requirements without exceeding caloric needs. In addition, the guidelines promote health, support active lives, and reduce the risk of chronic disease. She further expressed the USFDA is now implementing the second tier of their strategy which targets the parents.

Member Economy Presentations

Each of the 13 member economies presented an overview of risk communication activities in their respective governments. The member economies presented an overall situation in their respective economies including the geographical, economical and cultural aspects. The presentations of the 13 member economies are attached in **Appendix 15** to **Appendix 27**.

For Brunei Darussalam, a description of the organizational structure of the Department of Agriculture and agencies responsible for food safety issues in was presented. Similarly, Ms Lenny Suliany Faizura Binti Ahmad Sah, agricultural chemist from the Brunei Agriculture Research Center described the communication activities undertaken by their department, including assisting local food establishments in developing Good Manufacturing Practices (GMP) and food safety systems to the local premises.

The delegate added that pamphlets, brochures and other forms of media are also being disseminated in support of the food safety program in the local communities.

Mr Liu Quanguo reported the status of the food safety risk communication in the China. He summarized the following activities undertaken by the member economy: collection and analysis system of food safety risk information, trace system of risk information, strengthen construction of a nationwide quick risk warning and responding system, issuing system of risk information, and risk information counseling. Mr Quanguo added that the responsibility of communicating risks is shared among government organizations, private sector, society unions, consumer and consumer associations, academia, media and international organizations.

Also, a rundown of the common problems faced in communicating risks in China was disclosed by Mr Quanguo. He identified that the primary issue is the lack of risk communication resources and information is insufficient. In addition, the fragmentation of the different agencies also creates problems particularly in the allotment of resources for the various risk analysis steps. In order to address the problems identified, Mr Quanguo posted recommendations such as establishing a unified harmonious food safety risk communication management system thus integrating government resources, integrating interdepartmental and intergovernmental exchanges.

The third member economy to present its overview of risk communication activities was Chinese Taipei. Mr Hsu Chao-Kai shared the undertakings of their department in ensuring food safety through public education campaigns. The Department of Health conducts annual scheduled plans for specific

issues. They also established a Food Safety Information Network and published the Food and Drug Safely News Weekly.

An illustration of the information network established by the health department was shown in the presentation. A Food Consumption Warning Signal posted in the website alerts the consumers of the potential risk in food commodities, particularly from imported foods. In concluding the presentation, Mr Hsu indicated the challenge that their agency face particularly the lack of manpower and resources with regards dealing with almost 2,300 food safety issues annually.

The member country presentation of Indonesia was delivered by Ms Tetty Helfrey Sihombing. She outlined the food safety regulations that serve as the bases for activities and programs of the different departments involved in food safety. Ms Sihombing gave a detailed discussion on the program on Integrated Food Safety System that the government has developed.

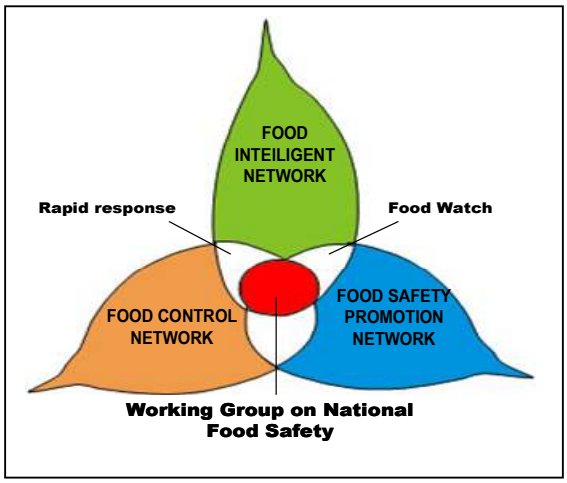

Figure 11. Indonesian Integrated Food Safety System

Under this program, a Food Intelligent Network, Food Control Network and Food Safety Promotion Network have been established functioning as risk assessor, risk manager and risk communicator respectively. Each network is lodged under the different bureaus of the department. However, central to these three networks is the Working Group on National Food Safety that coordinates and integrates the work of the networks.

Three case studies on the risk communication activities undertaken for the issue of formalin in food, *Enterobacter sakazakii*, and food additive claims were also discussed. In the first case, formalin was detected in food in the traditional market. As such, this created panic in the public sector. According to Ms Sihomding, the National Agency for Drug and Food Control (NADFC) enhanced their food safety inspection activities to address the issue and announced the results to the public.

