



## FOOD SAFETY RISK ANALYSIS: MALAYSIA'S EXPERIENCE

FOOD SAFETY AND QUALITY DIVISION  
MINISTRY OF HEALTH MALAYSIA

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### OUTLINE OF PRESENTATION


- Malaysia's Experience in Food Safety Risk Analysis Activities
  - ✓ training
  - ✓ project / case study
  - ✓ other related activities
- Challenges in Food Safety Risk Analysis

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## MALAYSIA'S EXPERIENCE IN FOOD SAFETY RISK ANALYSIS

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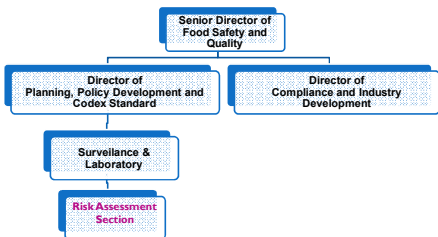
### RISK ANALYSIS FRAMEWORK



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### FOOD SAFETY RISK ANALYSIS IN MALAYSIA

- Malaysia involved in Food Safety Risk Analysis activities since year 2000.
- Food Safety Risk Analysis activities are coordinated by Food Safety and Quality Division.



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graph TD
    SD[Senior Director of Food Safety and Quality] --> DP[Director of Planning, Policy Development and Codex Standard]
    SD --> DC[Director of Compliance and Industry Development]
    DP --> SL[Surveillance & Laboratory]
    DP --> RA[Risk Assessment Section]
    
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### FOOD SAFETY RISK ANALYSIS

- Malaysia acknowledged the importance of Risk Analysis to be the basis for
  - all food safety management actions
  - development of food safety standards
  - managing risks associated with food hazards
- Risk Analysis will complement the numerous existing food safety initiatives that are currently implemented.

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### FOOD SAFETY RISK ANALYSIS ACTIVITIES

- Conduct risk assessment on microbiological and chemical hazards
- Coordinate training / develop expertise / develop policies or directions related to risk analysis
- Maintain, update and publish guidelines or technical report related to risk analysis
- Develop data base on risk assessors – microbiological and chemical hazards
- Publish Guideline on the Application of Risk Management for Food Safety

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### TRAINING: CHEMICAL RISK ASSESSMENT

- Risk Assessment Training in Support of Food Safety Measures : Chemical Contaminants, Natural Toxicants, Additives and Pesticides Level in Food Hanoi, Vietnam 8-19 July 2002 Australian Aid Organisation AUSAID
- Strengthening ASEAN Risk Assessment Capability to Support Food Safety Measures (2006) – 2 Case Studies
- Seminar on Risk Assessment of Chemical Hazards In Food, by WHO, 17 – 18 May 2006, Malaysia
- Training-workshop on Risk Assessment of Chemical Hazards in Food, by WHO, 22 – 26 May 2006, Malaysia
- Training on Risk Assessment of Chemicals With No Reference Health Standards, by WHO, 27 Nov – 7 Dec 2006, Malaysia
- Food Chemical Risk Assessment for Regulatory Purposes, by FSA NZ, 22 – 30 May 2008, Malaysia

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### TRAINING: MICROBIOLOGICAL RISK ASSESSMENT

- Strengthening ASEAN Risk Assessment Capability To Support Food Safety Measures (2006) – 2 Case Studies
- Echo-training:Microbiological Risk Assessment, Malaysia (2006)
- Probabilistic Microbial Risk Assessment Workshop, WHO, Malaysia (2006)
- FAO Regional Workshop on Food Safety Risk Analysis, FAO, Malaysia (2007)
- Microbiological Risk Assessment Training Course, WHO, Malaysia (2009) – 1 Case Study

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### CHEMICAL RISK ASSESSMENT : PROJECT / CASE STUDY

- Risk Assessment of Formaldehyde in Marine Fish (2010)
- Total Arsenic Exposure Through Dietary Intake in the Adult Malaysian Population (2010)
- Chemical Risk Assessment of Acrylamide in Malaysian Foods (2011)
- Risk Assessment of Polycyclic Aromatic Hydrocarbon (PAH) in Ready to Eat Food (2011)
- Dietary Exposure to Benzoic Acid from Processed Foods (2011)
- Exposure of Pesticides Through Food Intake in Adult Population in Malaysia (2011)

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### MICROBIOLOGICAL RISK ASSESSMENT : PROJECT / CASE STUDY

- Microbiological Risk Assessment of *Vibrio parahaemolyticus* in black tiger prawns (2005)
- Risk assessment of *Bacillus cereus* in cooked rice in five (5) ASEAN countries (2006)
- Risk assessment of *Vibrio parahaemolyticus* in shrimps in five (5) ASEAN countries (2006)
- Quantitative Microbiological Risk Assessment of *Bacillus cereus* in Fried Rice Prepared and Served in School Hostels (2009)

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### OTHER RELATED ACTIVITIES

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## RISK PROFILING

- Risk profiling - describes the background of an identified food safety issue, the current state of knowledge and potential control options
- Examples:
  - 4-methylimidazole in caramel
  - Cronobacter (enterobacter) sakazakii in infant formula
  - Furan in watermelon
  - Pesticide residue in rice
  - Butylated hydroxyanisole (antioxidant) in instant noodle (Mi cintan vegetarian)
  - Perfluoroalkylated in fish and fish product

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## EXPOSURE ASSESSMENT

- Element of Risk Analysis – to estimate the risk of hazard
- Examples:
  - Colouring agent in foods
  - Thaumatin in foods
  - Nitrate and nitrite in processed meats
  - MRL thiamethoxam in cocoa beans

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## AD-HOC RISK ASSESSMENT

- By food safety issues
- Develop risk profile, risk assessment, continuous risk assessment
- Examples:
  - Food preservative in coconut milk
  - Radioactive in food imported from Japan
  - Benzoyl peroxide in flour
  - Contamination of di (2- ethylhexyl) phthalate (DEHP) in food additive (clouding agent)

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## CHALLENGES IN FOOD SAFETY RISK ANALYSIS:

- To ensure quality of information gathered for risk assessment:
  - level of contaminants /concentration data
  - food consumption data for specific food
- To maintain expertise in:
  - Chemical Risk Assessment
  - Microbiological Risk Assessment

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TERIMA KASIH

THANK YOU



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