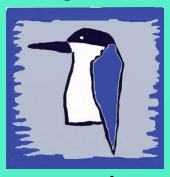
Using a sociological approach to Animal Value Chain Analysis for risk management.

MODULE 3

Little Kingfisher Group



Homan Anderson

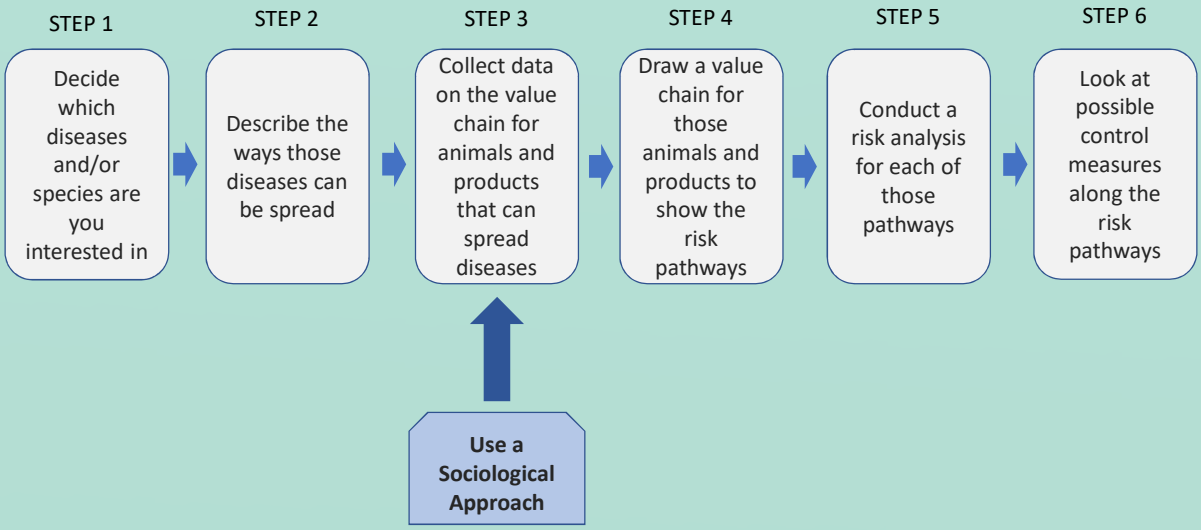
Today's agenda:

1. **Recap of the steps in making value chains**
2. **A process to construct value chains and risk pathways**
3. **Examples of building value chains**
4. **Then consider how value chains can be of use**
5. **Look at the next module.**

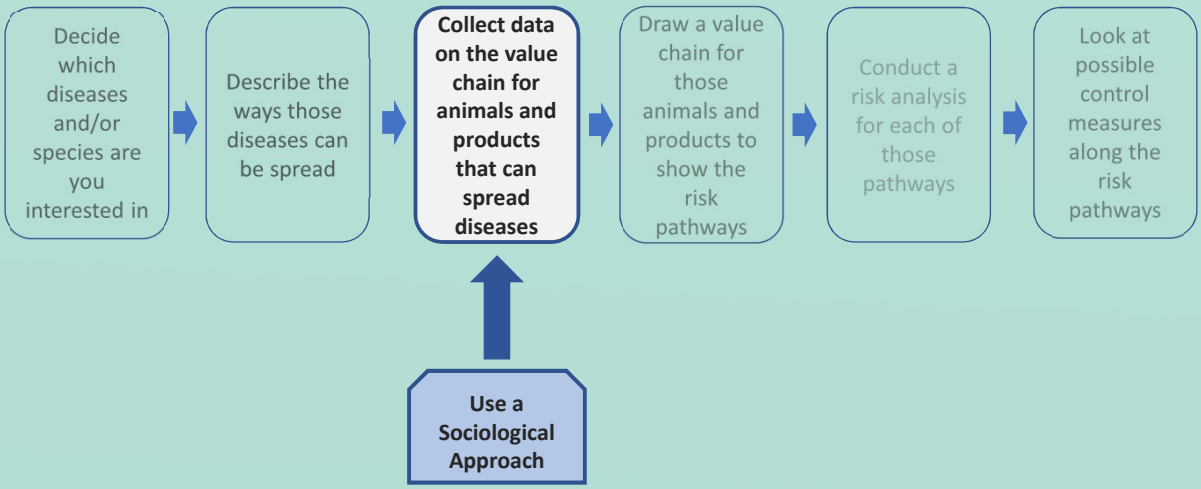
Value chains describe the processes through which livestock and other inputs pass during the production process.

Value chains also describe the places where each process occurs and the people involved.

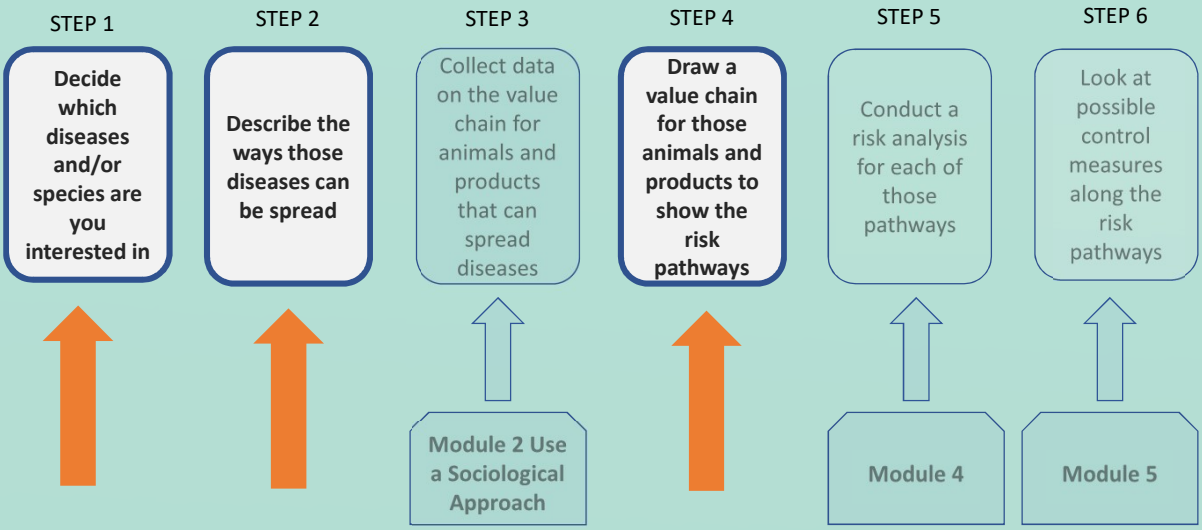
Steps in the Value Chain Analysis for Animal Disease Management