The second case involved contamination of an infant milk formula with the organism *E. sakazakii*. The public imposed the government to take action. In

order to resolve the issue, the NADFC gave a press release on the nature of the organism. Consequently, the NADFC was successful in their campaign and no infected infant formula was distributed in the market.

The last case involved the claim of free food additives on the food label and advertisement. In this issue, the media released information that food additives cause adverse health effects thus causing concerns among the public. To resolve the issue, NADFC regulated the claims on food additives through the pronouncement of a decree on Prohibition of Claims of Free Food Additives on Food Label and Advertisement.

A discussion on the risk communication strategies of Malaysia was reported by Ms Syarmilla Yusoff of the Food Safety and Quality Division of the Ministry of Health (MOH). Similar to the prior presentations, a discussion on the organizational structure and functions of the food safety agencies was done. Experiences on risk communication activities were also elaborated by Ms Yusoff. The strategies implemented were based on the results of the survey conducted by the Ministry of Health in 2007. According to the study, almost 62% of food poisoning incidents occurred in schools, while 17% took place in institutions. As such, the communication strategies were focused on educating food handlers, institutions and school children.

Three main activities were undertaken by the MOH. The initial activity was the establishment of a joint committee to handle food poisoning episodes in schools. Likewise, the KENDIRI Program was also started in schools and institutions. Under this program, the owners and managers of food establishments are empowered to conduct their own inspection based on the food safety guidelines developed by the MOH. Lastly, a Food Safety Promotion Program was also implemented. Activities for the program include developing and disseminating educational materials on food safety. Road shows that target school children were also conducted. Talks, seminars, dialogues and surveys were done as part of the educational campaign,

The member economy presentation of Mexico was discussed by Mr Olmo Cabrera Contreras of the Mexican Accreditation Entity (EMA). His presentation focused on the certification schemes being implemented in Mexico for various commodities. Different certification schemes for chocolate, organic production, federal slaughters and Good Agricultural Practices (GAP) are currently being done to decrease the food borne disease outbreaks and ensure food safety for consumers. Mr Contreras added that there are existing governmental programs for GMP and GAP that supports participation of producers and retailers in training and promotion in Mexico.

Mr Patrick Malamut and Ms Diana Kave both presented the overview of risk communication activities for Papua New Guinea. According to the delegates, the Ministry of Health covers the responsibilities for developing policies, guidelines and standards for food. Correspondingly, partnerships among the different ministries and sectors are established in order to strengthen the food safety activities for the member economy.

Risk communication activities in Papua New Guinea are targeted on the different sectors. The MOH established a Food Sanitation Council and facilitates workshops for food safety officers and other agencies. However, according to Ms Kave, Papua New Guinea still needs assistance from other developed countries to make the commitment in supporting the food safety program.

The member economy presentation of Peru was elucidated by Mr Ivan Eduardo Camacho Bueno of the National Agrarian Health Service. In his presentation, Mr Bueno pointed out that the Ministry of Agriculture (MOA) and Ministry of Health share the responsibilities for ensuring food safety. He added further that the two ministries both share functions on policy making, coordination, implementation, laboratory analyses and risk assessment for food products. Mr Bueno informed the group that a new bureau has been created under the MOA that looks into raw products and primary production concerns.

Mr Kyoung-Mo Kang shared the activities of the Korean Food and Drug Administration (KFDA) on risk communication. The KFDA identified strategic focuses to efficiently implement risk communication. According to Mr Kang, the initial activity in the strategy developed by KFDA is the early identification of food safety issues. In order to implement this, an improvement on the information collection and analyses is needed. He emphasized the importance of selecting only the correct and relevant data for inclusion.

Another key strategy is the efficient internal coordination within the organization. Sharing the experience of KFDA, Mr Kang informed the body that a new bureau under their organization was created with the function of coordinating risk management, risk information, and food and risk standardization. The two strategies implemented by KFDA are backed up with systematic tracking of food safety issues. Better coordination was achieved through the development of the Information Agenda Management System (IAMS) which allowed the KFDA to track issues online. The last strategy for risk communication employed by KFDA was the use of public and media relations in conveying key messages.

