Risk Assessment: A Philippine Experience on Pesticides for Food Safety

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ABSTRACT

Food safety is a fundamental public health concern which is a big challenge to government officials and stakeholders responsible for safe food supplies from farm to fork. It is implemented by the Department of Agriculture (DA) for raw agricultural commodities and the Dept. of Health (DOH) for the processed food. These two Ministries created jointly the National CODEX Organization (2005) to have a consultative process for establishing the country’s position on CODEX standards through risk analysis.

Risk Analysis is a key discipline to reduce foodborne illnesses and strengthen food safety system of the country. There are three components of risk analysis: risk assessment, risk management, and risk communication.

Risk Assessment is based on scientific evaluation from exposures to chemicals, biological or physical agents which could be qualitative or quantitative in nature. It consists of four steps: hazard identification, hazard characterization, exposure assessment and risk characterization.

A typical example of risk assessment for which the Philippines has a well-established procedure is on pesticides. The Fertilizer and Pesticide Authority (FPA) of the Dept. of Agriculture is responsible for the registration and establishment of Maximum Residue Limits (MRL) of pesticides, thereby assess the risk that it may pose the consumers. There are three expert bodies in the evaluation of scientific data on specifications, residues and toxicology of pesticides. A Pesticide Technical Advisory Committee (PTAC) was created to make recommendations on pesticide issues that have public health concern. A dietary risk assessment is estimated based on the magnitude of residues contained in a commodity consumed on a per capita intake by an average man. This is compared with an established acceptable daily intake (ADI) and when the overall exposure does not exceed the ADI, it is unlikely to have any health risk to the consumers. To further assess the hazards to non-target organisms, various studies are also required such as effects on honeybees and soil micro and macro organisms, among others, in addition to other toxicological requirements. The proposed MRLs and other pesticide issues related to CODEX are being collated by the National CODEX sub Committee on Pesticide Residues which makes the position paper for the CODEX Committee Meeting.

Once an MRL is recommended by the FAO/WHO Joint Meeting on Pesticide Residues (JMPR) or Joint Experts on Contaminants and Food Additives (CCRVDF), the Codex Committee on Pesticide Residues (CCPR) or Codex Committee on Residues of Veterinary Drugs in Foods (CCRVDF) will distribute it to member countries for comments. Position papers are prepared by the countries and sent to CCPR or CCRVDF. If there are no further comments, the proposed MRL goes to Codex ALimentarius Commission (CAC) for adoption as CODEX Standards. There are eight step processes to follow at the CAC.

If MRL has not been set at the national level, most developing countries adopt the CODEX MRLs since CODEX standards are identified as key reference points in the WTO “Agreement on the Application of Sanitary and Phytosanitary Standards (SPS)”. It states that as long as a country employs the CODEX standards, its measures are presumed to be consistent with the provisions of the SPS Agreement.

The above procedures complement the recently signed Philippine Food Safety Act by the President on 23 Aug 2013 to strengthen the food safety regulatory system in the country. The DA and DOH set the mandatory food safety standards based on risk analysis consisting of risk assessment, risk communication and risk management.