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Food Risk Analysis and Regulatory  
Excellence Platform

# Risk Analysis to Support Food Regulatory Decisions

*2024 Egyptian Global Food Safety Symposium (EGFoSS)*

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# Introducing GFoRSS



- ❑ A not-for-profit organization incorporated according to the laws of the province of Québec and the Canadian Confederation – Created in 2019.
- ❑ **Disciplinary Group of the International Union of Food Science and Technology – for Food Regulatory Science:** IUFoST is the Global voice of Food Science and Technology.
- ❑ Represents IUFoST – Codex Observer – at Codex Meetings.

[www.gforss.org](http://www.gforss.org)



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## OBJECTIVE

To promote the generation and dissemination of knowledge and competencies related to food regulatory sciences:

*All scientific – experimental and social sciences – disciplines applied in the context of developing and understanding food regulatory decisions including, but not limited to, food risk analysis and associated disciplines, food law and economic impact assessment of food regulatory measures.*



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# Food Safety: Everyone's Business

## Food Safety Management Requires a Collaborative Approach

### ❑ Industry

- Farmers, food manufacturers, food distributors, food service establishments and retailers



### ❑ Consumers



### ❑ Government(s)/Regulators



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# Important Role of the Regulator

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- ❑ Oversight on Managing the Interaction between Food Producers and Consumers
- ❑ Delegated Authority of Consumers to Protect them from Health Concerns and Fraud:

**Empowered to Make Decisions on behalf of the Public (Consumers)**



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## Primary Risk Manager:

☐ Provides Direction and Guidance for Risk Management Approach

- Regulatory Measures
- Non-regulatory Measures



# Food Regulator's Mandate

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- ❑ Robust decisions call for a structured, evidence-based and documented approach
- ❑ Direction from Codex: CAC/GL82-2013



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# Robustness of the Decision-Making Process

☐ Trust in its Integrity

☐ Predictability

*T r a n s p a r e n c y*  
*S t r u c t u r e*



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# Risk Analysis Provides Structure to Food Regulatory Decisions

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- ❑ **Risk Analysis** is the **logical framework** that underlies **decision-making** concerning all kinds of risks (not only for food safety and nutrition)
- ❑ Applied to Food Safety and Nutrition Decision-Making Developed through the FAO/WHO Food Standards Program and particularly the Codex Alimentarius Commission (Codex)



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# Definition of Food Risk Analysis

*An **iterative and highly interactive** process that should be followed by food **decision-makers** to address food safety and nutrition issues, using **robust evidence**, including **scientific information** and regular exchange with all parties and stakeholders involved*

