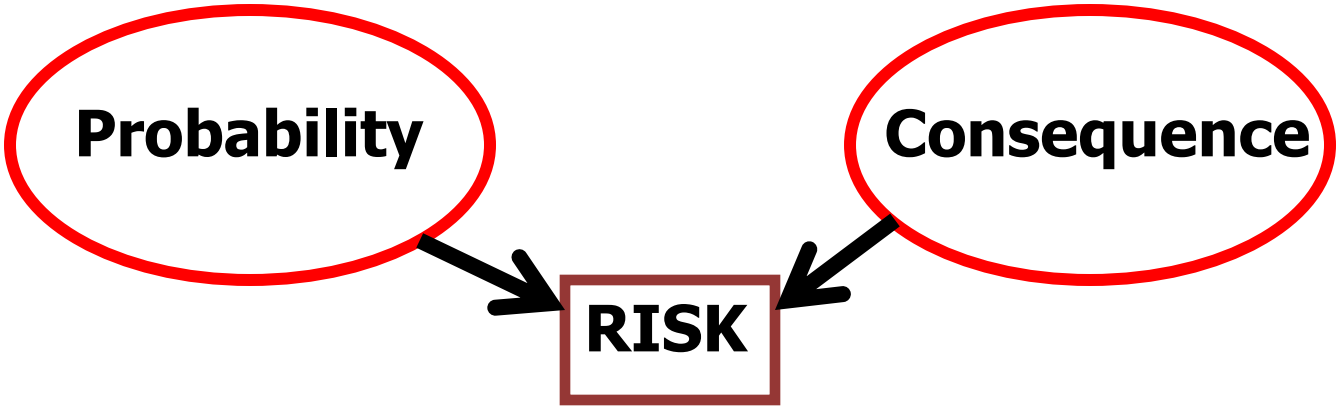
system / chain: DAIRY		Factors affecting risk	risk estimate
FMD Intro-duction to country / area	live animals	-Few live animals bought in	-low
	animal products	-Sperm for AI	-Low
	fomites	-No biosecurity measures taken by vaccination teams -Manure transport -Animal transport vehicles -Dealers travelling between farms	-Very high -Low to Medium -Low to Medium -High

-Consider risk of introduction to an area

-Risk of exposure of susceptible species

-Risk of local spread

-Risk of long distance spread



1) A car contaminated with FMD virus drives near the epi-unit twice a week

2)An animal is bought from an infected epi-unit once a week

The car is less likely to spread the disease than a live animal

So the consequences more severe for weekly live-animal movements

Summary of potential risk hotspots

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Details of spread of FMD by vaccination teams

Description:
-No specific time

-Vaccinations done about six times a year per epi-unit

-No specific region

-Visit several units each day

-Carried out by private veterinarians (or their technicians?)

-There is a risk of carrying the virus on the vaccinators equipment, clothes, vehicles, etc...

-All FMD susceptible livestock species are affected by this

Control options for spread of FMD by vaccination teams

-If vaccinating on an infected unit do not visit another unit for 3 days

-Training of vaccinators on biosecurity

-A vaccination team only visits one epi-unit per day

-Define strict biosecurity measures to be followed

-Villages: Have specific tools for each village, this must be disinfected or discarded after use

-Dairy: Have personnel and tools for each dairy farm

-Beef and sheep: should be as for dairy, otherwise treat as per villages

Best control option for spread of FMD by vaccination teams

Better biosecurity:
One set of equipment per epi-unit//do not visit another unit for three days if on infected unit//disinfect and change needles, clothing, etc... between premises.

Issues:
There will be a cost for the extra equipment
Farmers will like it and will trust vet services more

Convenience for the stakeholders:
-Good; some problems for private
-Will help gain credibility for the veterinary services from the farmers

Can it be enforced: Yes

Cost: Acceptable

Effect on FMD incidence: Large effect

Likelihood of success: High