

FAO Risk based inspection toolkit and App

A practical case of digital support

RISK-BASED INSPECTION: FROM RISK CATEGORIZATION TO IMPLEMENTATION

How to design, implement and maintain a risk-based inspection programme

Catherine Bessy, Senior food safety officer, FAO

Risk categorization app

FAO Risk-based inspection resource kit



Food safety is crucial to secure public health and economic prosperity. Each year, millions of illnesses caused by food contaminants or foodborne pathogens lead to preventable deaths and significant economic losses. To safeguard consumers and enable fair trade practices, governments must implement and enforce robust national inspection programmes. These should be built on sound data and guided by a documented risk categorization framework that identifies higher-risk activities and products, ensuring efficient use of resources and more effective food control systems. This Resource Kit was developed to meet this need—supporting countries in building coherent, risk-based inspection programmes that strengthen food safety at every level.

Contact
food-control@fao.org

Risk categorization app



Food and Agriculture
Organization of the
United Nations

FAO food safety risk categorization model for low- and middle-income countries

Select a country

Please select a country...

PLEASE COMPLETE ALL FIELDS BEFORE PROCEEDING

Food Business Operator (FBO) annual production volume										
Product Type	Beef and lamb	Pork	Chicken and other poultry	Eggs	Dairy products	Fish and shellfish	Fruit and vegetables	Beverages	Bread, grains, pastas, and bakery products	Other foods including composite foods
Products that support growth of foodborne pathogens (e.g., raw meat, soft cheese) — annual kg										
Products where foodborne pathogens can survive without growth (e.g., fresh fruits, raw vegetables) — annual kg										
Products treated to reduce but not eliminate foodborne pathogens (e.g., fermented sausages) — annual kg										
Products treated to eliminate all foodborne pathogens (e.g., canned foods, fully cooked ready-to-eat meals) — annual kg										

Inherent Risk Factors

Direct distribution to vulnerable populations (e.g., hospitals, elderly care facilities, neonatal units)

Select...

