Building Risk Assessment Capacities to Minimize Risks and Maximize Benefits in Foods

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Agenda

- Introduction
- Risk management & risk assessment
- How to build capacity of risk assessment?
- Conclusion & recommendation
INTRODUCTION
Risk analysis

Risk Assessment
Science based

Risk Management
Policy based

Risk communication
Interactive and ongoing exchange of information and opinions
Risk analysis

A process to systematically and transparently collect, analyse and evaluate relevant scientific and non-scientific information about a chemical, biological or physical hazard possibly associated with food in order to select the best option to manage that risk based on the various alternatives identified.

Options

BEST OPTION to manage risk
(RISK vs BENEFIT)
Theophratus von Hohenheim (Paracelsus) 1493 – 1541

Alle Dinge sind Gift und nichts ohne Gift. Allein die Dosis macht, dass ein Ding kein Gift ist

(All things are poisons, nothing is without poison; the dose causes a thing not to be poison)

RISK = HAZARD X EXPOSURE = DOSE OF POISON/HAZARD

“Hazard becomes risk depending on dose”
Risk Manager manages risk, not manage hazard

**Hazard**: An agent with the potential to cause harm (FACT)

**Risk**: Probability of adverse health effect
2 Risk management and risk assessment
RISK MANAGEMENT DECISIONS

- Have significant impact on costs to industry and government
- Reduce foodborne risks to the consumer
- Take suitability (consumer acceptability) and consumer perceptions into account
Risk analysis process

Science based tasks to measure and describe the risk characterization

- Define problems
- Make objectives of the risk analysis
- Define questions to be answered by the risk assessor

Interactive and ongoing exchange of information and opinions among risk manager, risk assessor, consumers and producers as well as other stakeholders
Risk assessment

Risk Management

Risk communication

Interactive and ongoing exchange of information and opinions

Science based

Policy based

How to build the capacity?

Minimize risk and maximize benefit
**Risk assessment** has to be a **separate** and **independent function** from the **risk management**. BUT they have to work closely.

**Interaction**: communication, consultation

- Ensure the scientific integrity of the risk assessment
- Avoid confusion over the functions to be performed by reduce any conflict of interest
- Independent
- Objective
- Transparent manner
RISK MANAGEMENT PROCESS

PRELIMINARY RISK MANAGEMENT ACTIVITIES
- Identify & describe food safety issue
- Develop a risk profile
- Establish broad risk management goal
- Decide whether a risk assessment is necessary
- Establish a risk assessment policy
- Commission the risk assessment
- Consider the result of the risk assessment
- Rank food safety issues and set priorities

SELECTION OF RISK MANAGEMENT OPTIONS
- Identify available management options
- Evaluate the identified management options
- Select a risk management option(s)

IMPLEMENTATION OF THE RISK MANAGEMENT DECISION
Implement the best intervention as decided (government, industry, consumer)

MONITORING AND REVIEW
- Assess the outcome
- Review the outcome
Risk assessment is a decision-support tool for risk management

- EVALUATE RISK
- ASSESS RISK MANAGEMENT OPTION
  - Standard
  - Policy
  - Regulation
  - Risk communication etc
- IMPLEMENT RISK MANAGEMENT DECISION
- RISK MANAGER
- MONITOR AND REVIEW
  - Assess the outcome
  - Review the outcome
CHALLENGES

- Lack of interaction between risk manager and risk assessor
- Limited capability / capacity of risk assessor
Fig. Risk management with risk assessment supports
Fig. Hazard management based on hazard identification
3 How to build risk assessment capacity?
Risk assessor should be professional, proactive and independent

- Scope and purpose of the risk assessment
- Description of the specific risk management issue and the questions to be answered
- Type of risk assessment/risk profile to be conducted, expertise needed, and resources allocated
- How the outputs of the risk assessment to be used by risk managers
- Timely answer / target
- Validation of the risk assessment outcome
- Identification of future data needs
• Risk assessor should be proactive in providing preliminary risk management activities:
  - identification of food safety issue
  - risk profiling
  - providing scientific evaluation
  - conducting risk assessment when needed

• Risk assessor should prepare risk profiling with the support of the following data / information:
  - pathogen / hazard concern
  - food implicated
  - manufacturing / production of food
  - food supply
- behaviour / characteristic of the pathogen / hazard
- food consumption data
- prevalence data
- data / frequency of contamination
- growth rate of the pathogen during storage
- treatment during manufacturing / preparation
- disease / hazard characteristics
- outbreak information
- health burden / adverse health effect
- existing of risk assessment
- estimate risk
- data gap
- availability of control measures
- options for risk management
Many risk management decisions will continue to rely on scientific evaluation (risk profile, empiric scientific evaluation, safety evaluation / chemical hazard, risk assessment, food source attribution, ranking tools) rather than risk assessment.

The norm in emergency or precautionary situations.

Supported by applied research on hazard control, exposure assessments, monitoring and surveillance registers.

Steve Hathaway (2011)
SUCCESS FACTORS IN BUILDING CAPACITY OF RISK ASSESSMENT (prerequisites)

1. Regulation (e.g. separate and independent function from the risk management)
2. Institutional arrangement and sharing information between key stakeholders (e.g. food safety, public health, veterinary, agriculture, laboratory, surveillance, academia, regulators, industry, public)
3. Resources (competent staff, fund, facility)
4. Program priority
5. Networking (national, regional, global)
Do we need independent food risk assessment body in ASEAN?
4 Conclusion and suggestion
CONCLUSION & RECOMMENDATION

- Risk assessment activities should be in line with risk management direction.
- Risk assessors should know their main tasks in serving the risk manager needs.
- Risk profiling of the main food safety issues should be in place.
- Risk assessors should assist to conduct scientific evaluation when assess preliminary risk management activities and emergency or precautionary situations.
- Risk manager should be aware of the prerequisite of risk assessment framework, such as regulation, institutional arrangement, resources, networking, program priority, and the importance of sharing information among key stakeholders.
Thank You

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