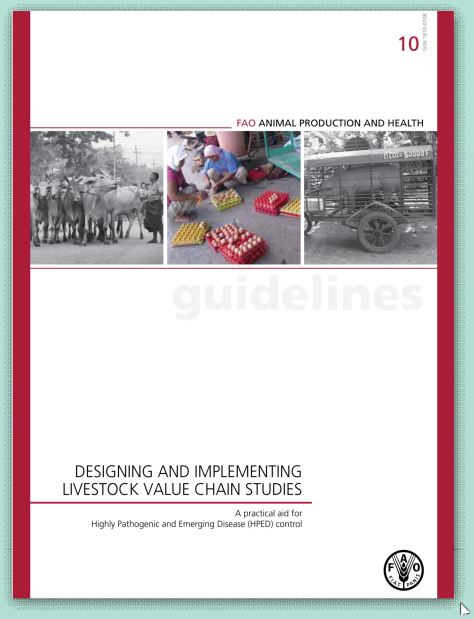
Steps in the Value Chain Analysis for Animal Disease Management

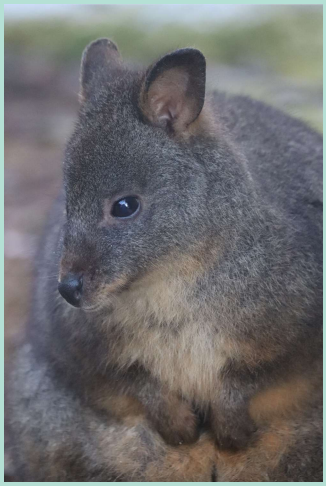


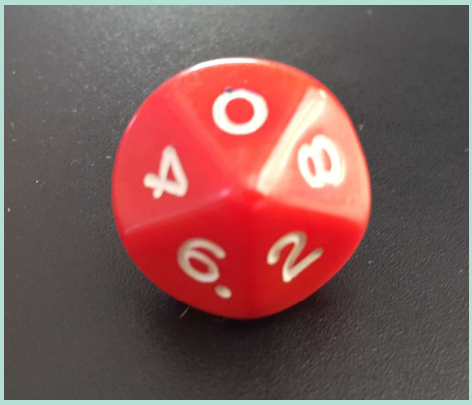
Module 3: Value Chain Construction and Analysis



This module describes the processes to identify and document the livestock and products moving along pathways that could spread disease: the risk pathways.







Firstly, why make livestock value chains?

What are the benefits?

1. To have the known main flow of animals and products documented.
   All staff have a common picture of the animal movements.

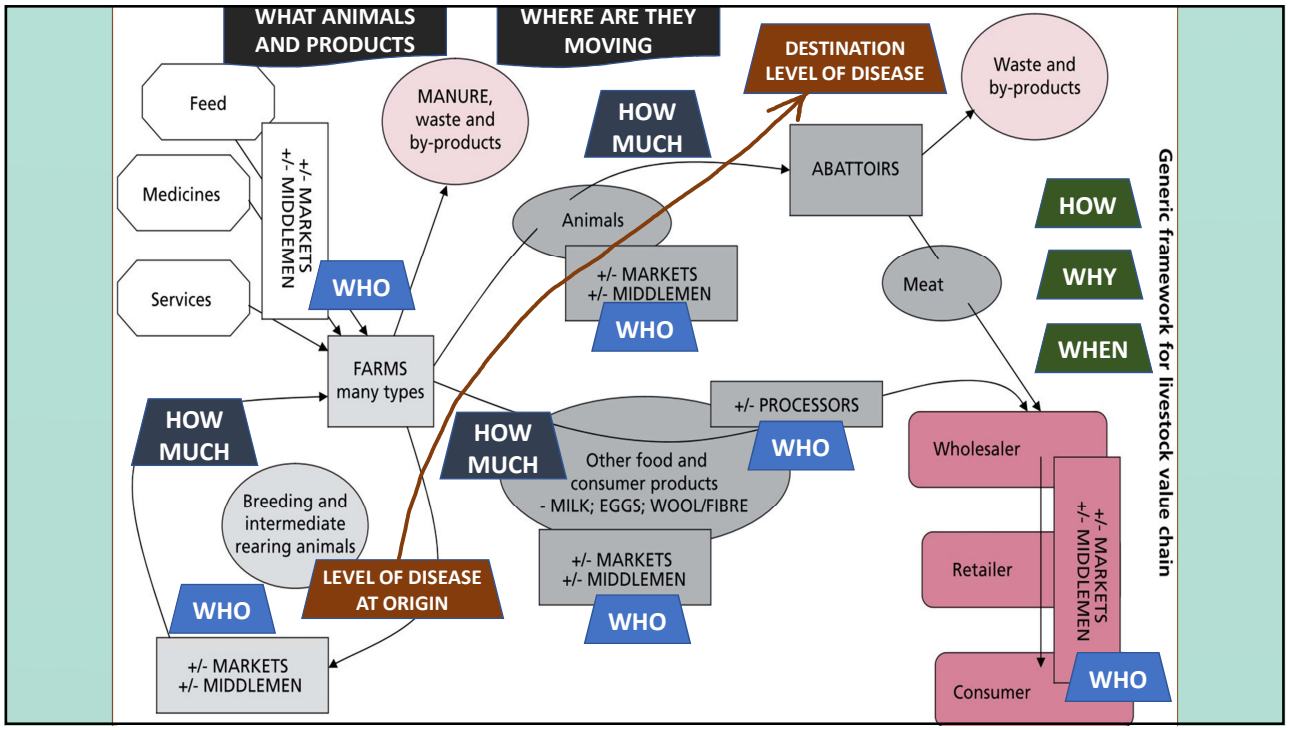
2. To get an accurate picture of what is actually happening.
   The sociological approach helps to find this out from people, not just what we think is happening.
   This allows for policies and compliance to be based on the real situation.