**Comprises 3 components :**

**Risk Assessment**

**Risk Management**

**Risk Communication**



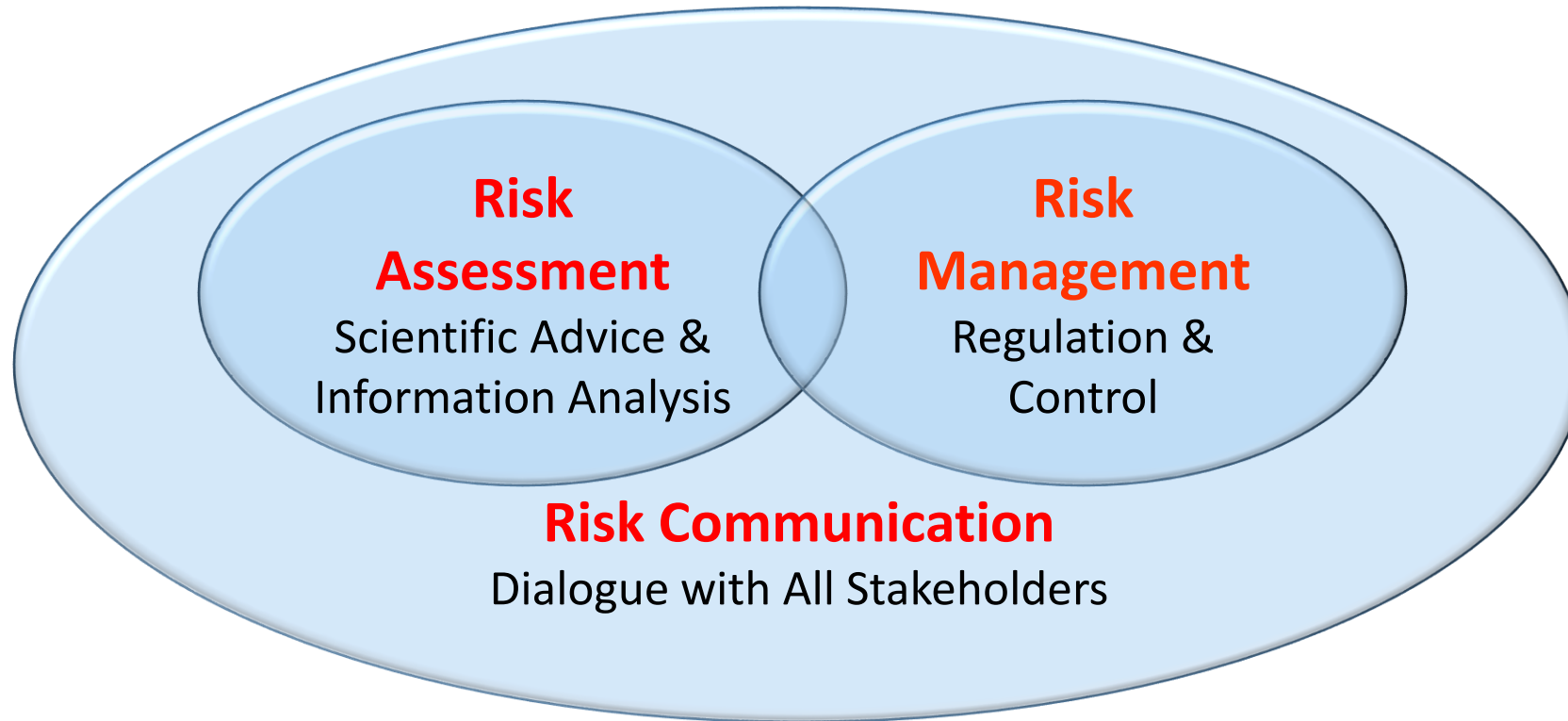
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# Risk Analysis Paradigm Provides Structure

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## Robust Food Decisions



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# Guidance from International Organizations

FAO and WHO have prepared **practical guidance** on the application of risk analysis.

This publication provides **relevant background information and guidance** for national regulators and other officials to assist in their capacity-building efforts.