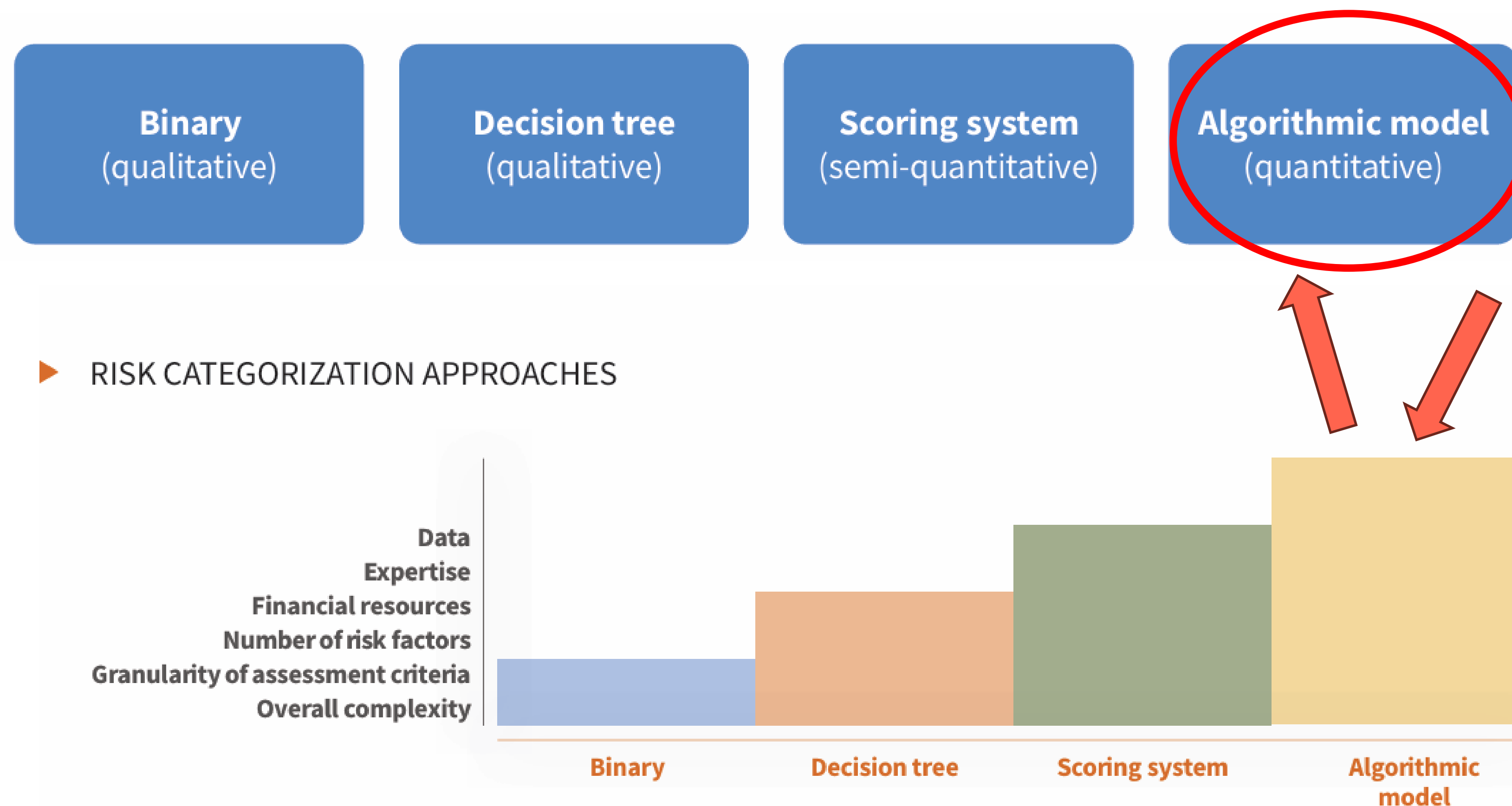
Food specifically intended for vulnerable populations (e.g., infant formula, meals for elderly individuals)

Select...



<https://foodandagricultureorganization.shinyapps.io/fao-food-safety-risk-categorization-model/>