3. Having this information recorded so that it can be reviewed and updated.
   Once this information is written down, everyone involved can monitor it and see that it stays correct.

4. **It provides a structured process to consider animal health policy.**

The key aspects to analyse are:

- **What? –what species and products can be involved in spreading diseases**
- **Where? – where are the animals/ products originated and where is their destination (pathway)**
- **Who is involved with the movements of animals and products?**
- **How much? – how many animals/products are moving along the pathways over time**
- **How? – what are the practices that move these animals/ products**
- **Why? – what are the drivers that are the motivations for these movements**
- **When? – are the movements seasonal or dependent on varying factors to occur**
- **What level of disease is there at the points of origin and along the pathway?**



STEP 1

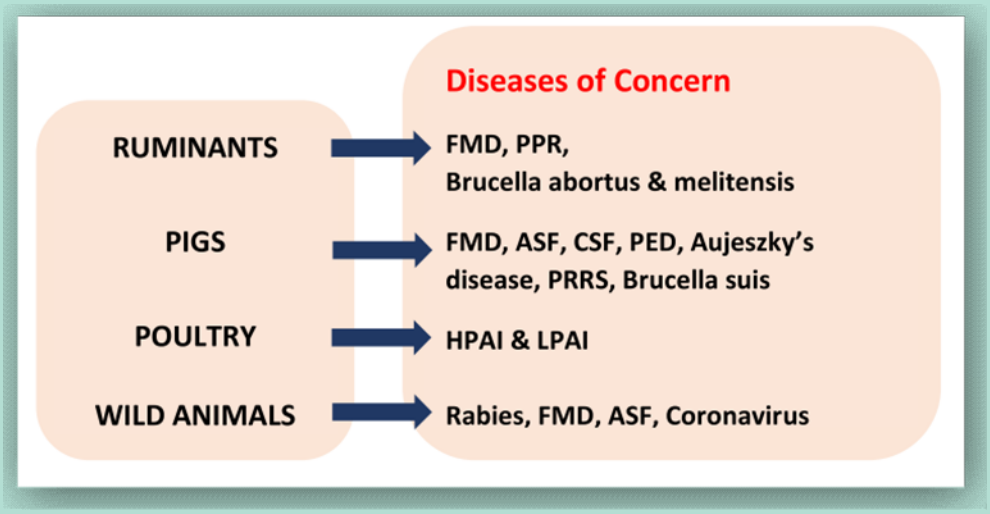
Which diseases and/or species are we interested in

For example, we could construct a value chain for a specific disease, such as Highly Pathogenic Avian Influenza.

Or we could construct a value chain for a species, such as poultry.

So we need to know what we are trying to achieve. This will determine what kind of value chain we construct.

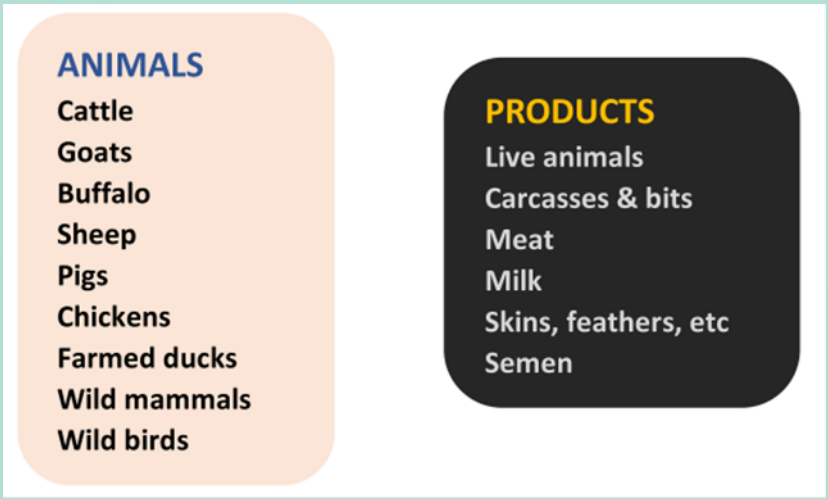
Diagram 2. Disease-of-concern by animal groups



STEP 2

Describe the ways those diseases can be spread

Diagram 1. Animals and their products to include in the analysis



DISEASE EXAMPLE

H5N1 HPAI virus spread mechanisms

1. Infected birds:
   - themselves carried over distances;
   - mixing with other poultry at markets spreading infection.
2. Meat and other products from infected poultry.
3. People in contact with poultry or their products:
   - input suppliers visiting multiple farms and villages;
   - traders visiting multiple farms, villages and markets;
   - market personnel;
   - veterinarians and animal health workers visiting farms.
4. Vehicles in contact with poultry:
   - visiting multiple farms, villages and markets.
5. Contaminated equipment:
   - cages;
   - egg trays.
6. By-products (these can be traded and handled through the value chains):
   - poultry manure;
   - feathers;
   - guts and other slaughter waste;
   - hatchery waste (spoiled and reject eggs);
   - eggshells.

