



General principles of risk assessment and risk management

safe

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FOODS

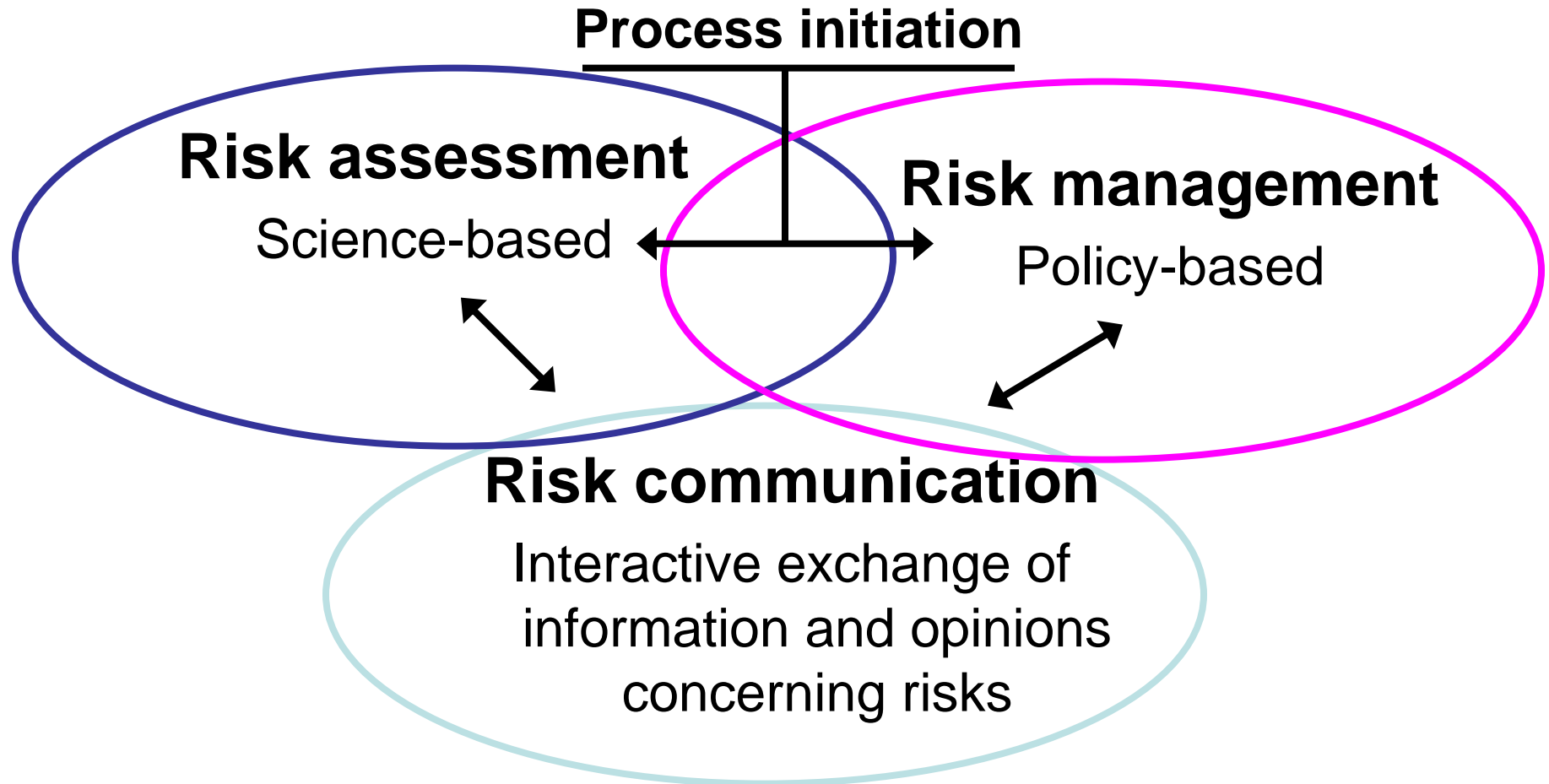


Food and feed safety

- Safety: an issue since ancient times
 - For example, mycotoxins
- Safety has increased over the last century
 - For example, technology, legislation
- Awareness increased by recent incidents
 - For example, mad cow's disease