Focus on: Risk categorization approaches



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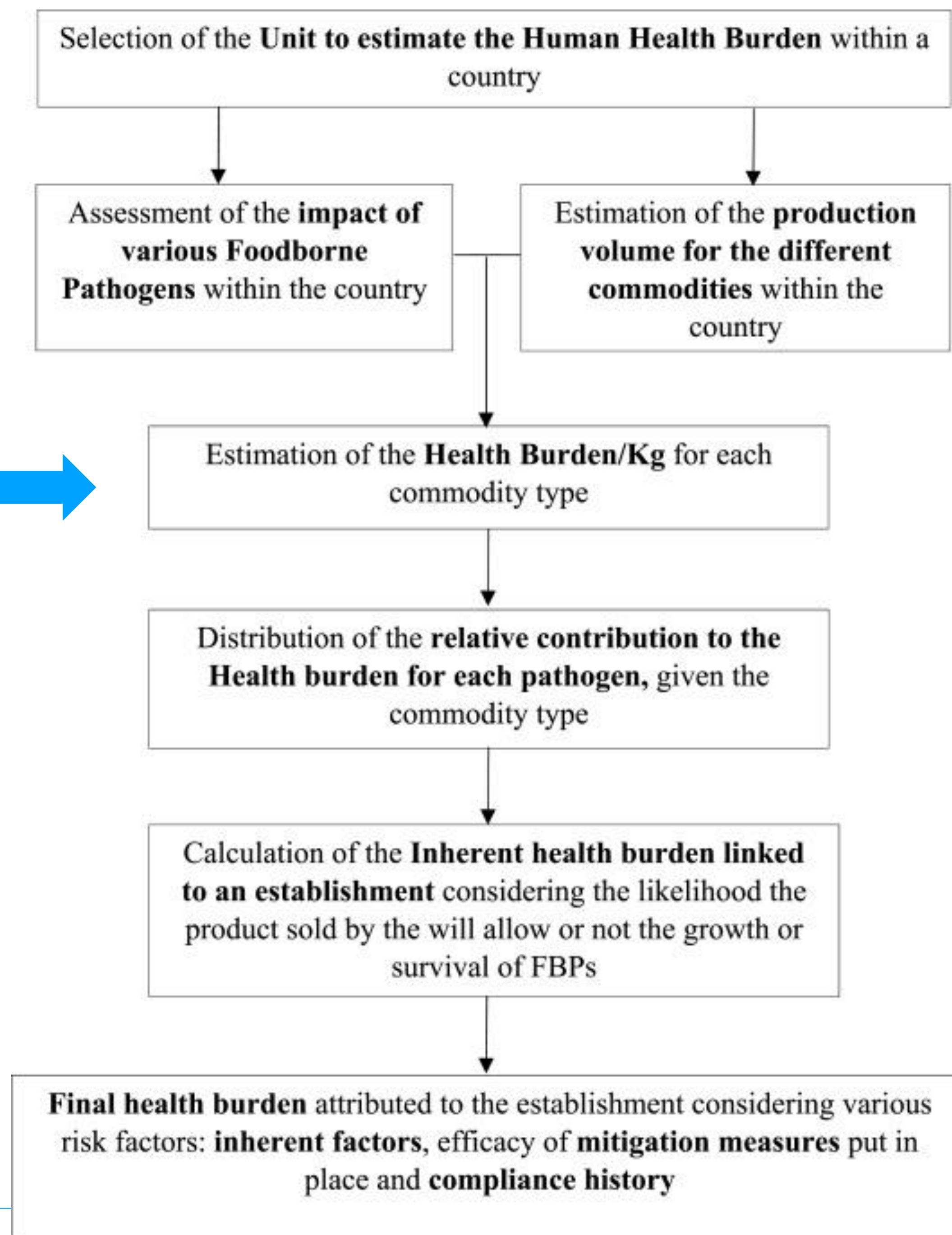
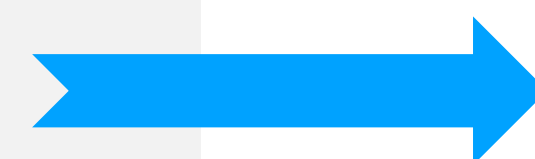
Development of a FAO model to support risk categorization of food business operators in low and middle-income countries: from model design to the selection and relative weighting of food-safety related risk factors ☆

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GOAL: development of a risk categorization algorithmic model to score food businesses according to their food safety risk



4 categories of risk factors: inherent, FBO, mitigation and compliance related

Mitigation Risk Factors

Certification or accreditation of the business food safety management system (e.g. HACCP, ISO 22000) by a reputable body

Select...

Official recognition by competent authorities for export eligibility

Select...

Functional and well-maintained sanitary facilities available for personnel (e.g., toilets)

Inherent Risk Factors

Direct distribution to vulnerable populations (e.g., hospitals, elderly care facilities, neonatal units)

Select...

Yes

No

Food specifically intended for vulnerable populations (e.g., infant formula, meals for elderly individuals)

Select...

Compliance Risk Factors

Current inspection identified at least one major food safety non-conformity

Select...

Yes

No

Previous inspection identified at least one major food safety non-conformity

Select...

The food
(e.g., per

Select.