As part of their advocacy, KFDA has developed a risk communication manual as guide for responsible agencies involved in food safety. In conclusion to his presentation, Mr Kang informed the group that KFDA is focusing on process control in order to work with other partners to achieve efficient risk communication.

In the member economy presentation of the Philippines, Dr Josefina Rico of the National Meat Inspection Service, and Ms Josefina Contreras of the Bureau of Animal Industry discussed the government framework for risk communication and presented the Avian Influenza program. Dr Rico elaborated on the structural framework of government institutions working towards food safety. A matrix of the regulatory agencies and their relevant food safety functions were enumerated. Likewise, Dr Rico put emphasis on

the collaborative efforts among national, regional, local and the private sector in providing approaches to effectively communicate risk.

She also discussed current certification schemes such as the Good Agricultural Practices (GAP), Best Aquaculture Practices (BAP), Good Animal Husbandry Practices (GAHP) and Good Laboratory Practices (GLP) being implemented by the national government in order to ensure food safety through out the entire chain.

The second part of the presentation focused on the Philippine experience in preventing the spread of Avian Influenza (AI) in the local farms Ms Contreras described the virus causing the disease and its signs and symptoms in affected fowl and humans.

Through the establishment of the AI Protection Program, the Philippines was able to keep the region Bird Flu free. Five working groups were created for the implementation of the program, namely: rapid action team, surveillance team, quarantine team, census team, and information, education and communication (IEC) team. The IEC team conducts most of the risk communication activities including dissemination of pamphlets, brochures, comic books and fora to aid the public in understanding AI and the risks it poses to both human and animal safety. Ms Contreras confidently pronounced that through this program, the Philippines continues to be Bird Flu free.

Ms Alethea Nah of the Agri-Food and Veterinary Authority (AVA) of Singapore presented the experiences of the economy on risk communication. According to her, the risk communication efforts in Singapore focused on food safety publication, product recalls and crisis communications. In the implementation of the food safety public education, the AVA created a food safety mascot that conveys key food safety messages to the public. Public education also involved the mass media and supermarket programs such as cooking demonstrations and promotional materials.

Another important factor that AVA employed in its food safety public education was the involvement and partnership with the industry in order to reach more target audience. The second part of the program included proactive actions on product recalls. AVA established trigger points for product recalls, taking into consideration contamination levels of the product, labeling infringements and tracking international notification of unsafe food.

Ms Nah gave an example of AVA risk communication efforts during a recent food poisoning outbreak. A major local bakery made headlines for nearly two months when some 200 cases of food poisoning were associated with the consumption of its confectionery items

Investigations confirmed that the cause is cakes being contaminated with *Salmonella enteriditis* at the bakery's food factory. A recall of the bakery's cakes was instituted and the factory was instructed to stop all food production until inspection and test results were satisfactory. Workers were medically

screened and the factory was cleaned and disinfected before operation could be resumed.

A series of press releases was issued to inform the public of the situation (like recall of the bakery's cakes and closure of the factory), advise them to discard cakes bought from the bakery and inform them on the steps that were taken to determine the cause of the food poisoning.

Further media updates were issued on the actions taken throughout the investigation, cleaning and testing processes. The media was also informed when the bakery was cleared for resumption of operations.

The prompt action taken by the government and the food factory during the recall and clean up process, and transparency of these processes to the public helped maintain public confidence in the government's food safety system. When the bakery finally opened for business, members of the public confidently returned to buying cakes from the bakery.

Ms Nah also shared the experience of AVA in the effort to communicate the risk posted by Bird Flu in Singapore. In 2004, Bird Flu outbreaks in neighboring countries created fears and concerns amongst many Singaporeans. AVA had to reassure the public that Singapore was free from Bird Flu and also educate them on what they could do to protect themselves.

Firstly, a set of key messages was developed. The objective of the communications effort was to reassure the public that Singapore was free from Bird Flu and that the government was taking all the necessary precautions to prevent the incursion of bird flu and that we were well-prepared to deal with an incursion of bird flu should it occur. It was also to educate the public on what they could do to protect themselves and that poultry and eggs were safe to eat.