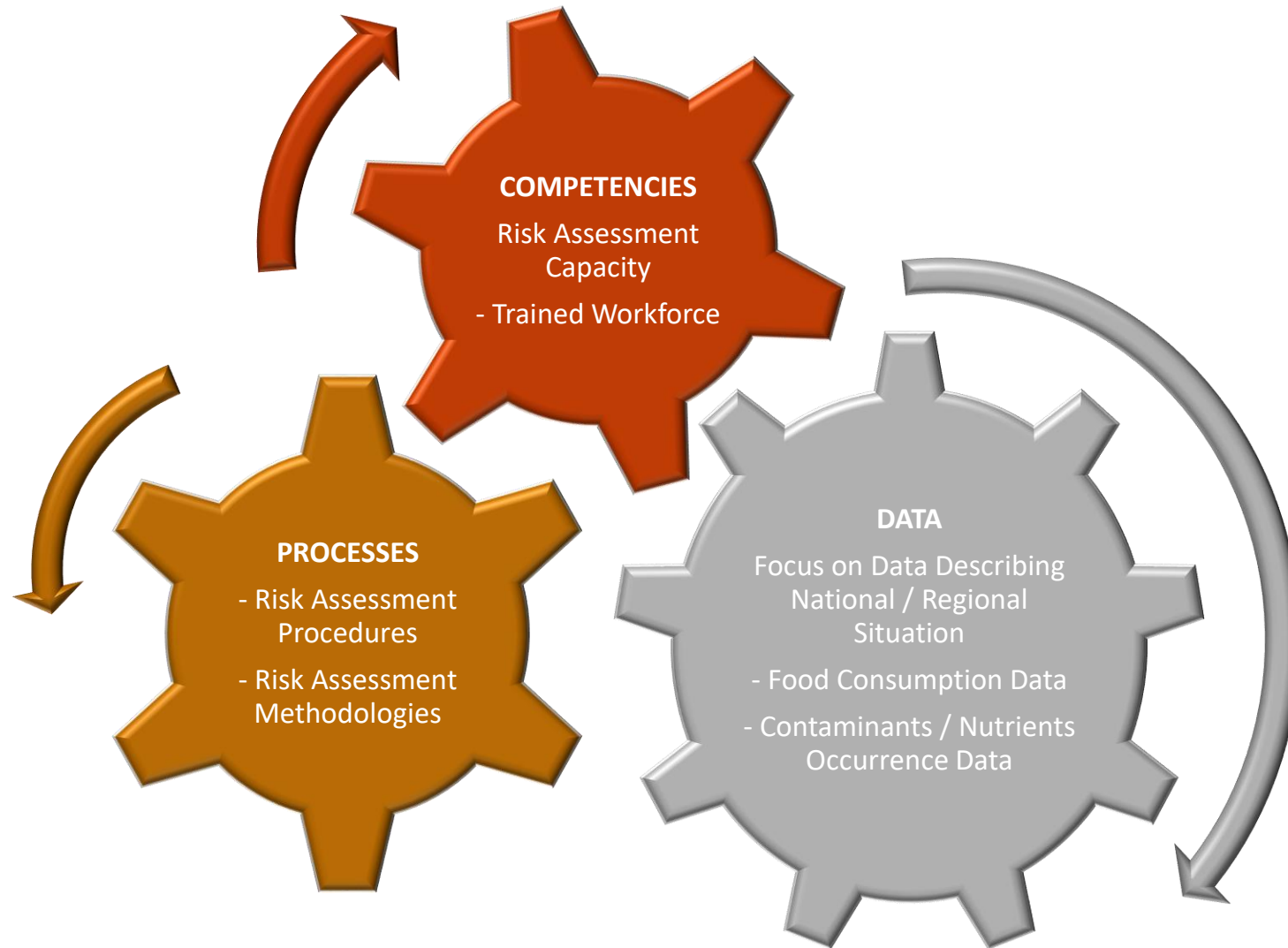
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# Pre-requisites for Applying Food Risk Analysis

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# Risk Managers and Risk Assessors

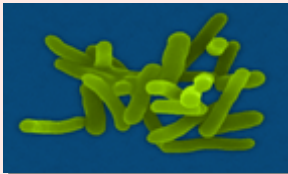
## International Risk Assessment



- JECFA  
(food additives,  
veterinary drug residues,  
contaminants in food)



- JMPR  
(pesticide residues in  
food)



- JEMRA (microbiological  
hazards in food)



