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**APPLICATION OF RISK ANALYSIS IN FOOD CONTROL –
CHALLENGES AND BENEFITS**

**RISK ANALYSIS IN MALAYSIA
(Malaysia)**

Abstract

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

To realize this aspiration, Malaysia has established a National Committee on Risk Analysis under the Food Quality Control Division (FQCD), Ministry of Health in 2002. The main objectives of this committee are to look into the development and application of Risk Analysis in the country and also commission national risk assessment projects.

The FQCD have been promoting the usage of Risk Analysis as a decision making tool in food safety activities through a series of training, workshops, meetings and collaboration with Japan International Cooperation Agency (JICA). Malaysia has also actively participated in risk assessment training and meeting at the ASEAN level and Codex work on GMOs.

Getting good information and sound scientific data will be one of the real challenges in using risk analysis as a tool in food safety. Malaysia appreciates the contribution of international expert bodies and feels that this effort should continue to provide information and data needed for risk assessment especially on dose-response data and animal feeding studies.

Training of risk managers and risk assessor will also pose a real challenge to Malaysia. There is a need to strengthen expertise in risk analysis framework especially in computer modelling and predictive microbiology and analytical capabilities.

Recognizing that there is a certain level of expertise in research institutions and universities in risk assessment, smart partnership should be developed with such parties so as to optimally utilize the limited resources.

Background Information

Malaysia acknowledges the call for Risk Analysis to be the basis for all food safety management actions by the international community. Malaysia also recognizes Risk Analysis as the fundamental methodology underlying the development of food safety standards at both international and national levels. It is the methodological basis for assessing and managing risks associated with food hazards.

The Ministry of Health has been implementing an active food surveillance programme which includes routine compliance sampling, routine food premises inspection and food import inspection activity. The routine compliance sampling involves an annual sampling target of 40,000 samples from all over the country and analyzed for various parameter specified under the National Work Plan.

As a preventive approach, the Ministry of Health has also implemented a voluntary Hazard Analysis and Critical Control Point (HACCP) certification scheme. The Malaysian Certification Scheme for HACCP requires the food industries to implement the HACCP system that meets the criteria for certification. The certification process includes adequacy, compliance and any follow-up audits by appointed certified auditors. The Ministry of Health will verify the maintenance of the certified HACCP system through surveillance audit. To date, more than 75 food industries have been certified and most of the products are exported to the EU, Japan and the USA.

The Ministry of Health also conducts a food monitoring activity on specific food contaminants and additives. This is to provide accurate data and information on levels and extent of food contamination for microbiological, chemical, chemical migration and food additives. This information is needed for the formulation of an effective preventive action and guidance for updating regulations on specific problems to ensure food safety.

The Ministry of Health has also prepared a Draft Regulation on Genetically Modified Foods (GMFs) which requires that all GMFs to be imported, prepared for sale or sold in the country be approved by the Director General of Health before allowed to be marketed. The draft regulations also require GMFs to be labelled in accordance with the provisions stipulated.

Malaysia, being party to the Cartagena Protocol on Biosafety, has to conform to obligations under that protocol. As such, the Ministry of Natural Resources and Environment has drafted a Biosafety Bill which coordinates the application, approval and notification of Living Modified Organisms (LMOs) and products thereof in the country.

Currently, the National Guidelines for the Release of Genetically Modified Organisms (GMOs) into the Environment, a document which provide a national framework for addressing biosafety issues, with regard to regulation, assessment and management of risks associated with the use and release of GMOs into the environment, is the reference for the conduct of risk assessment on GMOs. This was formulated by the former Ministry of Science, Technology and Environment.

Risk Analysis in Malaysia

Malaysia has established a National Committee on Risk Analysis under the Food Quality Control Division (FQCD), Ministry of Health in 2002. The main objectives of this Committee are to look into the development and application of Risk Analysis in the country and also commission national risk assessment projects. The members include all government agencies and Non Government Organizations (NGOs). The first national risk assessment project commissioned by this committee was on *V. parahaemolyticus* in frozen prawns and is currently in progress.

One of the first awareness programme in the ASEAN region was initiated in 1999 by the International Life Sciences Institute (ILSI) and the Food and Agriculture Organization (FAO), when a two and a half day Risk Assessment Workshop was conducted in Kuala Lumpur, Malaysia. The participants include government agencies responsible for food safety, industries and NGOs.