Model for risk assessment (safety assessment)

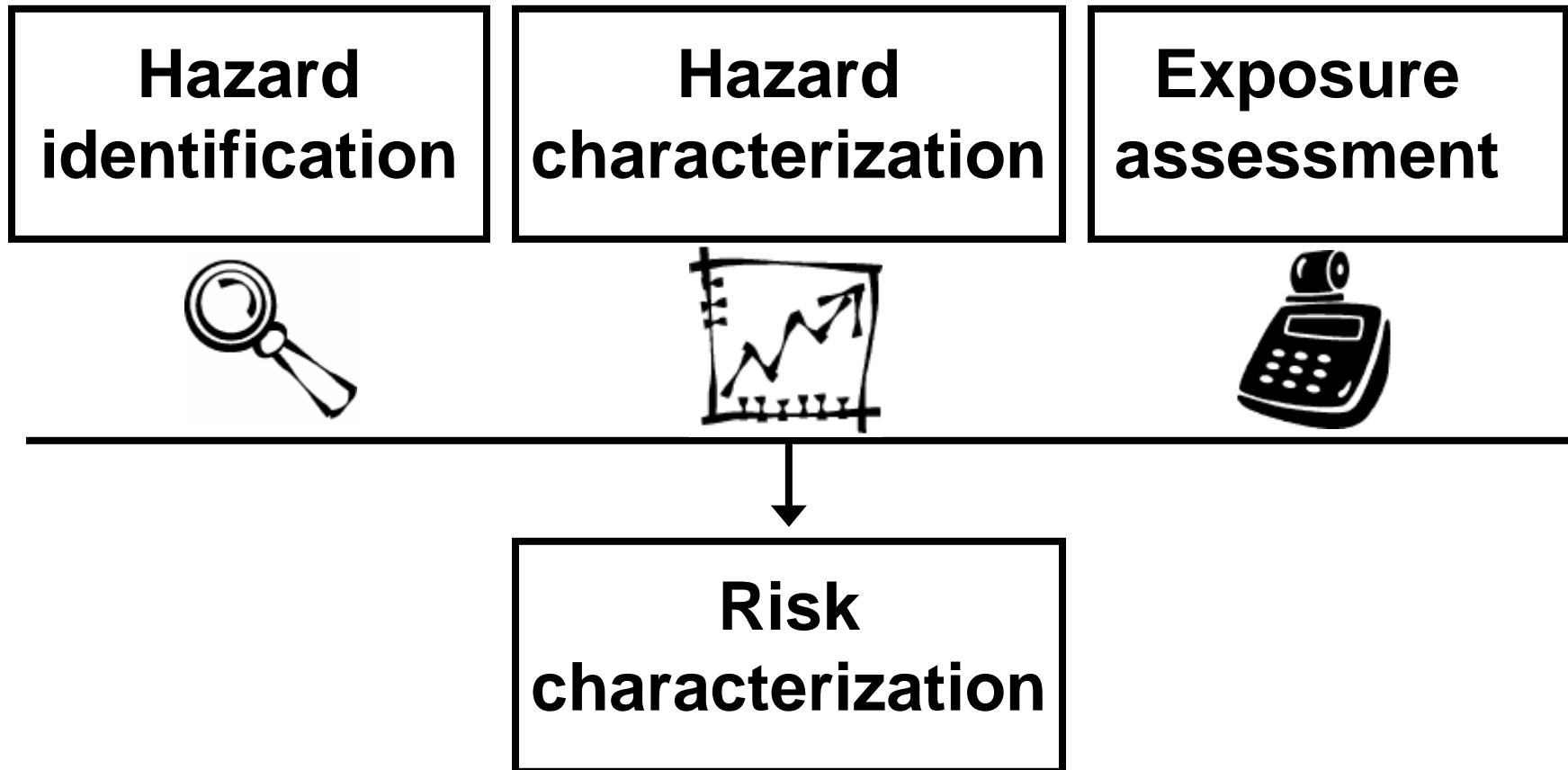


Model for risk assessment (safety assessment)