Thailand also shared their experience on risk communication activities. Ms Saiyuod Prasertvit from the Ministry of Public Health delivered the presentation. Her presentation focused on the risk communication network existing in Thailand. As relayed by Ms Prasertvit, Thailand is a member of the International Food Safety Authorities Network (INFOSAN), the ASEAN Food Safety Network (AFSN) and the ASEAN Rapid Alert System for Food and Feed (ARASFF). These networks aim to provide platforms for coordinating and exchanging information on food safety for the international and regional bodies responsible on ensuring food safety. Ms Prasertvit informed the group that a Food Alert System of Thailand (FAST) has been established. The FAST is a network of food safety information that involves various government agencies. She invited the delegates to access the different networks online for more information.

The last member economy that presented its overview on risk communication was Viet Nam. Ms Tran Thi Nhai provided information on the existing policies, legislations and standards currently implemented by the government. She also described the existing food safety and education activities of the Ministry

of Health such as the Month of Action for Food Safety. This program is a monthly activity wherein the department gives information and conducts activities based on the identified food safety problem for the month.

Risk Communication Studies: Emerging Food Safety Concerns
GM Crops and Products

As part of the risk communication studies for the Training, the emerging food safety concern posed by genetically modified (GM) crops and product was discussed by Dr Ernelea P. Cao, Director of the Natural Sciences Research Institute (NSRI), University of the Philippines (UP). The PowerPoint presentation is found in **Appendix 28**.

Dr Cao gave an introduction of GM crops, including its definition and basic information. She also described the food safety assessment undergone by GM crops prior to its commercialization in the market. The safety evaluation of GM crops is based on the principle of substantial equivalence wherein the novel crop is compared to its conventional counterpart. The comparison is based on the origin of gene(s), agronomic parameters, composition (key nutrients/anti-nutrients) and consumption. Focused evaluation is done for protein and amino acid composition, total fatty acid content, anti-nutritional factors, toxicity and allergenicity potential. If the GM crop is found to be equivalent to its conventional counterpart, the novel food is considered safe for consumption.

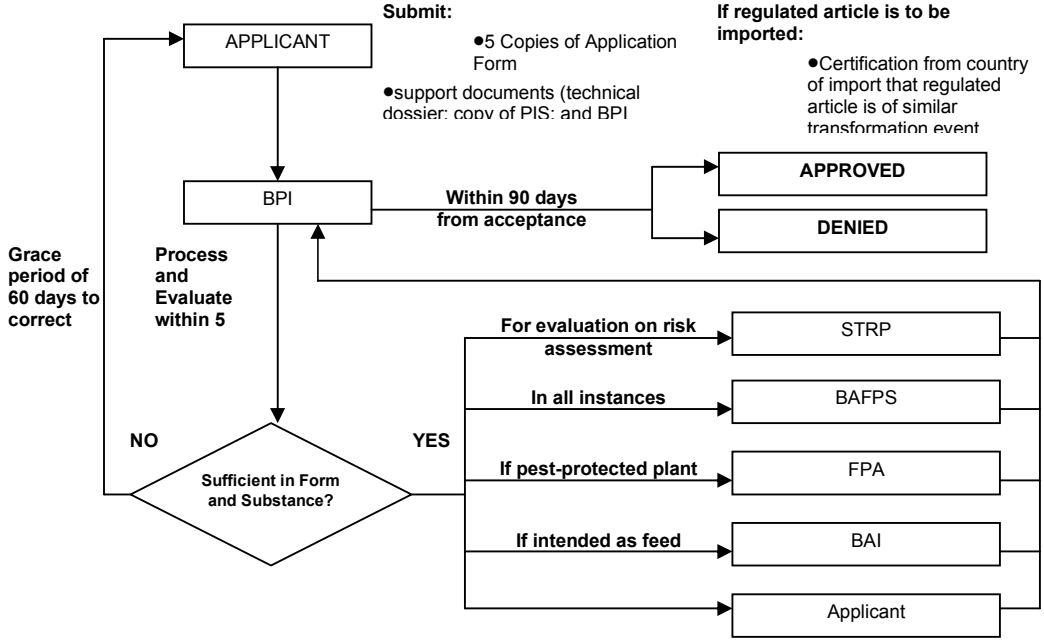

Figure 12. Flowchart for the application for propagation and commercialization of GM crops in the Philippines

In the case of the Philippines, different regulations served as national guidance in the development of a biotechnology regime. Following the Codex Guidelines for the Safety Assessment of Foods Derived from Modern

Biotechnology, the Department of Agriculture established Administrative Order (AO) 8 Series of 2002 or the "Rules and Regulations on the Importation and Release into the Environment of Plants and Plant Materials Derived from the Use of Modern Biotechnology". The procedure for the application for propagation and commercialization of GM crops was also presented.