- ad hoc expert  
consultations

Scientific  
advice

Requests for  
advice, risk  
assessment

## International Risk Manager

**CODEX  
ALIMENTARIUS  
COMMISSION**

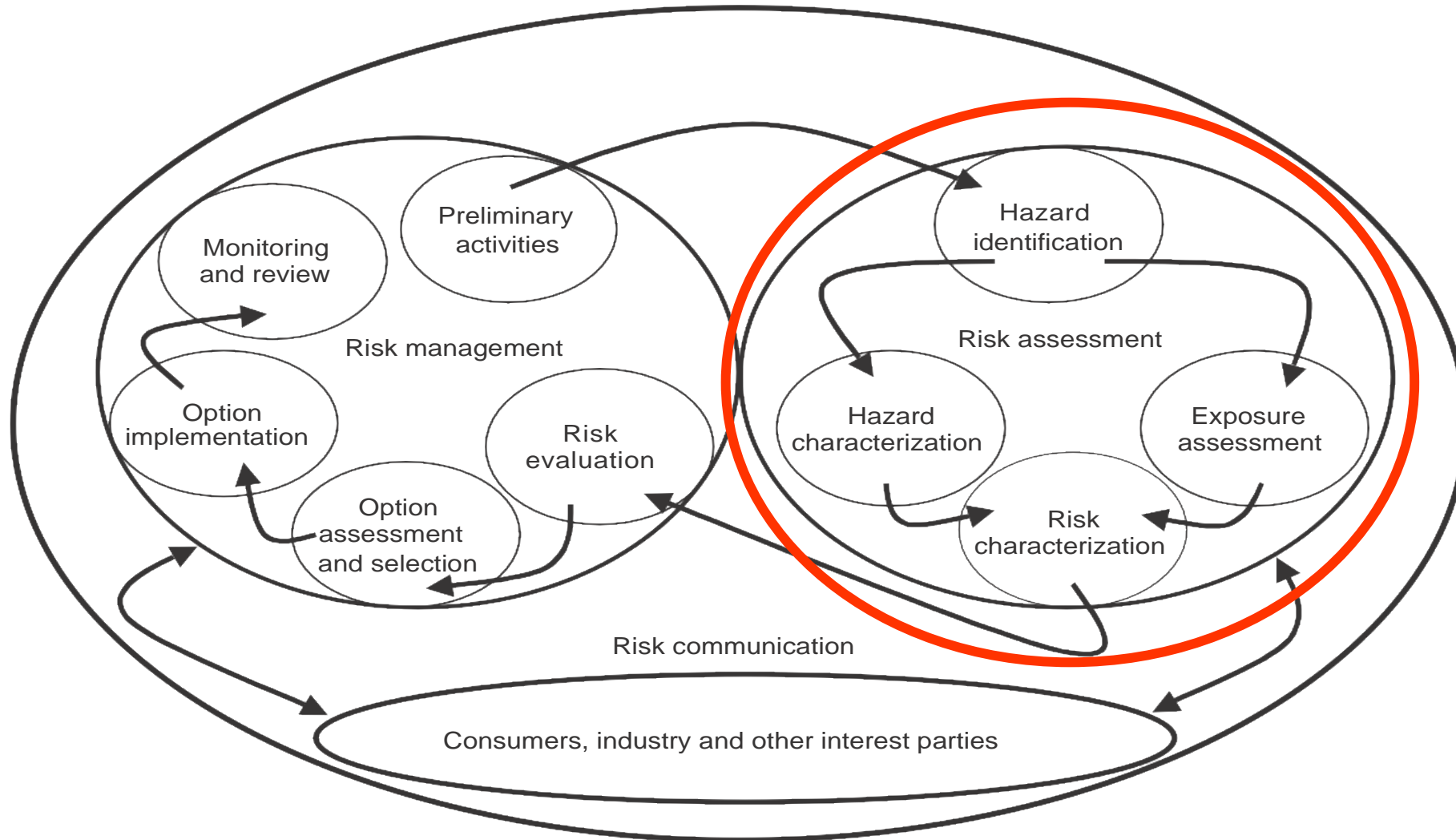


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# Need to “Localize” Risk Analysis and Risk Assessment ...

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## ❑ Lack Data Supporting:

- Level and patterns of consumption of food products : Critical for exposure assessment
- Data in relation with occurrence of contaminants in food



## ❑ Geography Matters:

- Food availability / patterns of food production & patterns of food consumption are changing with significant impact on risk characterization