Rabies

1. Infected live dogs

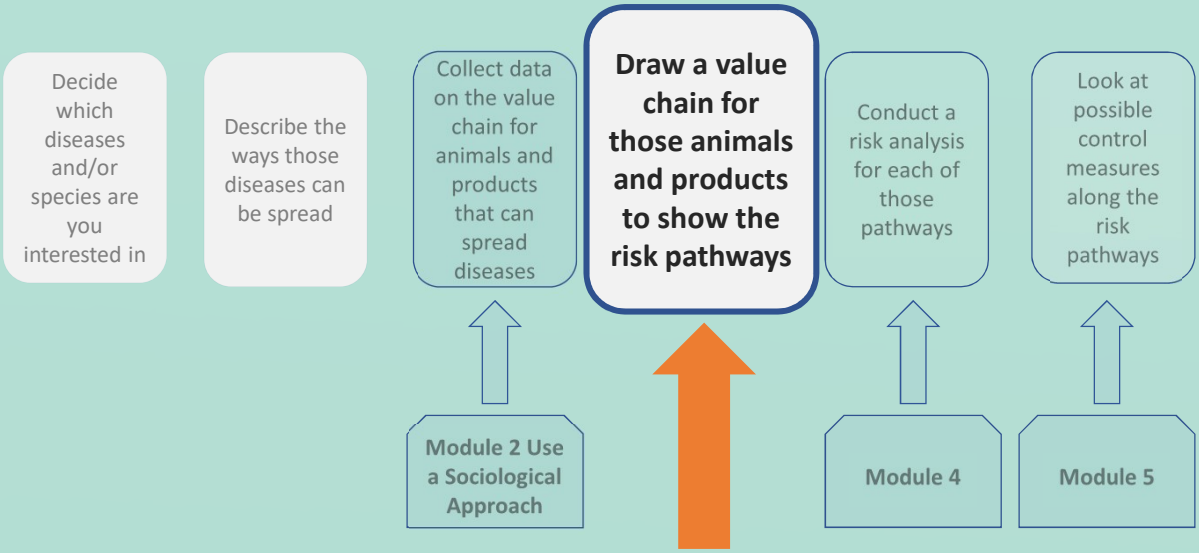
STEP 3

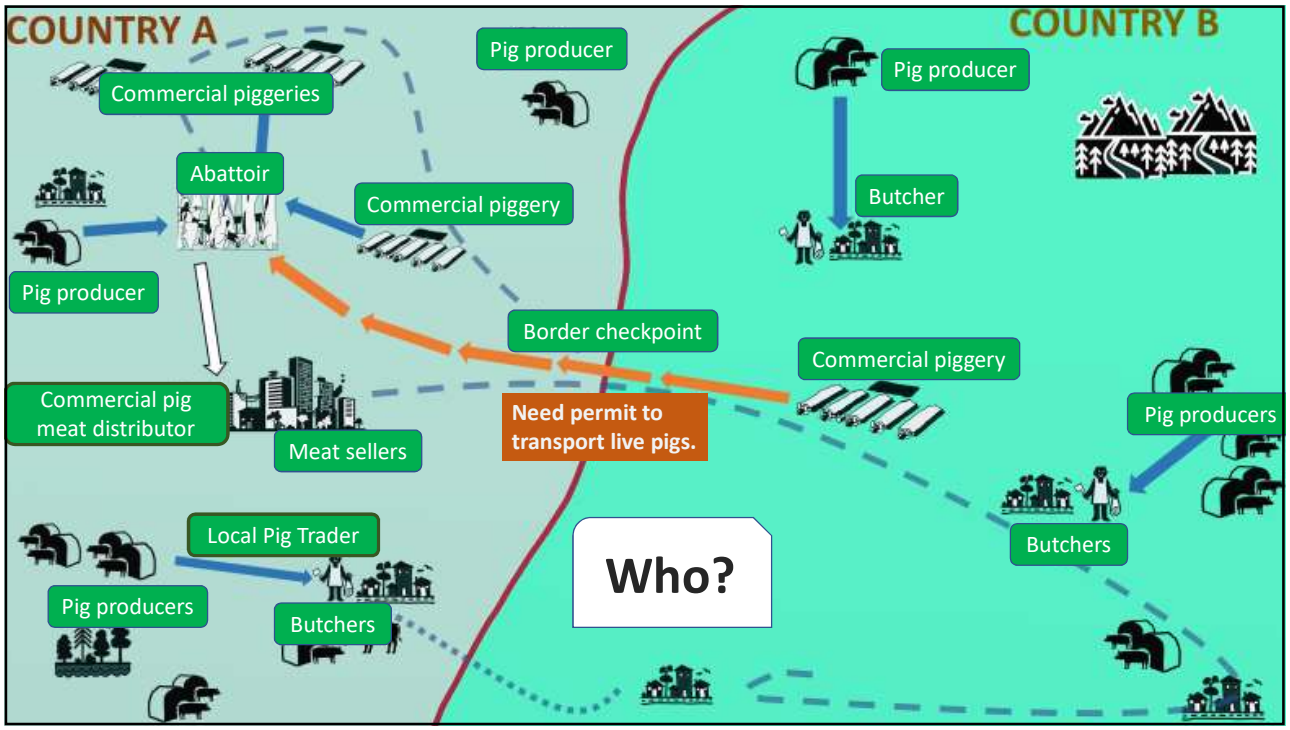
Sociological methods we can use to help gather data to build the Value Chains:

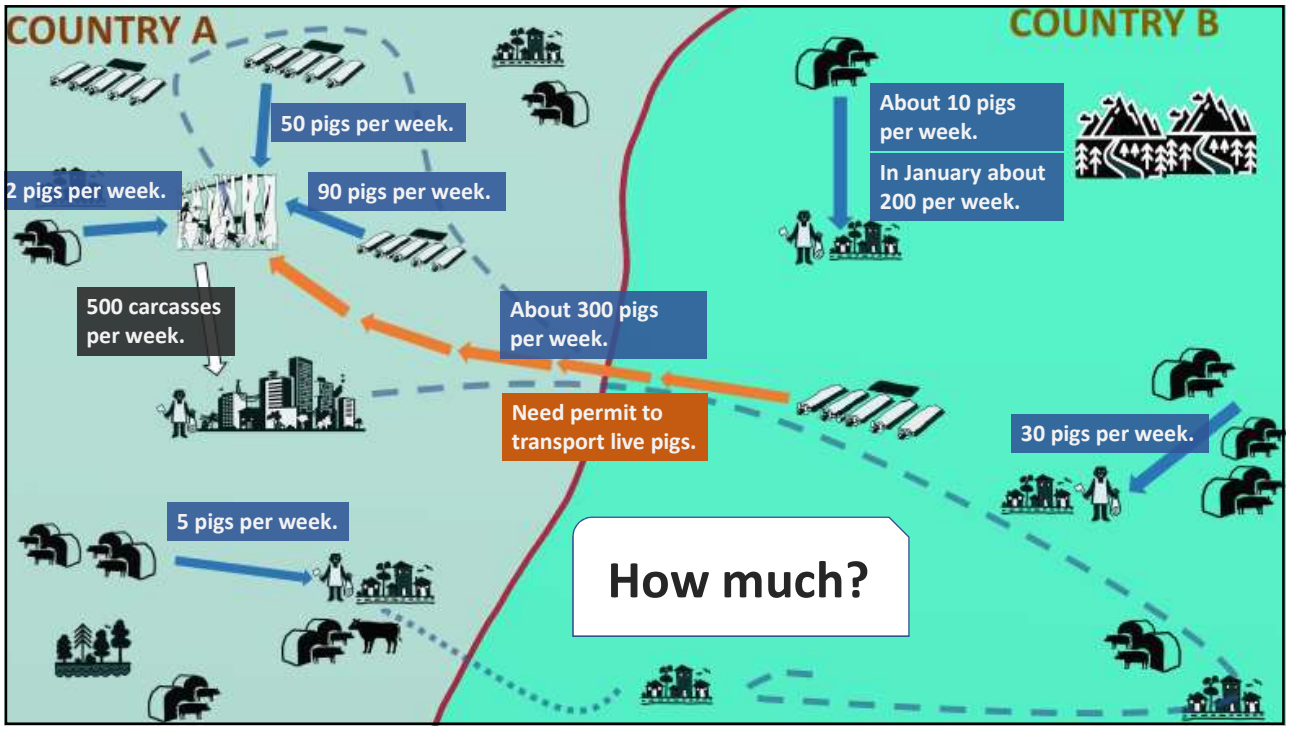
- **Key informant interviews –** expert opinion
- **Focus group discussions –** local knowledge
- **In depth interviews –** people identified along the chains that may have extra information to contribute.

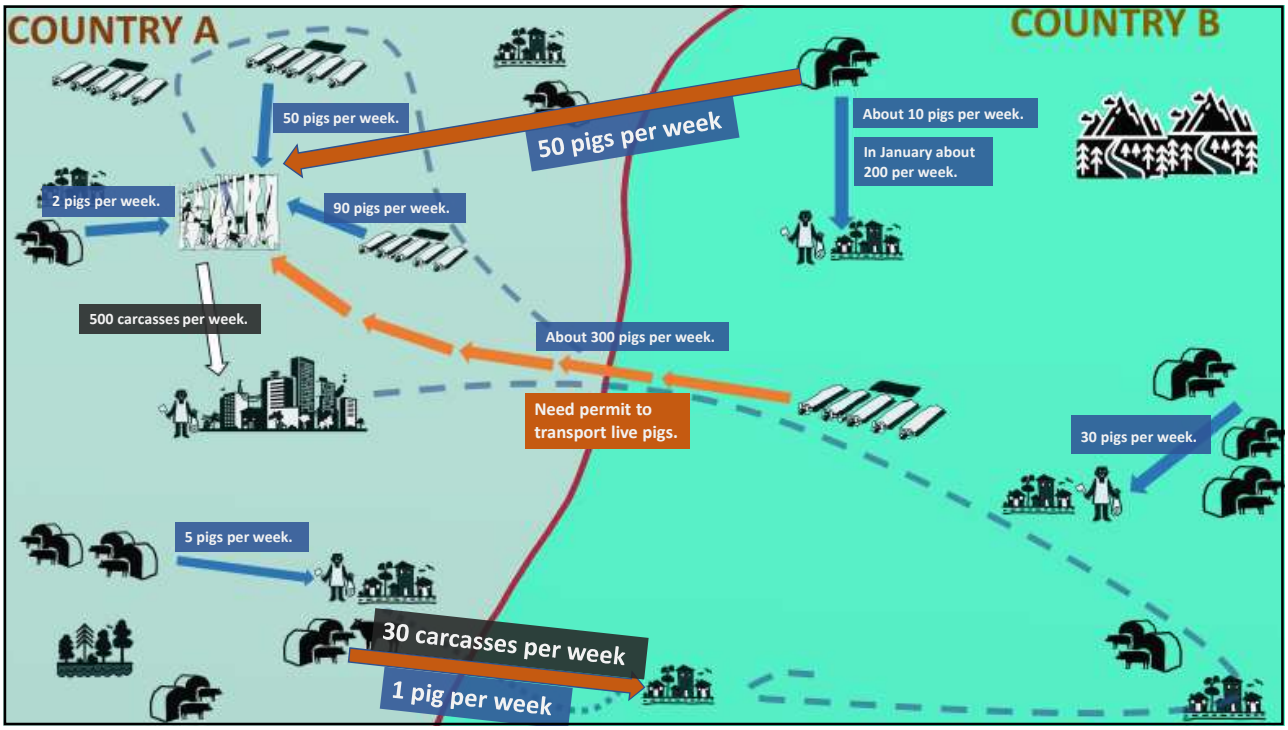
STEP 4

Module 3: Value Chain Construction and Analysis




COUNTRY A
COUNTRY B
Pig producer
Commercial piggeries
Pig producer
Abattoir
Commercial piggery
Butcher
Pig producer
Border checkpoint
Commercial piggery
Commercial pig meat distributor
Need permit to transport live pigs.
Pig producers
Meat sellers
Butchers
Local Pig Trader
Who?
Pig producers
Butchers