- Risk assessment: Part of risk analysis
 - Risk assessment, risk communication, and risk management
- Risk assessment
 - Hazard identification, hazard characterization, exposure estimation, risk characterization
- Comparative safety assessment for GMOs
 - Comparison with conventional counterpart



Risk assessment (FAO/WHO)



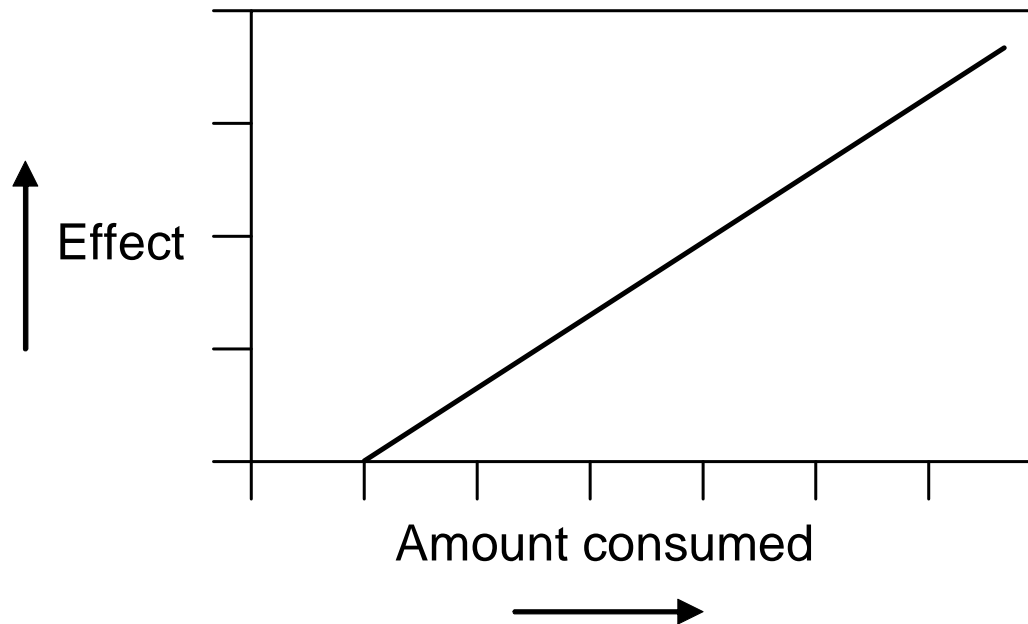
Hazard characterization

“Only the dose makes a poison a poison”
(Paracelsus)