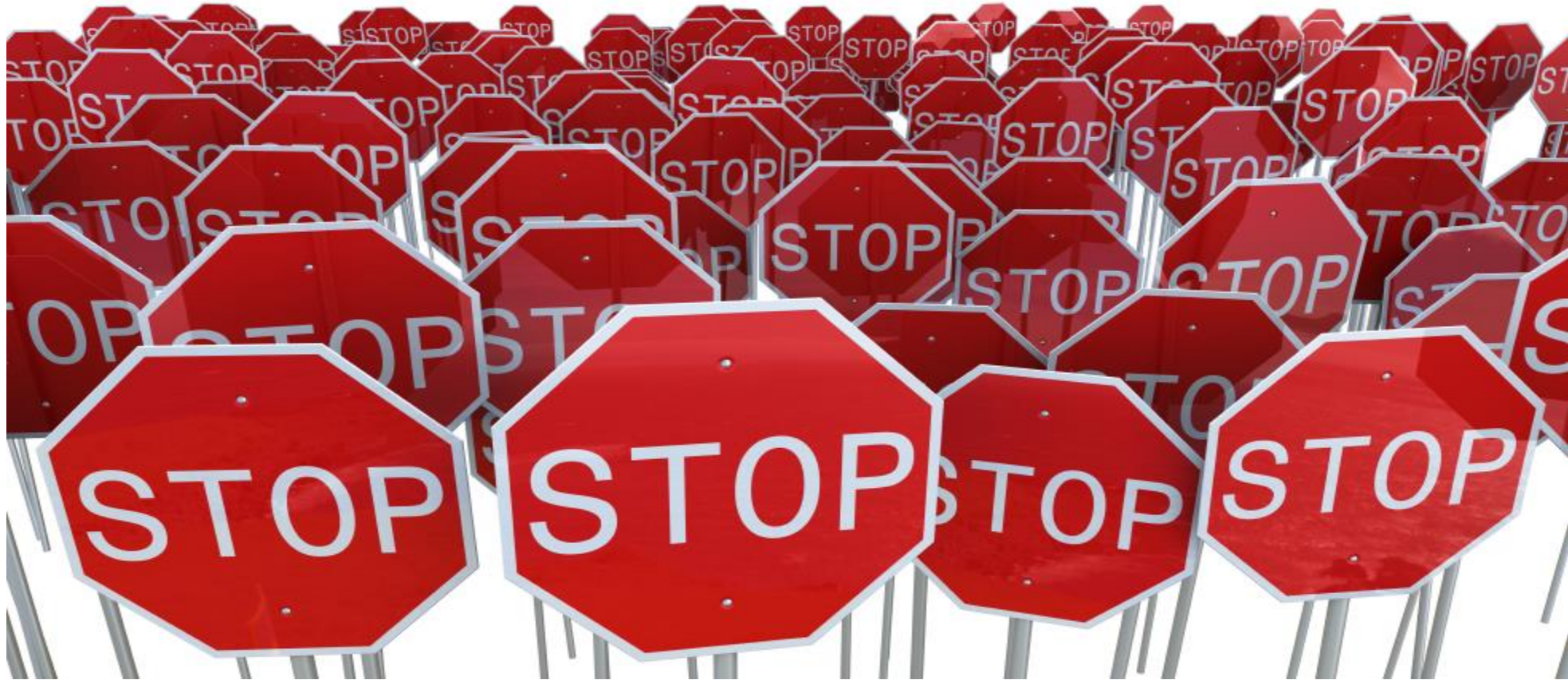


**A Collaborative Approach Is Needed Between All Stakeholders:  
Government, Industry, Health Professionals And Consumer Groups To  
Ensure Availability of Current Data to conduct assessments**



# Food Innovation May be Impeded

## As a Result of Limited Capacity in Food Risk Analysis



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# Changes in Food Production.....



## Value added through:

- ☐ Changes in product composition: e.g., introduction of Bioactives, targeting specific populations
- ☐ New Product Sources: Insects, Cell-based
- ☐ Changes in production process: e.g., longer shelf life
- ☐ Changes in product representation: e.g., packaging, health claims