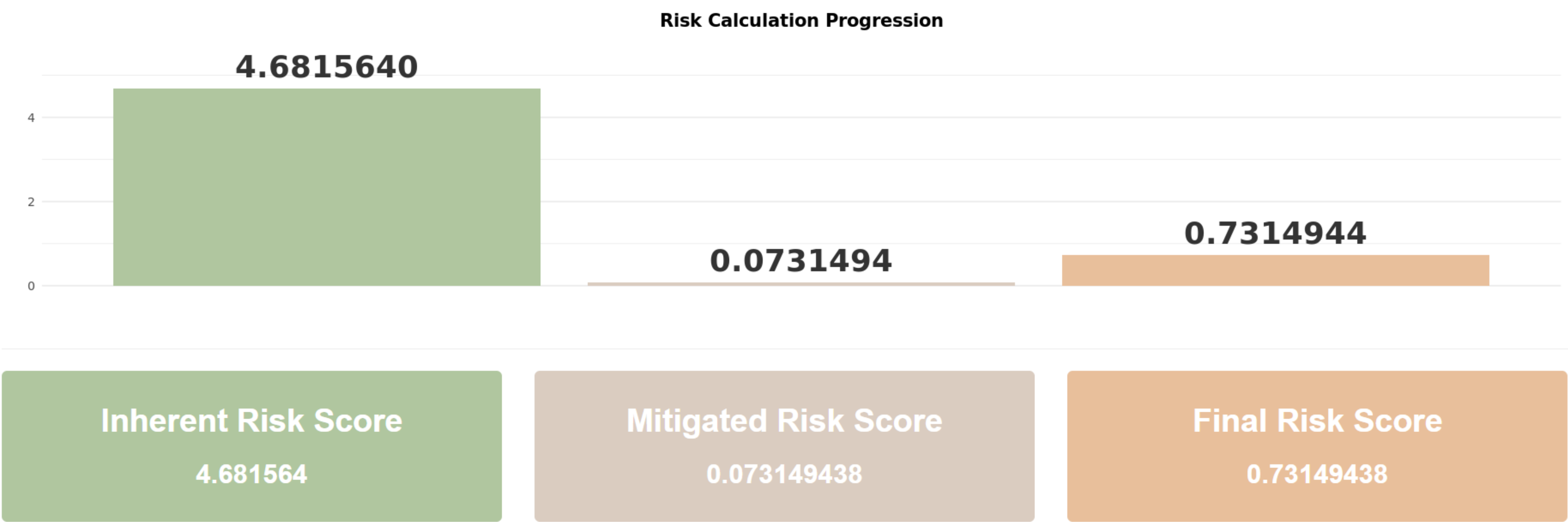
Food bu

Select.

Food Business Operator (FBO) annual production volume

Product Type	Beef and lamb	Pork	Chicken and other poultry	Eggs	Dairy products	Fish and shellfish
Products that support growth of foodborne pathogens (e.g., raw meat, soft cheese) — annual kg	0	0	0	0	0	0
Products where foodborne pathogens can survive without growth (e.g., fresh fruits, raw vegetables) — annual kg	0	0	0	0	0	0
Products treated to reduce but not eliminate foodborne pathogens (e.g., fermented sausages) — annual kg	0	0	0	0	0	0
Products treated to eliminate all foodborne pathogens (e.g., canned foods, fully cooked ready-to-eat meals) — annual kg	0	0	0	0	0	0

Overall risk score for one FBO (fictitious example)



How do you use these results?



EXAMPLE 1

Inspection frequencies when resources are sufficient to inspect all FBOs on an annual basis.

Three inspection priorities	Inspection frequency
High	3 inspections per year
Medium	2 inspections per year
Low	1 inspection per year