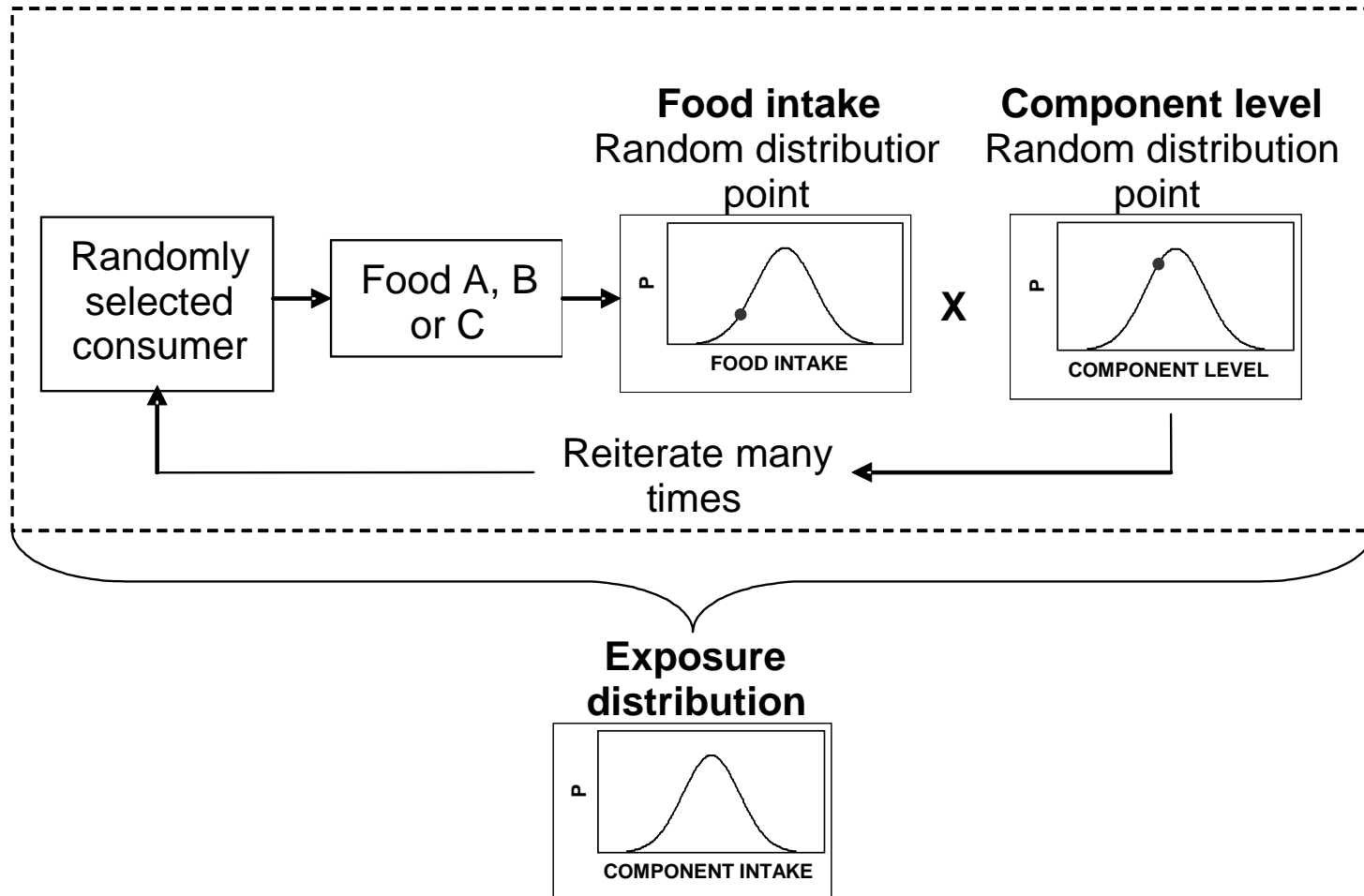


Hazard characterization

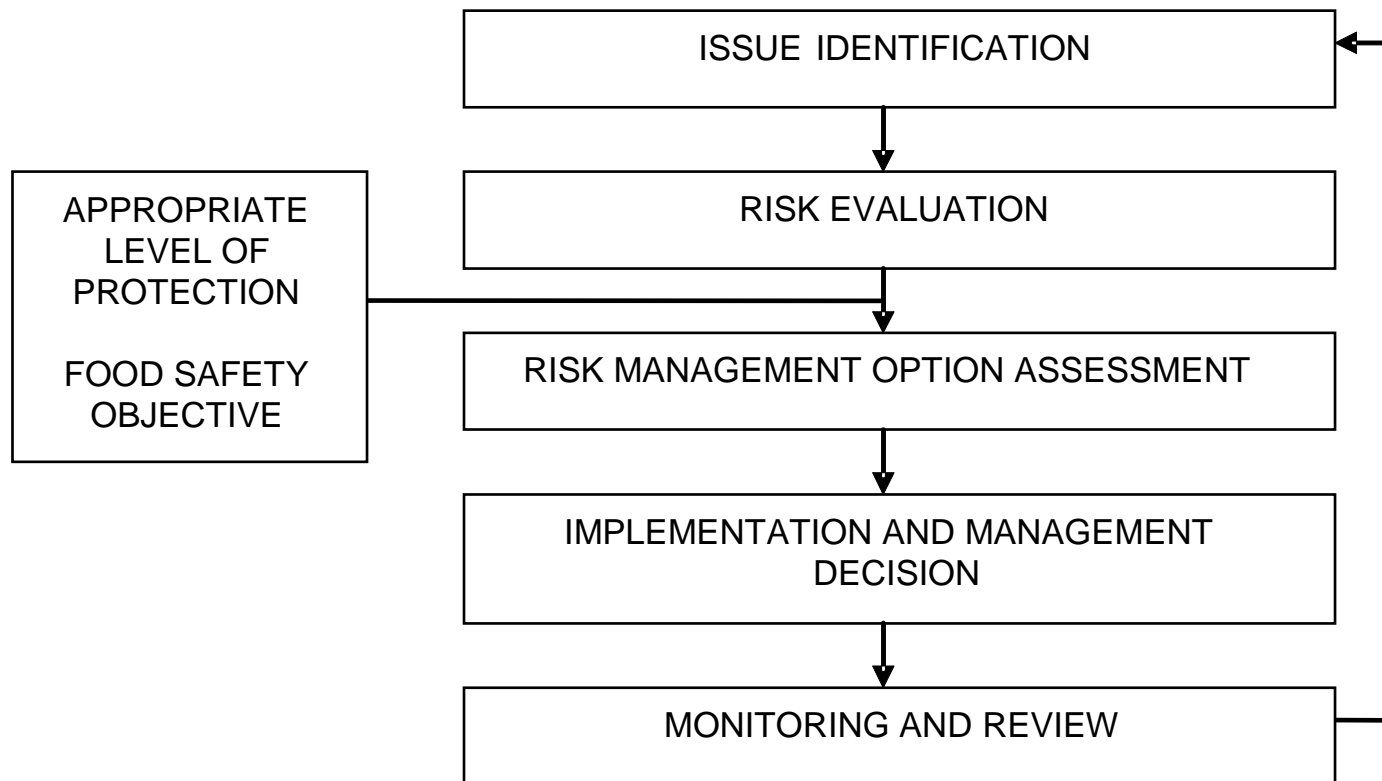
Dose-response relationship



Exposure assessment



Model for risk management



Issue identification and risk evaluation

- Assignment of risk managers
- Risk profile
- Risk assessment policy
 - Goals
 - Priorities
 - Information needed
- Risk evaluation
 - Uncertainties
 - Regional differences



Assessment of management options (1)

- Appropriate level of protection / risk (ALOP/ALR)
- Options to achieve this level
 - Food Safety Objective (FSO)
 - At moment of consumption