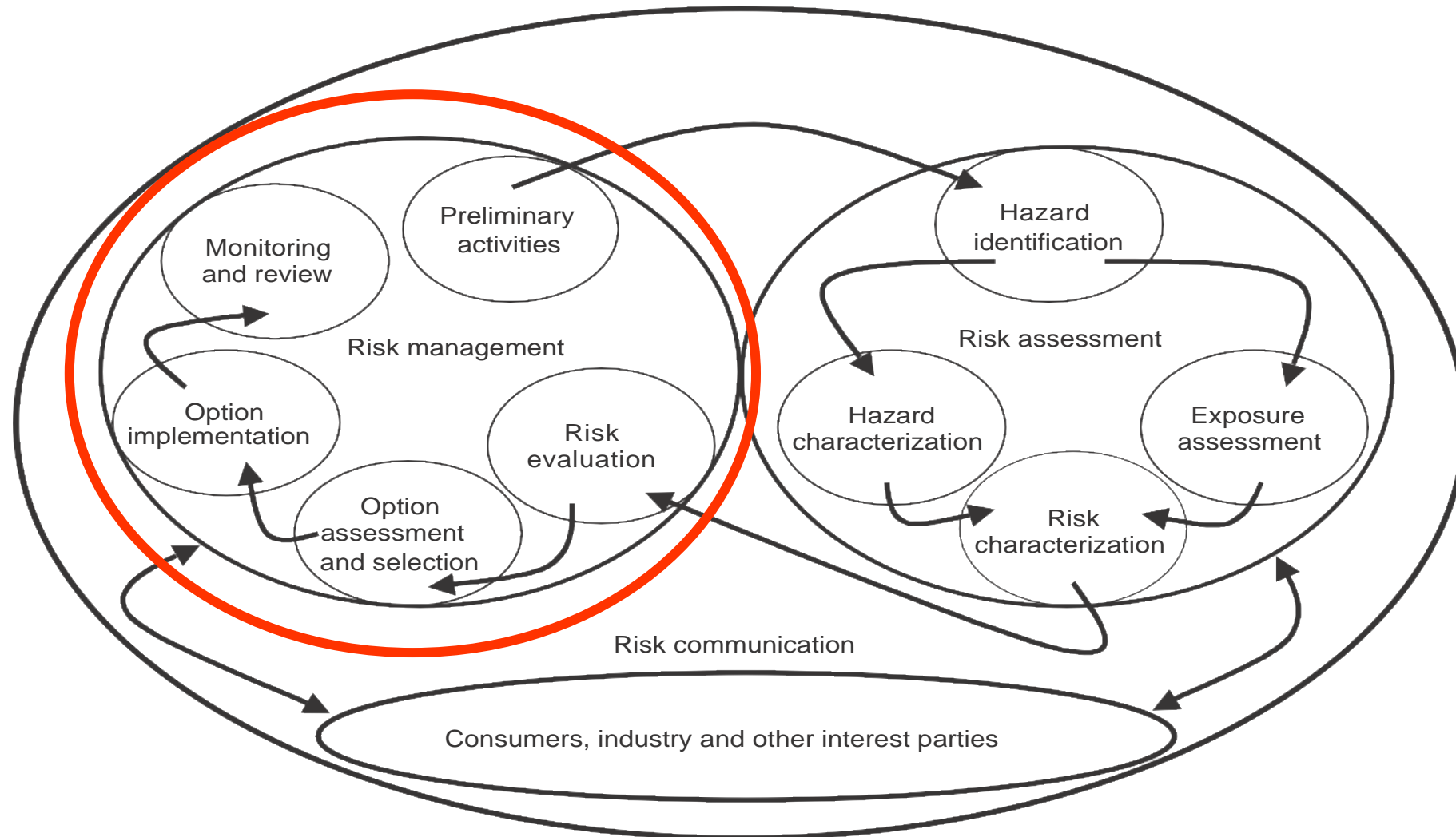
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# Need to “Localize” Risk Analysis and Risk Assessment ...

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## ❑ Managing Potential Risks Should Include Multiple Levers of Action:

- Regulatory and Non-Regulatory Measures

## ❑ Measures Should be Well Justified:

- **Commensurate to Risk**
- **Designed to Address (part of) of the Risk Characterized**
- **Assessed: for Achievability, Feasibility, Costs**