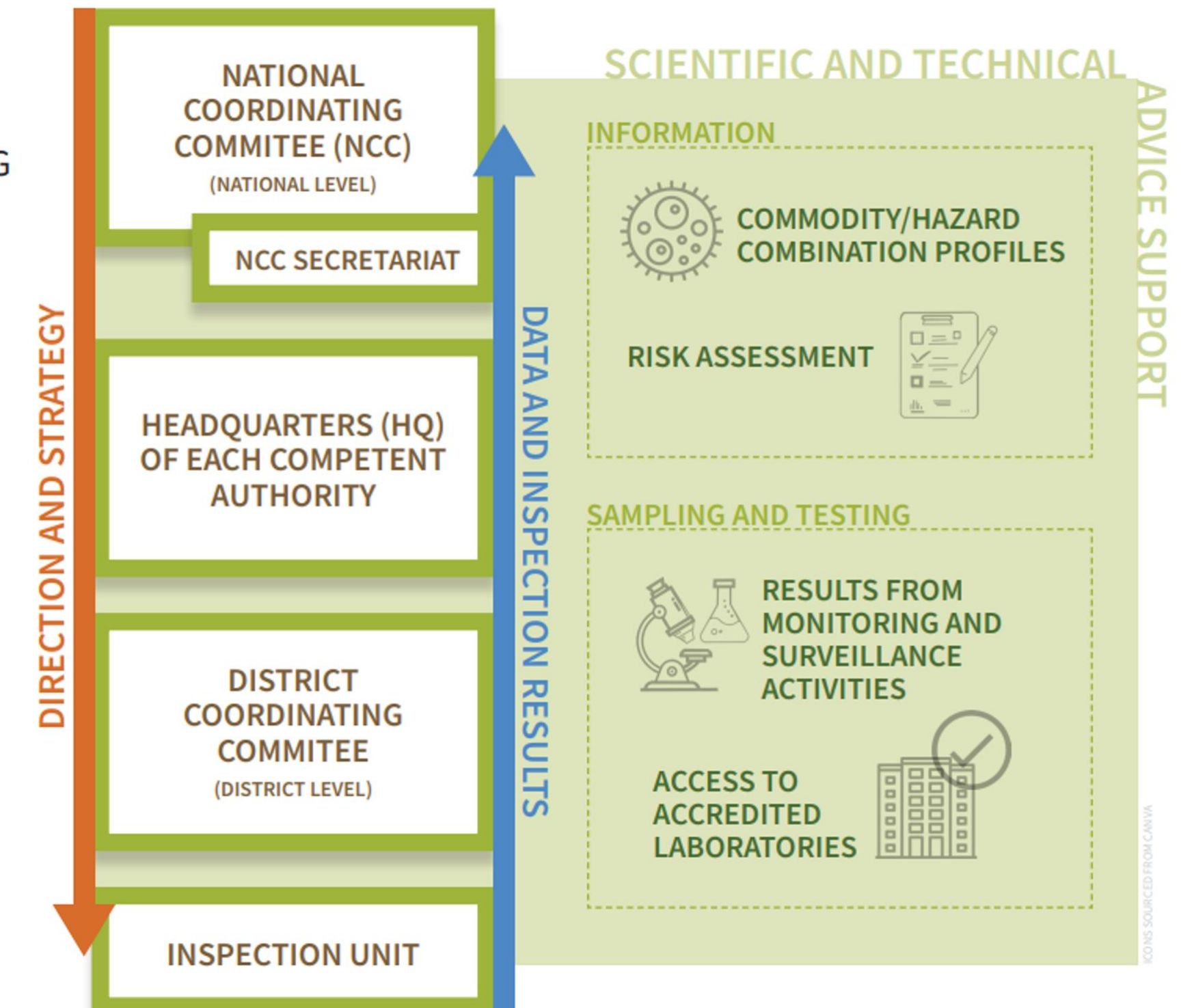
EXAMPLE

COMPETENT AUTHORITIES

► MULTI-LEVEL PROGRAMMING FOR RISK-BASED FOOD INSPECTION

Direction and strategy are set top-down across hierarchical levels of the country's organizational structure.

Data and inspection results are collected bottom-up.



Conclusions

- **App is a support** to generating risk estimates – need for Competent authorities to build their own “lists” and obtain relative risks.
- Guidance and App **work together**
- App is a support to **human expertise**; it builds on it– it is **not a substitute**
- **Reliability and consistency** of information inputted is paramount
- Feedback on users’ experience would be most welcome – we plan an update with the 2026 FERG data: opportunity for improvements

