

Food Systems and Food Safety Division (ESF)

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Role of ESF

- Developing sustainable agrifood systems
- Integrating FAO's resources to provide improved policy guidance and targeted investment in agrifood systems

Agrifood Systems Transformation Unit

Key Activities

- Sustainable value chain development
- Food loss and waste
- Urban food agenda
- Support to the implementation of national pathways

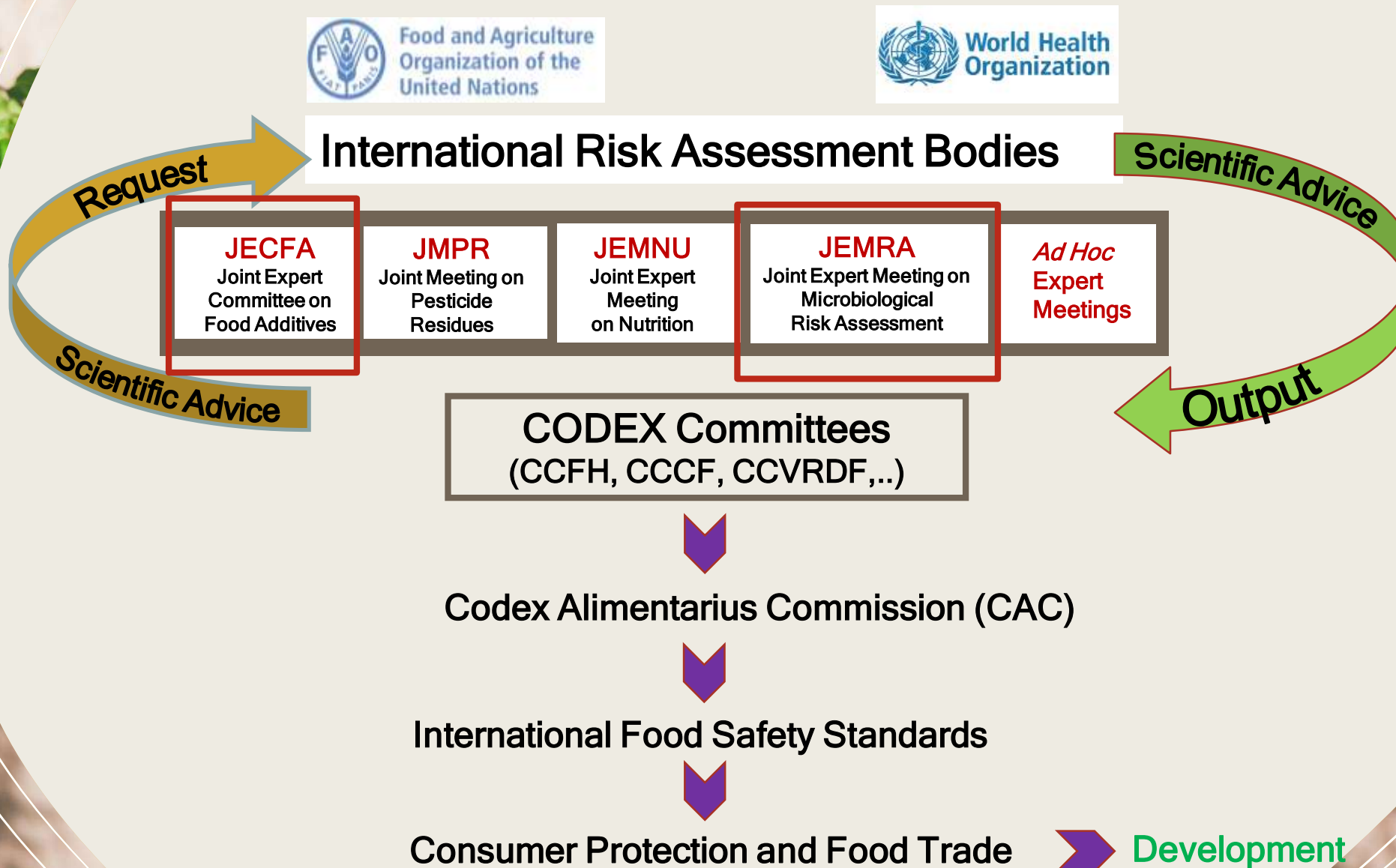
Food Safety Unit

Key Activities

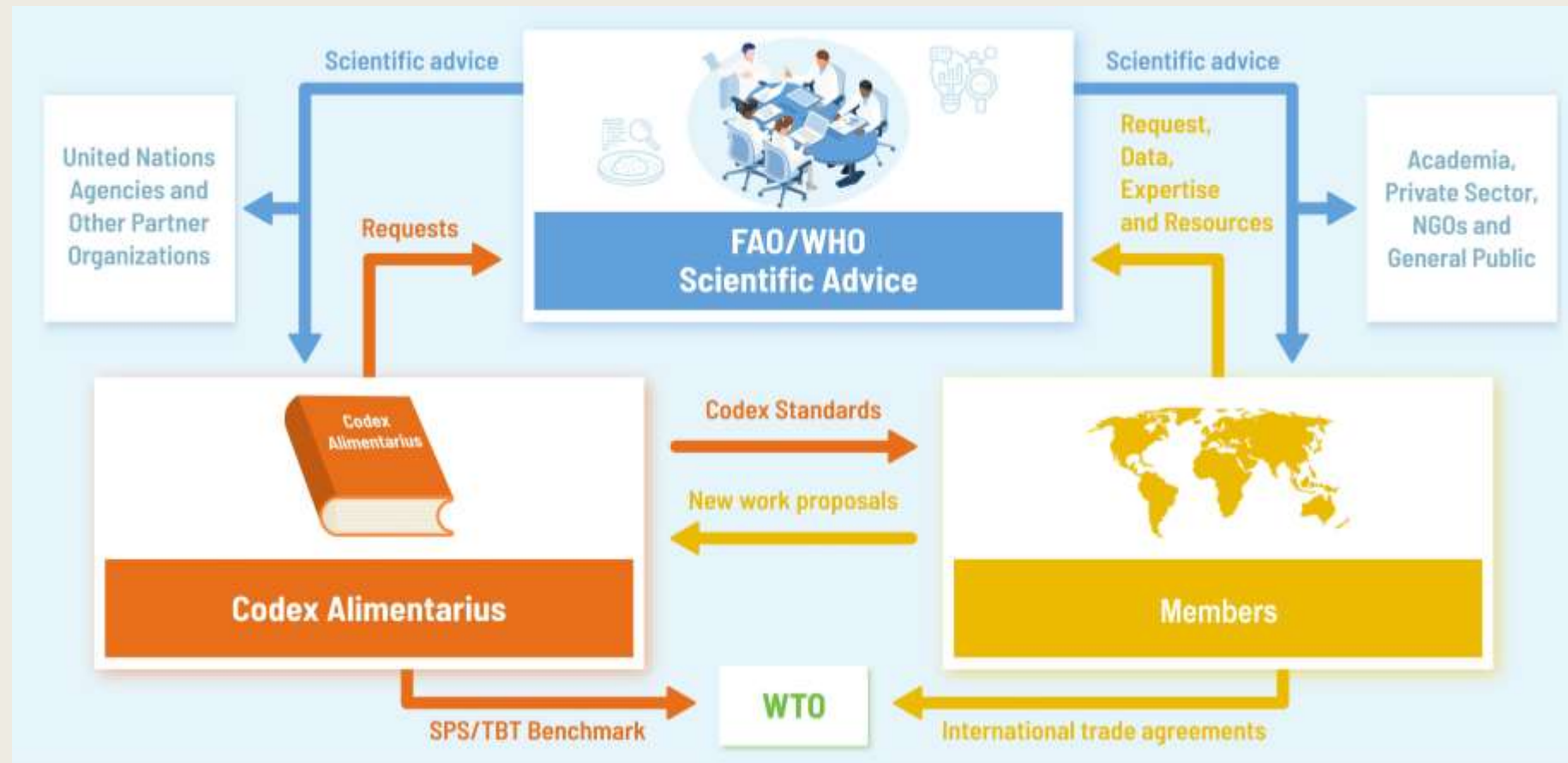
- Strengthening national food control capacities
- Science-based food safety governance and decisions
- Food safety intelligence and foresight
- Food safety databases and platforms