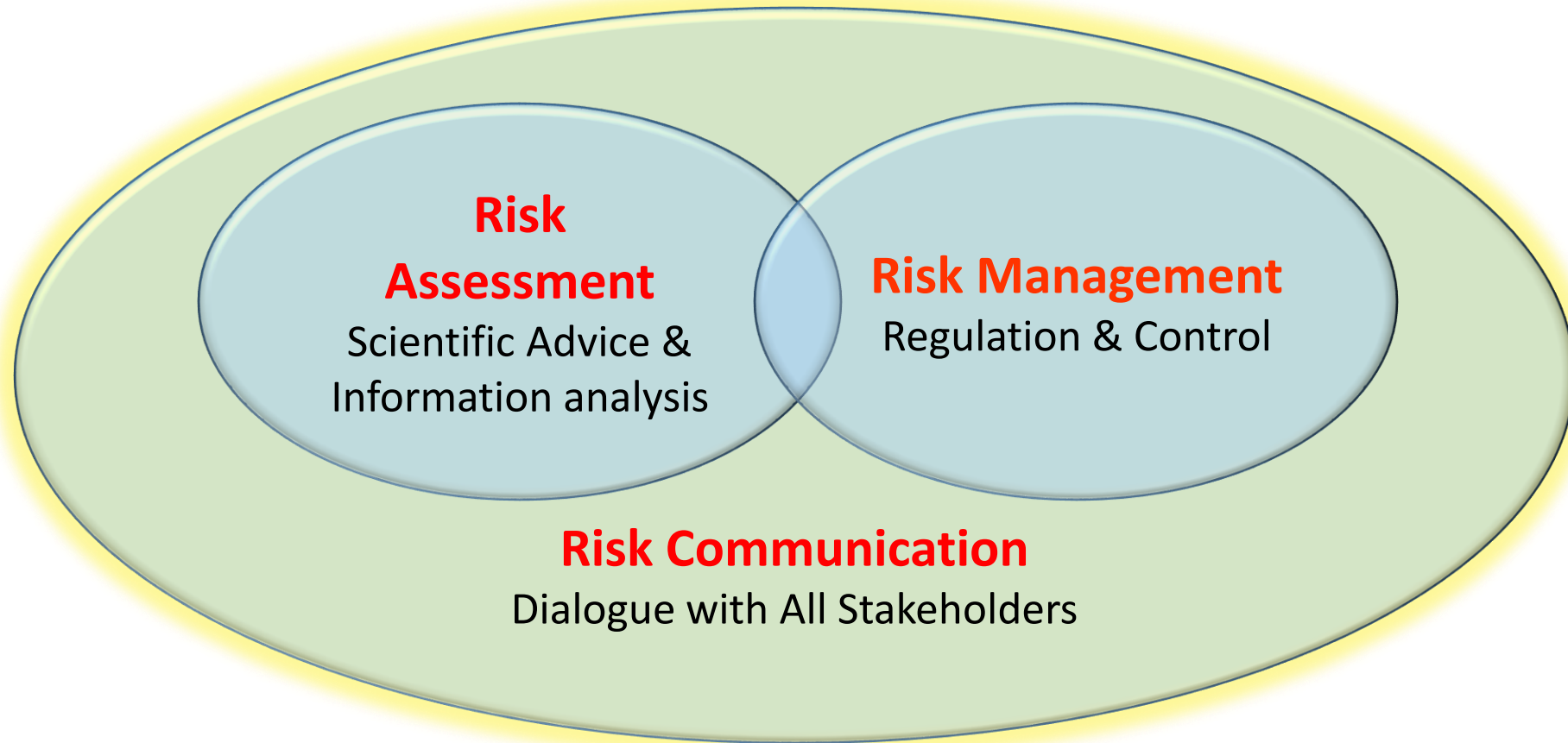


*Toolbox of Risk Management Measures*



# Risk Communication

**Communication, Transparency and Collaboration are KEYS to Success**



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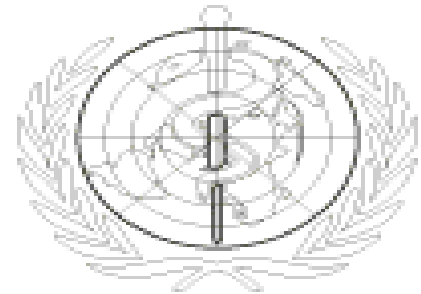
# As Recommended by Codex : Risk Communication is KEY <sup>23</sup>