COUNTRY A
COUNTRY B
50 pigs per week.
About 10 pigs per week.
In January about 200 per week.
2 pigs per week.
90 pigs per week.
500 carcasses per week.
About 300 pigs per week.
Need permit to transport live pigs.
30 pigs per week.
5 pigs per week.
How much?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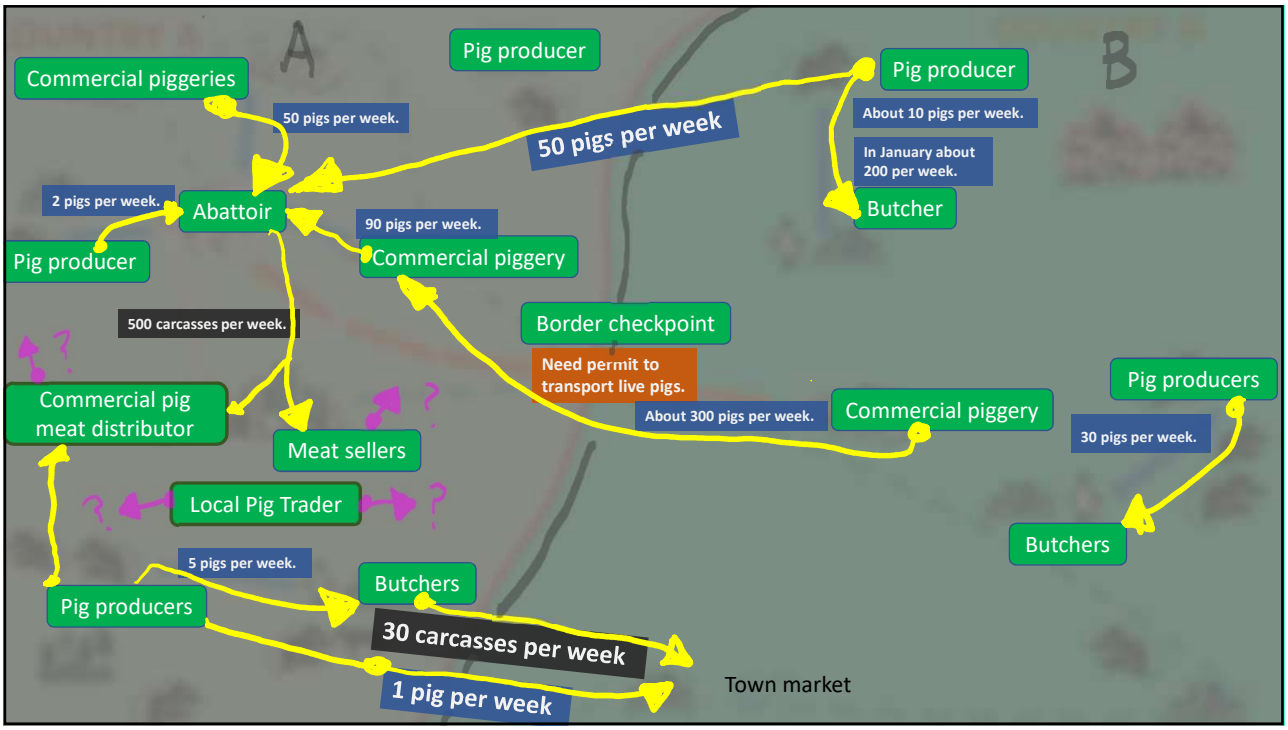
1 pig per week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30 pigs per week.
Meat sellers
Local Pig Trader
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5 pigs per week.
Butchers
Pig producers
30 carcasses per week
1 pig per week
Town market

EXERCISE 1.

If we are concerned about the spread of *Brucella abortus* think about the main ways that the disease can be spread.

1. **Everyone write a list of the things that could be moved from one region to spread *Brucella abortus* to animals in another region .**
2. **Post your list to the group chat.**

6 minutes

EXERCISE 1. Brucella abortus Discussion

Contact with:

- **especially placentae**
- aborted animal foetuses
- infected tissues
- blood
- urine
- vaginal discharges.

Ingestion of: raw milk and milk products from infected animals**.**

Spread of *Brucella abortus* infection between animals

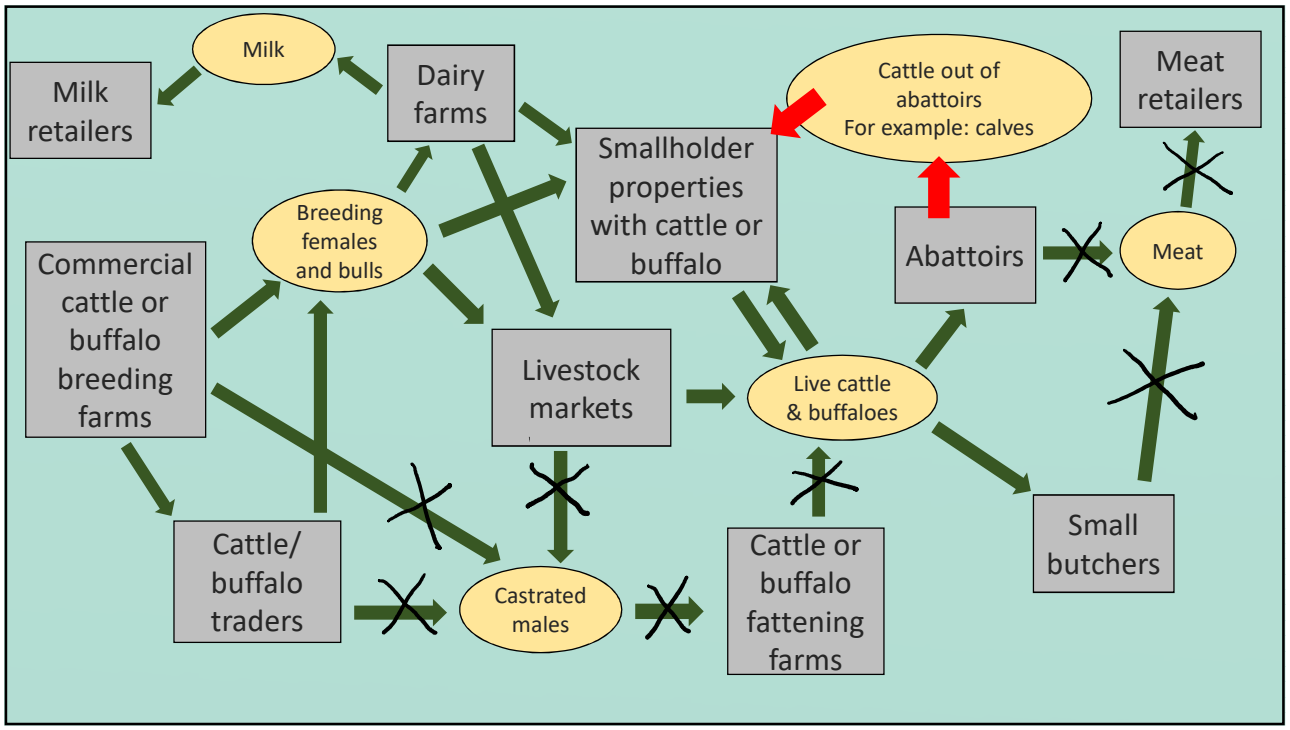
Draw a value chain for those movement of animals and products to show the risk pathways for spread of Brucella abortus based on the following decisions.