Science-based food safety governance and decisions: scientific advice



Science-based food safety governance and decisions: scientific advice





FAO Food Safety Foresight Programme

What is foresight?

Foresight is a way of thinking about change. It does *not* predict the future

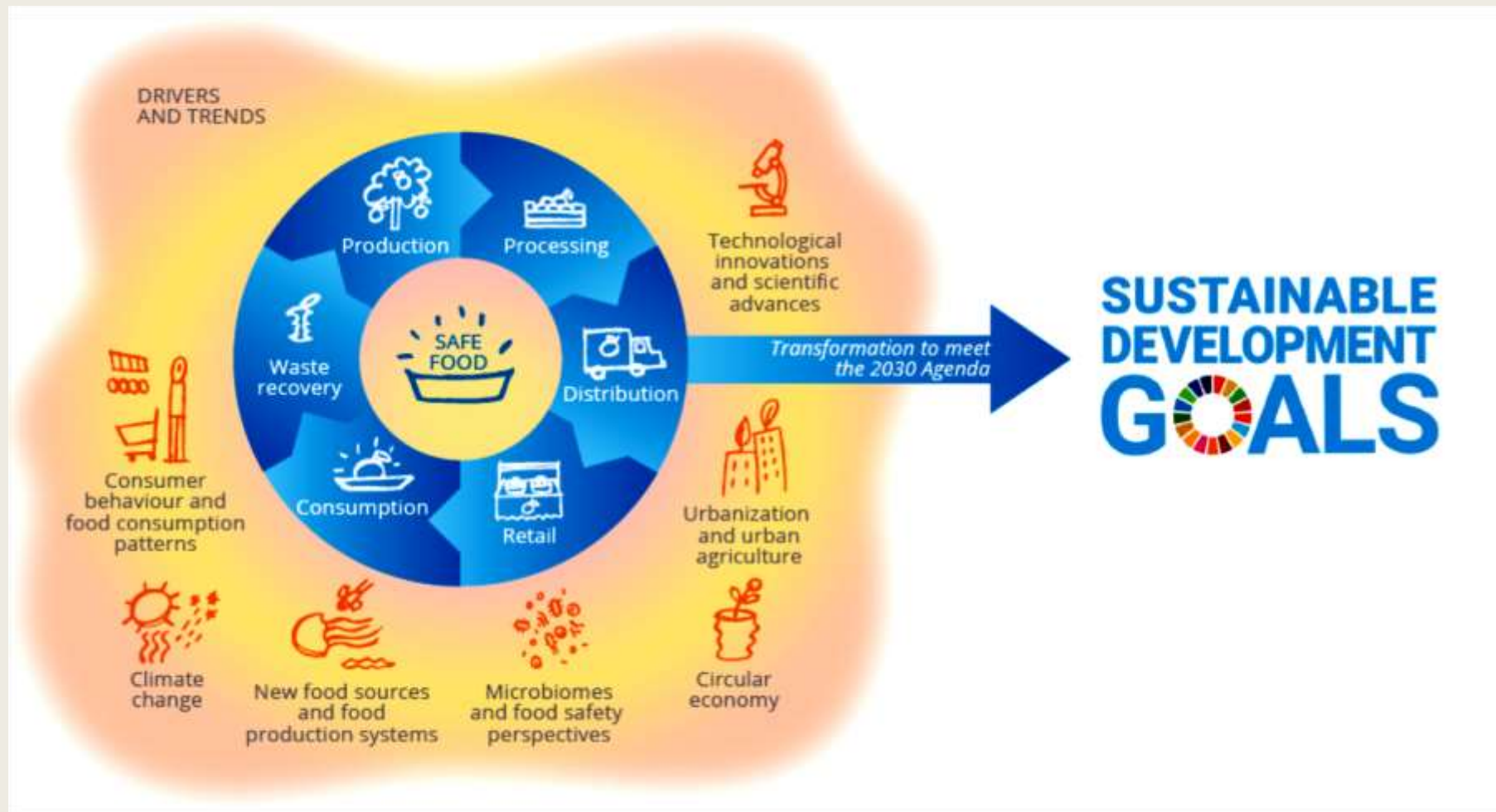
Structured set of approaches for gathering and interpreting information from the fringes.