**“The interactive exchange of information and opinions throughout the risk analysis process concerning hazards and risks, risk-related factors and risk perceptions, among risk assessors, risk managers, consumers, industry, the academic community and other interested parties, including the explanation of risk assessment findings and the basis of risk management decisions.”**

*(Codex, 2001)*



**CODEX ALIMENTARIUS**



**FAO/WHO Food Standards - Normes Alimentaires FAO/OMS - Normas Alimentarias FAO/OMS**



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# Engagement and Collaboration are KEY

A Collaborative Approach is Needed Between All Stakeholders:  
**Government, Industry, Health Professionals and Consumer Groups** to  
Ensure Effectiveness of the Various Risk Mitigation Measures



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- ❑ Important to **Benchmark Decisions** with International Standards and International Food Safety and Regulatory Practices
- ❑ Should there be Differences, they Need to be Justified by a Robust and Documented Risk Assessment



## The Risk Analysis Paradigm and Risk Assessment in Particular



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## Article 5: Assessment of Risk and Determination of the Appropriate Level of Sanitary or Phytosanitary Protection

1. Members shall ensure that their **sanitary** or phytosanitary **measures** are based on an assessment, as appropriate to the circumstances, of the **risks to human**, animal or plant life or health, taking into account risk assessment techniques developed by the **relevant international organizations**.
2. In the assessment of risks, Members shall take into account **available scientific evidence**; relevant processes and production methods; relevant inspection, sampling and testing methods; prevalence of specific diseases or pests; existence of pest- or disease-free areas; relevant ecological and environmental conditions; and quarantine or other treatment.





# Investment in Food Regulatory Science is Needed!

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## Specifically in Risk Assessment Training



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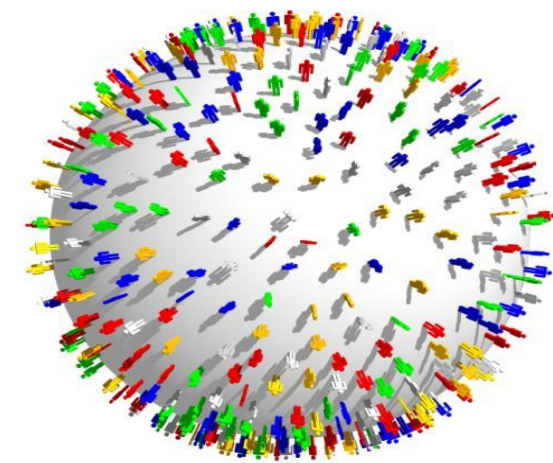
- Leadership:
- Possible Regional Solutions
  - Invest in Foundations:
    - Total Diet Studies
    - Food Consumption Surveys
  - Collaborations



الهيئة القومية لسلامة الغذاء  
National Food Safety Authority



Arab Food Safety Initiative for Trade Facilitation  
المبادرة العربية لسلامة الأغذية وتسهيل التجارة



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# Opportunities ...

Arab Food Standards Program

Arab Food Consumption Initiative

Arab Food Occurrence Data

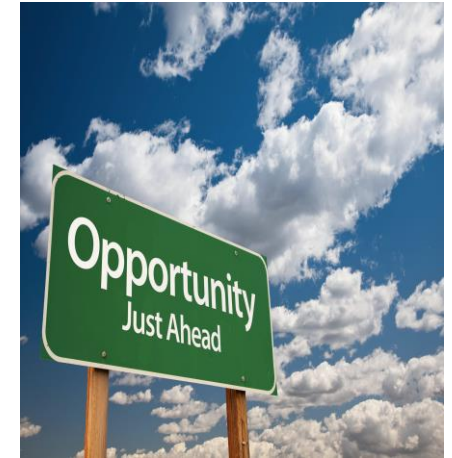
**ARAB CODEX INITIATIVE**  
To enhance Codex capacity in the Arab region.



<https://gforss.org/initiatives/>



الهيئة القومية لسلامة الغذاء  
National Food Safety Authority



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شکستگان

