Training : Quantitative Risk Assessment
17 – 18 November 2005
Bangkok

FOOD SAFETY & QUALITY DIVISON
MINISTRY OF HEALTH
MALAYSIA

CONTENT:

- Data availability :
  - Food consumption pattern
  - Total Dietary Intake study
- Types of food safety issue
- Interest of attendants to join initiative of SAFE FOODS, best way to proceed
- Other relevant points

FOOD CONSUMPTION SURVEY

- The first food consumption survey carried out in 2002/2003 & is finalizing the report
- Objective : to determine the food consumption and physical activity pattern among Malaysia adults (18 - <60 years)
- Scope:
  - Socioeconomic and demography
  - Weight, height, BMI
  - 24 hour dietary recall
  - 24 hour physical activity recall
  - Meal pattern
  - Dietary supplements intake
  - (face-to- face interviews)

- Expected output :
  - Subject characteristics
  - Macronutrient/micronutrient intake by age, rural, urban, ethnic group
  - Mean intakes for various foods
  - % subjects who eat breakfast, lunch, dinner, snacks
  - Types of food for breakfast, lunch, dinner, snacks
  - % of subjects with low, moderate and high physical activity level
  - physical activity pattern of adults
  - Types of physical activity carried out by Malaysian adults
  - Average BMI
  - Distribution of BMI by gender, age, rural, urban, occupation

Total Dietary Intake Study

- Method: Market basket method based on "Malaysian Food Consumption Survey Results", which consist of the following components
  - Foods are classified into groups
  - Purchasing food are aggregated/mixed into food group, crashed/blended, if necessary cooked before blended
  - Parameters are analyzed in every food group
  - Calculation to be summed up with all test results
- 3 personnel trained in Japan in 2004
- At initial phase, pilot study adopting Japanese approach will be conducted to check feasibility and enhance analytical skill

Total Dietary Intake Study

- Purpose: To estimate dietary exposure and characterize any associated risk to public health
- Initial phase target parameter: Heavy metals such as Arsenic (As), Lead (Pb), Cadmium
- Food selected in the survey : cereal, cereal products and starch, meat and meat products, fish and fish products, egg, pulses and nuts, dairy products, vegetables, fruits and drinks
- The results will be compared with the relevant ADI or tolerable daily intake (TDI)

Key Food Safety Issues

- Existing Issues Being addressed
  - Hygiene of eating establishment
  - Veterinary drugs residue
  - Pesticide residues
  - Abuse and overuse of food additives
  - Mycotoxin
  - inorganic contaminants
- New Issues beginning to be addressed
  - Migration of chemicals substances from packaging materials and other materials in contact with food
  - Persistent Organic Environmental Pollutants (dioxin, PCBs, PAH)
  - Chemical substances formed during cooking/processing
  - Hypersensitivity, intolerance and allergic reactions
  - Antibiotic resistant microorganism

Challenges/Other Issues

- Scientific Foundation
  - laboratories' capabilities and capacity to analyze
    - range of contaminants analyzed
    - Sensitivity of method of analysis
  - exposure assessment data
  - capability/expertise in risk assessment
- Technological transfer of risk assessment to cater to the diverse national situation
- Development of reference measure or acceptable risk for microbiology similar to ADI or PTWI to facilitate microbiological risk assessment?

Challenges/Other Issues

- Integrated systematic surveillance
- Keeping-up with factors influencing development/review of national standards
  - New technology e.g. new methods of processing and methods of testing
  - Changing hazards
- Exporters need to comply with importing country and buyers requirements but:-
  - Importing countries have different standards and regulatory approaches
    - e.g. Same product, same packaging, same health concern and same process but different standards
  - Food regulations are constantly changing
  - Multiple level of regulations are encountered

Challenges/Other Issues

- Obligations to International and Regional Trade Framework
- Globalization of food trade and trans-boundary movement of diseases and hazardous food