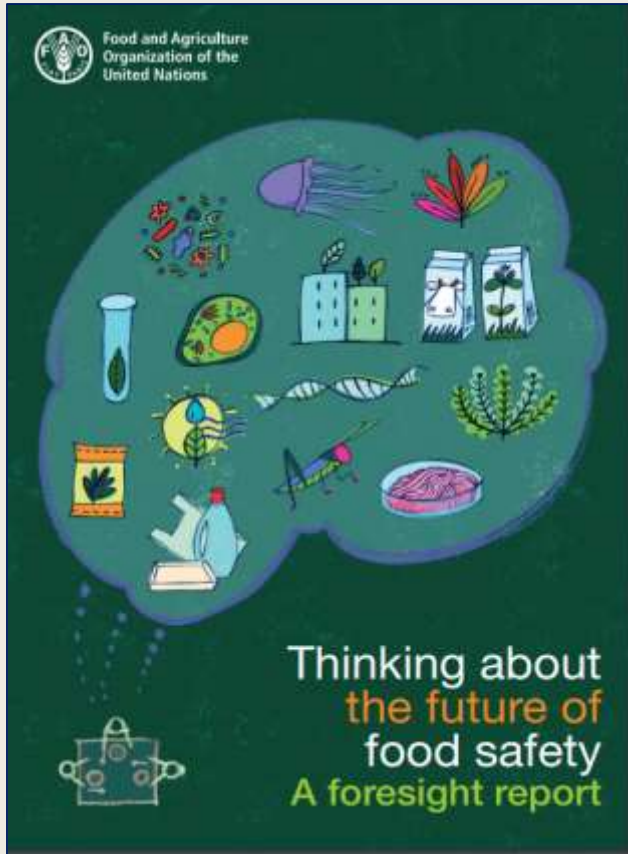
Leads to the development of proactive strategies/plans to prepare for and address emerging issues in advance of their occurrence.

But why do we need it in food safety?