We will include movement of:

- Live female cattle and buffaloes
- Live bull cattle and buffaloes
- Cattle and buffalo semen
- Susceptible wild animals.

- +/- Milk and milk products (maybe if we were tracing for human infection).

We will not be including castrated male cattle/ buffalo OR meat products.



EXERCISE 2.

1. Imagine that Sarah has rung to interview you as Key Informant (a subject matter expert in animal disease in your region).

2. **She has asked you to choose one livestock species in a region you are familiar with and draw a simple value chain of animal and products.**

3. **Put in the what and where** (without naming specific towns or areas)**.** You can add a description of the **who** without using names and a qualitative description of the **how much** if you want.

4. **You can email direct to me the value chain that you draw so that I can provide feedback and discuss one-on-one during the next two weeks.**

7 minutes

andovet1@bigpond.com

Field Work for this Project

VALUE CHAIN FIELD WORK

KEY QUESTION: What are the main human-assisted movements of significant quantities of the specified animals and their products across borders in both directions?

1. What (legal and illegal) quantity of significant-level movements of the listed animals and products occur between the designated sites on either side of those borders and the main linkage points that drive them?

2. How frequently are those movements occurring, what main variables (such as seasonal variation) drive them and who and where are the main stakeholders/ businesses in the chains?

3. Taking into account known methods of disease transmission for specific diseases, what risk of disease spread do each of these movements pose.

What measures can be implemented to prevent, or minimise the effect of, those animal diseases?

Sociological tools we will use:

1. Key informant interviews
2. Focus group discussions
3. In depth interviews:
Participants identified through 'snowballing'.

RABIES EXAMPLE
Northern Australia.

EXERCISE 3.

1. **Either in groups or individually, list three problems you can see with constructing or using livestock value chains for your work.**
2. **Write down one good animal and product movement value chain that might be helpful in your region.**

5 minutes

EXERCISE 3. Discussion

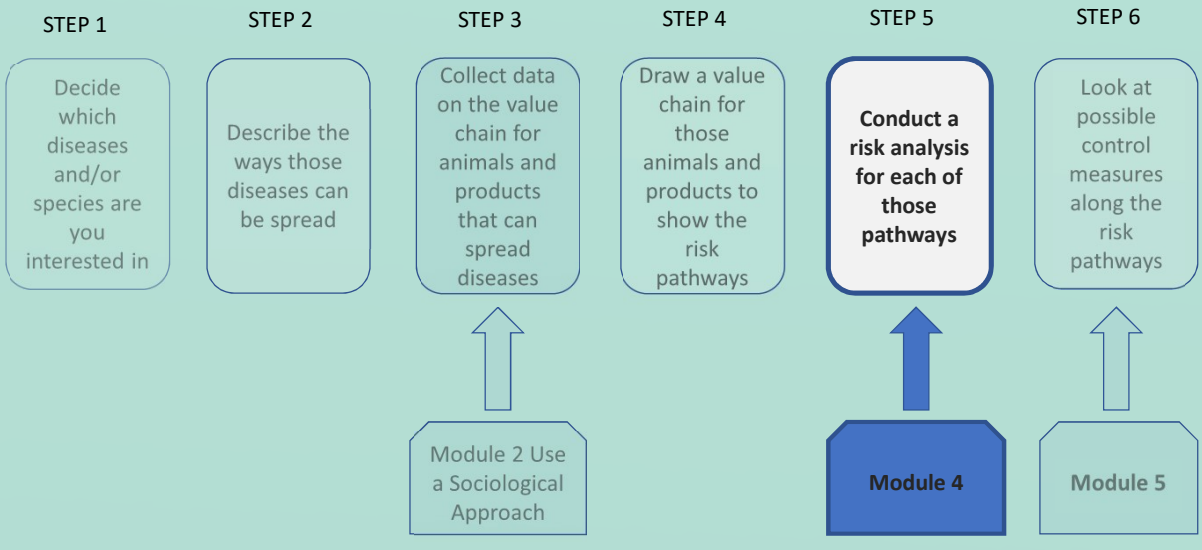
1. **List three problems you can see with constructing or using livestock value chains.**
2. **Write down one good animal and product movement value chain that might be helpful in your region.**
3. **A volunteer to read out their answers for 1. (or roll the random selection dice).**
4. **Do others have different points to add?**
5. **Repeat for 2.**