 - Linked to ALOP through “performance criteria”
 - Management measures
 - Practices, labeling, HACCP etc.



Assessment of management options (2)

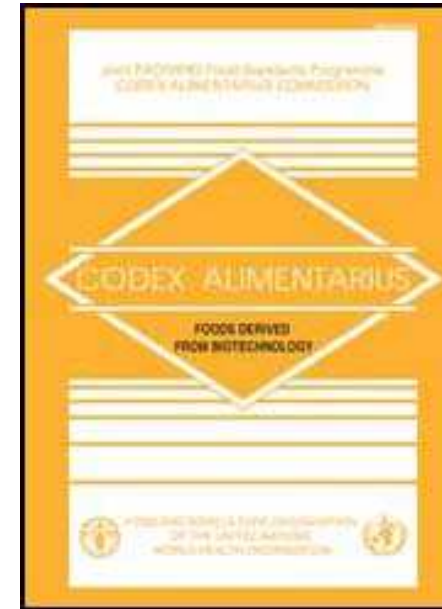
- Considerations besides public health:
 - Food manufacture chain
 - Controllability, feasibility, preferences
- Assessment of different options
 - Together with stakeholders, transparent
 - Proportional to the risk
 - Acceptable protection as well as feasible



Codex alimentarius: global food safety



Source: Memorial Roberto Resende



**Foods derived from
biotechnology**

Source: FAO

**Thanks!
Any questions?**