Changing agrifood systems invites more complexities in food safety





Climate change

Changing consumer behaviour

New food sources and food production systems

Urban agriculture


Circular economy

Microbiome science


Technological innovations

Food fraud

Climate change and food safety impacts



Food and Agriculture Organization of the United Nations



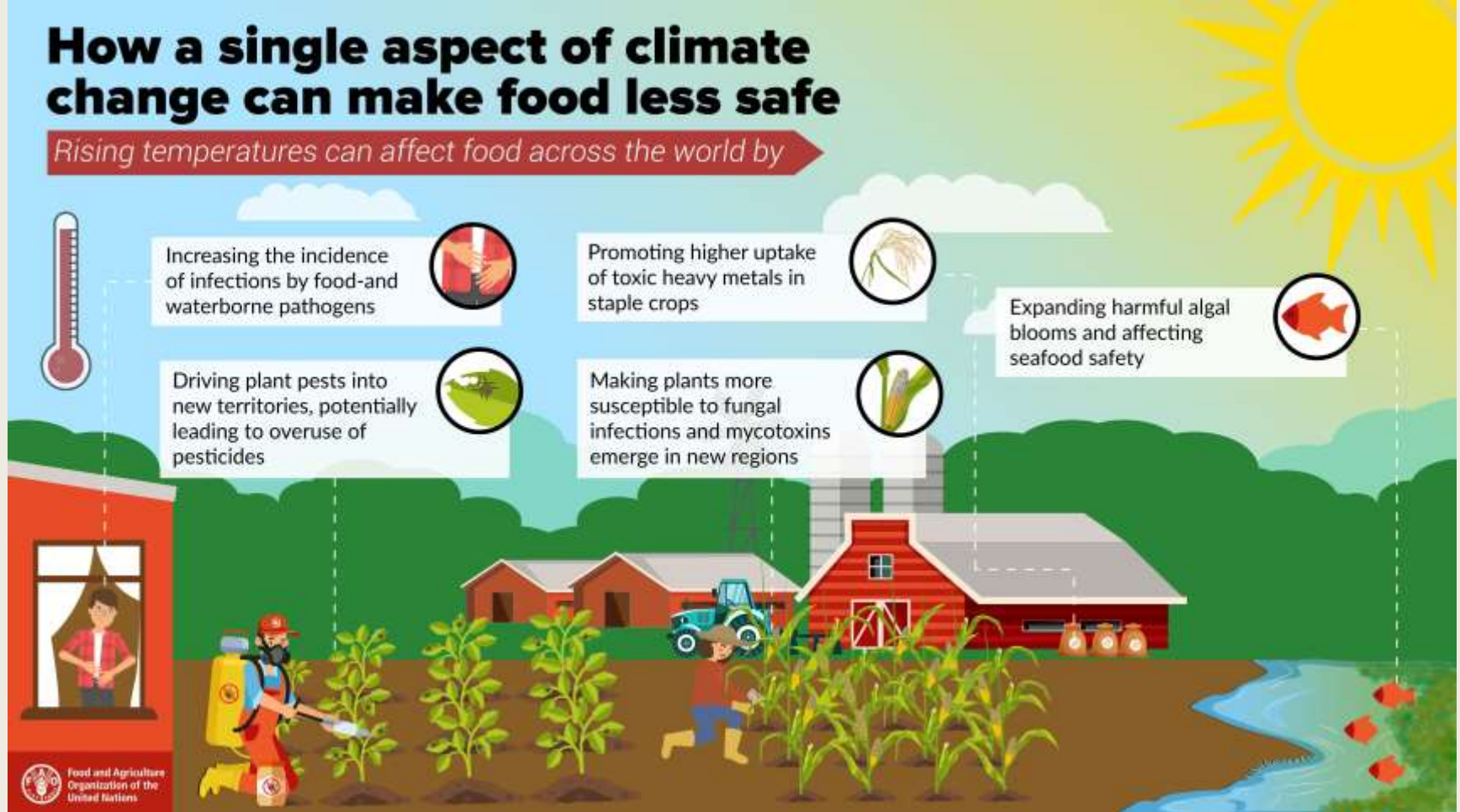
**CLIMATE CHANGE:
UNPACKING THE BURDEN
ON FOOD SAFETY**



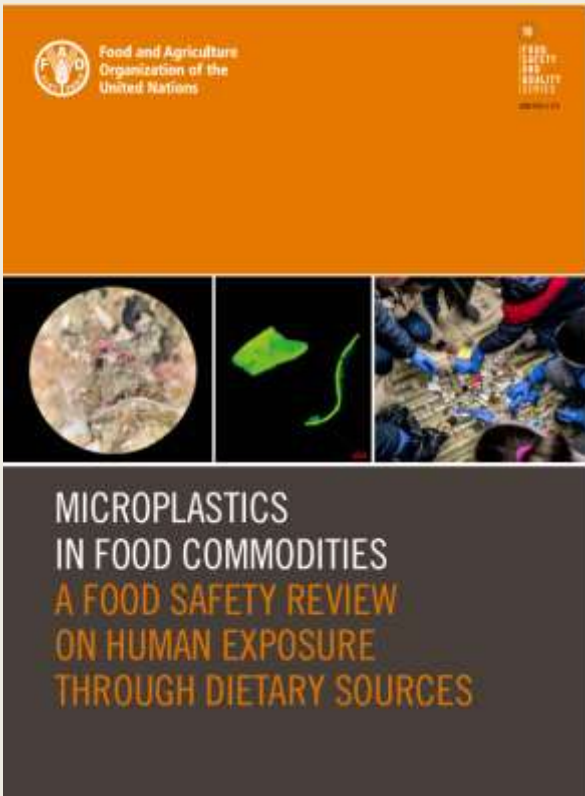
How a single aspect of climate change can make food less safe

Rising temperatures can affect food across the world by

- Increasing the incidence of infections by food- and waterborne pathogens
- Promoting higher uptake of toxic heavy metals in staple crops
- Expanding harmful algal blooms and affecting seafood safety
- Driving plant pests into new territories, potentially leading to overuse of pesticides
- Making plants more susceptible to fungal infections and mycotoxins emerge in new regions



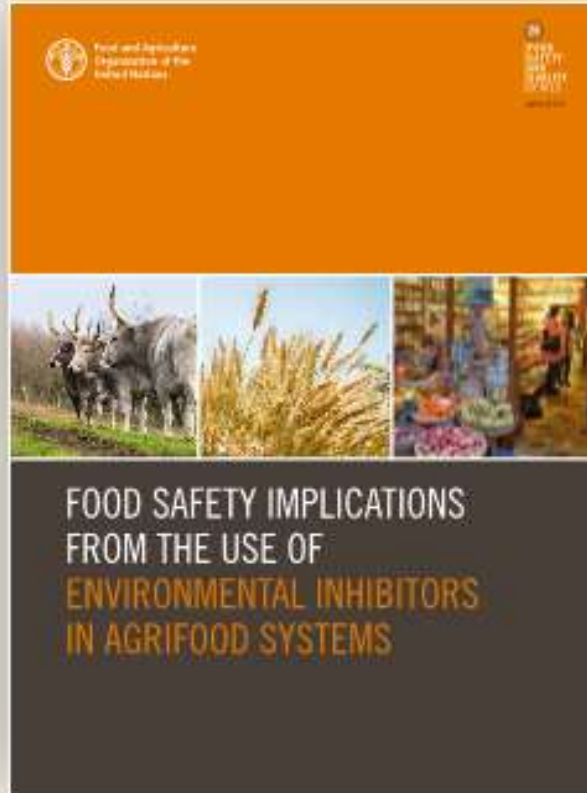
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Microplastics – human exposure through dietary sources

- Soil is an underestimated sink for microplastics with implications for human health
- Uptake of microplastics by terrestrial plants
- Methodologies for sampling, sample preparation and analysis of microplastics in foods are neither harmonized nor standardized
- No legislation that specifically regulates the presence of microplastics in foodstuffs and food safety

Food safety implications of Environmental Inhibitors



Substances that reduce negative impacts on the environment while improving the production efficiency of crops and livestock

Methanogenesis inhibitors

To reduce methane emissions resulting from enteric fermentation of ruminants and from other agricultural sources (e.g. rice paddies or manure)

Nitrogen inhibitors

To limit the loss of nitrogen from farmlands by slowing down natural processes which lead to its leakage and volatilization



Food safety implications

Regulatory frameworks

Knowledge gaps

Current areas of work

- Emerging contaminants
- Circular economy – water safety, food loss and waste
- Climate change
- Digitalization
- Food packaging alternatives
- New food sources and production systems
- Etc..



Foresight is institutionally embedded





Thank You

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