Subsequently, the FQCD has been promoting the usage of Risk Analysis as a decision making tool in food safety activities in Malaysia. A series of workshops and meetings have been conducted on risk management, microbiological and chemical risk assessment among the food safety officers all over the country and relevant government agencies.

A number of personnel have been trained in microbiological, chemical and genetically modified food risk assessment conducted by International Organizations.

In collaboration with Japan International Cooperation Agency (JICA) under the Japan Technical Cooperation Programme, the FQCD has conducted workshops on microbiological risk modelling and a risk assessment project on *V. parahaemolyticus* in frozen prawns is currently in progress.

Risk Analysis principles is presently being used as a tool in the development of food standards and in taking enforcement action (risk management options) to ensure food safety.

The National Guidelines for the Release of GMOs into the Environment outline the general principles governing standards of practice for the introduction of GMOs and products containing or consisting of GMOs to the environment. These Guidelines provide procedures for risk assessment on the release of GMOs into the environment.

The risk assessment of GMOs is conducted by the Genetic Modification Advisory Committee (GMAC) under Ministry of Natural Resources and Environment. This committee comprises members from relevant agencies and research institutions and will convene when there are applications for the release of GMOs. This is the central scientific committee that deals with issues on the application and approval of GMOs.

With the eventual gazettment of the Draft Regulation on GMFs under the Ministry of Health, GMAC will be the committee that conducts the risk assessment / safety assessment on GMFs. The draft regulation will complement the Biosafety Bill in terms of the application and approval procedures.

At the ASEAN level, three (3) workshops had been conducted to train participants on the risk assessment of GMOs, particularly on GMOs of plant origin.

Malaysia also participated in the Codex work on GMOs, namely the labelling requirements for GMFs under the Codex Committee on Food Labeling and the Principles for the Risk Analysis of Foods Derived from Modern Biotechnology and Guidelines for the Conduct of Foods Safety Assessment of Foods Derived from Recombinant-DNA Plants and Recombinant-DNA Microorganisms.

The challenges

a) Data and Information

Getting good information and sound scientific data is one of the real challenges in using risk analysis as a tool in food safety.

The Food Consumption Pattern is very crucial when conducting exposure assessment. In Malaysia, the first national survey on food consumption pattern of adult diet will only be completed by the end of 2004. The food consumption pattern for specific vulnerable groups such as the elderly, children and etc., has yet to be undertaken and will be done in the near future.

Malaysia appreciates the contribution of international expert bodies and feels that this effort should continue to provide information and data needed for risk assessment especially on dose-response data and animal feeding studies.

b) Risk Management

Changing the existing approach in the management of food safety issues to the application of risk management framework will also pose a real challenge to Malaysia. We need to continuously train the food safety officers. At present Malaysia is in the process of developing a simple guideline for risk managers on the application of Risk Management Framework in making risk management decision.

c) Risk Assessment

Training of risk assessors will also be the greatest challenge to Malaysia. There is a need to strengthen expertise in computer modelling and predictive microbiology as well as expertise in analytical and Risk Assessment / Safety Assessment of GMFs. With the implementation of the regulations on GMFs, training for the purpose of enforcement should be strengthened.

In terms of analytical capabilities, the National Public Health Laboratory, under the Ministry of Health, laboratories in the Chemistry Department, under the Ministry of Science and Innovation, and laboratories in Institute of Higher Learning are capable of detecting GMOs in primary products. Analytical capability in the detection of GMOs in composite food products remains a challenge.

d) Risk Communication

The FQCD is planning to increase human resources in risk communication at all levels, comprising professionals capable of translating risk assessment results and risk management decision to all stakeholders and the public.

Summary/Lessons Learned

To fully implement Risk Analysis, Malaysia is continuously enhancing its expertise and directing all efforts to ensure Risk Analysis will be used as a basis for the development of food safety standards and making decision on food safety risk management options. An important aspect in the implementation of risk analysis is the availability of funds. Funding could be sourced from government, international organizations and agencies, as well as donor organizations.

To ensure continuity and development of expertise in chemical and microbiological risk assessment, a core group of personnel who are involved (food standard officials) or interested in risk assessment activity should be trained. Continuous training of this core team will further enhance effective utilization of risk assessment.

Recognizing that there is a certain level of expertise in research institutions and universities in risk assessment, smart partnership should be developed with such parties so as to optimally utilize the limited resources.

Risk managers should be adequately trained on the application of risk management framework in food safety. To promote the application of risk management options to risk managers, a good promotion and education programme needs to be developed.