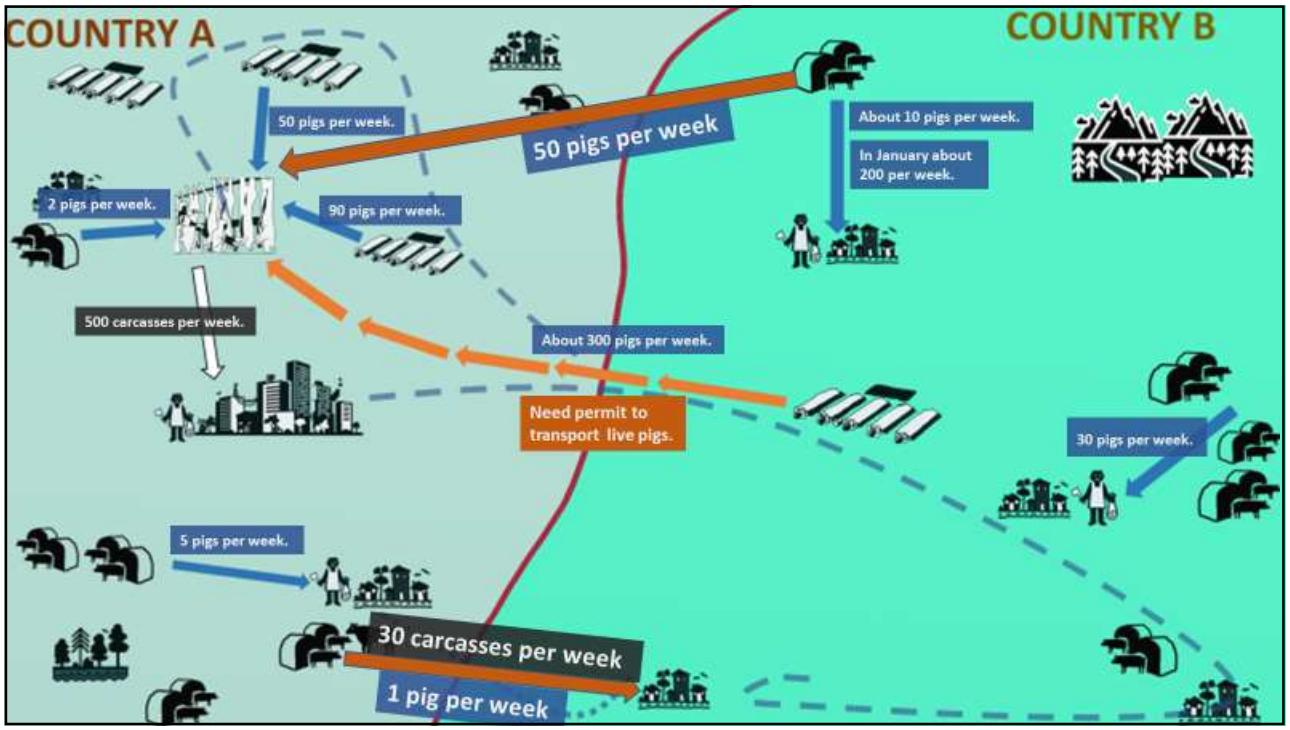
Value chain mapping and analysis provides a systematic framework for determining how people manage domestic livestock populations and their products.

Risk analysis provides a system for assessing disease risk within the livestock population.

Together they provide a basis for studying disease risk and risk mitigation in livestock value chains.

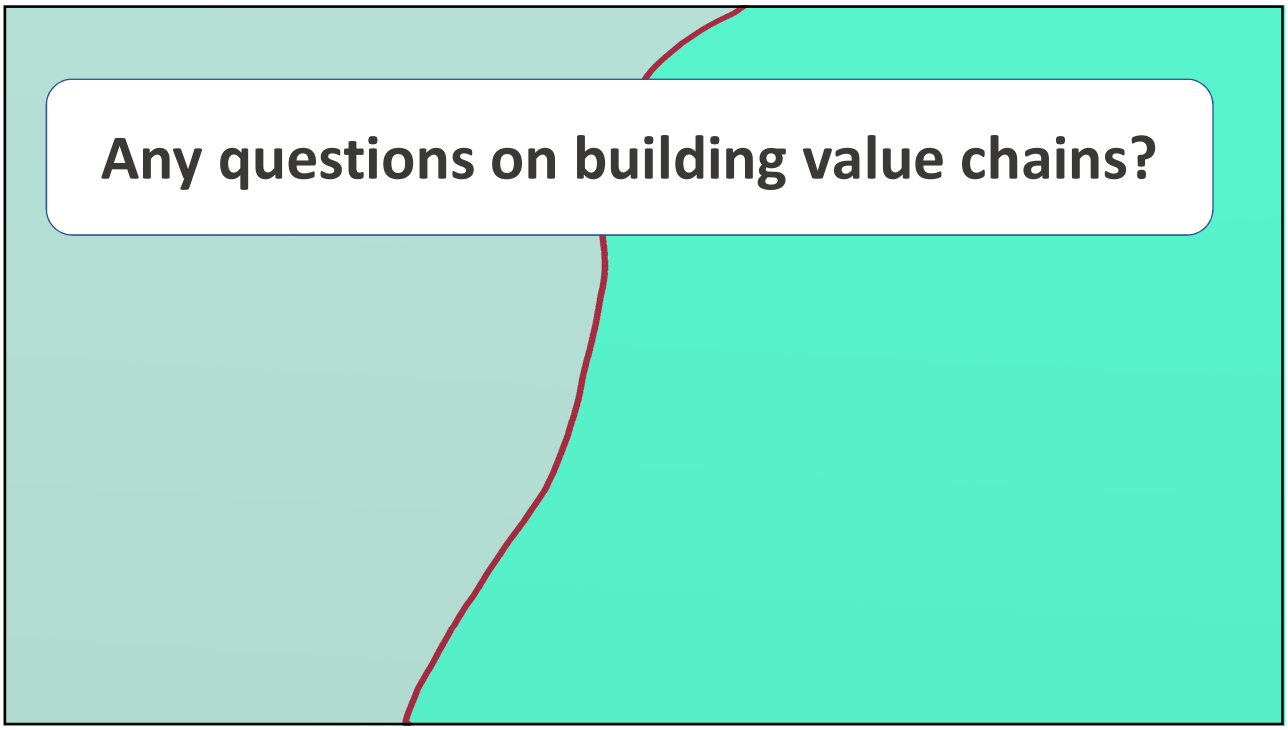
Next module:
Module 4 – Using risk analysis for the value chain.





Value chain descriptions provide a good starting point for risk analysis and can be used as part of a stakeholder consultation process to create useful discussions about risk issues and therefore promote good risk communication.

Risk analysis is looking for the predictable surprises: the disasters you should have seen coming.


Any questions on building value chains?