The safety assessment of GM crops is based on scientific evaluation procedures. For the Philippines, the applications are independently evaluated for safety by scientists, experts and regulatory agencies.

Public perception of the risk posed by foods derived from modern biotechnology is high. Thus, the main challenge for the risk assessors, managers and communicators is the acceptance of allowing GM crops in the market. Information dissemination on the basic concepts of modern biotechnology, the safety issues and safety nets of the government with regards GM crops is crucial. The challenge of changing the mindsets and attitudes of the general public still exists.

Several questions were raised regarding the issue on GM crops. In response to one of the queries, Dr Cao explained that the basis of declaring the safety of a particular GM crop relies on the structured safety evaluation based on international guidelines. The host and donor organisms are evaluated for their history of safe use. Similarly, molecular analysis is conducted to determine the safety and stability of the inserted genetic trait. Toxicity and allergenicity studies are also investigated in order to assure that the novel crop does not pose any health risk to humans. Nutritional and compositional analyses are also done.

Dr Cao also explained that the Philippines do not have a labeling regime at the moment for GM crops. Currently, novel crops that have been approved for propagation and as direct use for feed and food are treated the same as its conventional counterpart, thus the GM crops are not labeled. She added that aside from the safety evaluation of the biotechnology core teams in each regulatory agency conducting the comparison, three independent scientific review panel members are chosen from a pool of experts. These experts also evaluate for the safety of the GM crop. Decisions and evaluations are summarized by the Bureau of Plant Industry as to whether the applications for commercialization of the GM crop would be denied or granted.

Pesticide Residue and Activities to Communicate the Risk in the Use of Pesticides

One of the consultants of the project, Dr Dario Sabularse shared his expertise on the subject concerning pesticide residues. His presentation covered pesticide use, the regulation for the Maximum Residue Levels (MRL) and judicious use of chemicals. He explained that chemical substances used in crop protection are always toxic. They contain active ingredients for killing target organisms and thus can also be hazardous to non-target organisms

Pesticides may be ingested by humans through residues in fruits and vegetables.

Pesticide residues refer to substances in food, agricultural commodities or animal feed resulting from the use of crop protection products. Due to the irresponsible use of pesticides, governments regulated the sale of pesticides with unacceptable properties to be introduced in the market. Maximum residue limits are pesticide levels permitted to be in the fresh crops.

An educative approach on the judicious use of pesticides in order to meet the MRL is a collaborative effort of the various agencies under the Department of Agriculture in order to provide safe foods to consumers. Farmers, producers and the public are informed on the Good Agricultural Practices (GAP) and those following it may apply for GAP certification.

The Fertilizer and Pesticide Authority of the Department of Agriculture in the Philippines also promote product stewardship to provide the responsible and ethical management of products. Pesticide companies are required to provide the necessary training on the safe handling and use of the chemicals.

His PowerPoint presentation is in **Appendix 29**.

Risk Communication Case Studies

Specific case studies were presented by Ms Christel Leemhuis. She discussed the consumer attitude survey conducted in Australia in 2007, describing that consumers are more concerned about food poisoning and safety of imported foods rather than the risk presented by obesity. Actual risk ranking show that diet related diseases poses the greatest risk in Australia, followed by food poisoning and allergens.

After presenting the results of the survey, Ms Leemhuis discussed the strategy implemented by FSANZ in dealing with the risk associated with *Listeria monocytogenes* in ready-to-eat foods. FSANZ undertook a qualitative risk analysis to determine the extent of risk posed by *Listeria* in food. The assessment concluded that only certain populations are at a higher risk of *Listeria* contamination. Similarly, it was found out that certain foods are more likely to be contaminated with *Listeria*. The risk management options considered were: *L. monocytogenes* cooked crustacean presents a low risk to public health, compliance with existing standards ensure that good hygienic practices are employed during production and handling, and a microbial limit for *L. monocytogenes* in cooked crustacean was not justified.

As part of the risk communication strategy of FSANZ for the risk of *L. monocytogenes* in food, information sharing among the food industry, States and Territories on minimizing *Listeria* contamination was undertaken. An educative approach was undertaken to manage the risk. Fact sheets, *Listeria* recall guidelines, question and answer sheets and website information were included in the risk communication activities for *Listeria.*