Food Safety Emergency Response Planning

Shashi Sareen
Senior Food Safety & Nutrition Officer
FAO Regional Office for Asia and the Pacific
Bangkok, Thailand
Food Safety Emergency?

Codex Alimentarius definition:

A food safety emergency is a situation whether accidental or intentional, that is identified, by a CA as constituting a serious and as yet uncontrolled foodborne risk to public health that requires urgent action.

Codex Alimentarius, document CACGL-19
## Emergency, Incident and Event?

<table>
<thead>
<tr>
<th>Definitions:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food Standards Agency of the UK (2009): <em>an incident</em></strong></td>
</tr>
<tr>
<td>Any event there are concerns about <em>actual or suspected threats</em> to the safety and quality of food, require intervention to protect consumers</td>
</tr>
<tr>
<td><strong>US FDA (2005): <em>an emergency</em></strong></td>
</tr>
<tr>
<td>An <em>unforeseen</em> combination of <em>circumstances</em> that calls for <em>immediate actions</em></td>
</tr>
<tr>
<td><strong>AUS – National Food incident Response control (2007): <em>a food incident</em></strong></td>
</tr>
<tr>
<td>Any situation where is a <em>risk, potential risk or perceived risk of illness or confirmed illness</em> associated with the consumption of food</td>
</tr>
<tr>
<td><strong>Public Health Emergency of International Concern (PHEIC) (under IHR, 2005)</strong></td>
</tr>
<tr>
<td>An event which includes the following four criteria:</td>
</tr>
<tr>
<td>1) <em>Seriousness of public health impact</em></td>
</tr>
<tr>
<td>2) <em>Unusual or unexpected nature of the event</em></td>
</tr>
<tr>
<td>3) <em>Potential</em> for the event <em>to spread internationally</em></td>
</tr>
<tr>
<td>4) The risk that <em>travel or trade restrictions</em> may result from the event</td>
</tr>
</tbody>
</table>
## Emergency, Incident and Event?

<table>
<thead>
<tr>
<th>Countries</th>
<th>Definitions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>a situation arising from intentional or unintentional contamination of food with biological, chemical, radio-nuclear or physical hazards that is identified, by a CA as constituting an uncontrolled food borne risk to public health, economy and trade that requires urgent action.</td>
</tr>
<tr>
<td>Thailand</td>
<td>“any event of food safety, whether accidental or intentional, caused by chemical, biological &amp; physical hazards of food, that is serious &amp; unable to be controlled in normal food control system, risk &amp; impact to life, public health, trade, economic and politic, both national &amp; international level, that requires urgent action &amp; multi-agency coordination approach from involved food safety agencies”</td>
</tr>
<tr>
<td>Japan</td>
<td>A situation where there is/may be significant foodborne risk to public health that requires urgent action to ensure the food safety. Specifically, the incident causes large-scale and/or widespread damage.</td>
</tr>
</tbody>
</table>
Definition will differ along national contexts

We recognize that:
- a situation ranges from minor incident to major crisis
- a situation evolves over time
- severity varies (i.e., mortality, morbidity)
- international and trade implications vary

Plan ensures the coordinated response to a potential or confirmed risk to public health through food
“Food Safety Events”?

- No standard in international approach - must make sense for each country
- Situation evolves over time
- Response is scalable to meet the changing needs of the event (resources, coordination, decision making)
- Factors that effect response – numbers effected; severity of illness; volume of food effected; contaminant known/unknown; structures in a country; etc
Nature of Emergencies

• Emergencies of any description are characterised by:
  – Unpredictability
  – Confusion
  – Lack of Information
  – Lack of Time
  – Pressure to Act
  – Loss of Control
Publications from FAO/WHO on Food Safety Emergencies

- FAO/WHO guide for application of risk analysis principles to food safety emergencies
- Food safety risk analysis: a guide for national food safety authorities” (FAO/WHO, 2006)
- FAO/WHO Guide for developing & improving National Food Recall Systems
Why Panning & Preparedness

• Reduces the number of decisions during an emergency
• Enables timely & coordinated response
• Reduces confusion (and disagreement)
• Agreed structures, roles & responsibilities
• Legislative authority & limitations understood
• Templates, decision trees, other tools increase efficiency
• Minimizes adverse impact on health & disruptions to trade
FAO/WHO Framework for Developing FSER Plans

Steps for development of FSER Plan

• 3 preliminary steps
  – Step 1: Obtain high-level support (& mandate)
  – Step 2: Identify key partners (agencies with some responsibility for food safety)
  – Step 3: Establish a planning group

• 5 key elements:
  – Step 4: Essential background information
  – Step 5: Multi-Agency Coordination Group (MACG)
  – Step 6: Incident identification & management
  – Step 7: Post-incident review & evaluation
  – Step 8: Communication
The Planning Group will:

• Lead the process of developing a Plan
• Determine scope of the plan
• Oversee preparation of the plan
• Ensure appropriate review & consultation with key partners
• Collect legal texts, integrate with other national response plans, etc
• Seek approval
• Evaluate the plan periodically & ensure that a mechanism is in place to update the plan
Key Considerations

• General
  - Tiered response
  - Build on food control systems
  - Consideration to seriousness, geographical area
  - Persons familiar – simulation exercises

• Country Specific
  - Existing systems
  - Gaps & limitations
  - Food inspection, disease surveillance mechanisms, labs
  - Resources
Essential Background Information

• **Introduction** – purpose, objectives, reference to regulations, terminology/definitions (Emergency)

• **Scope of the Plan** - food inspection & foodborne disease surveillance, testing capacities, treatments available (region/country)

• **Collection & review of all relevant regulations/legislations** – legal basis for implementation

• **Any other national emergency plans** – list these, relationship with this protocol

• **Roles & responsibilities** of different agencies
MACG (Multi Agency Coordination Group)

- General structure & composition - agencies involved; r&r of each partner; MACG for different areas (any existing structure);
- Notifying agency, Central notification point, Food incident contact officer, Lead agency, National/ Agency food incident controller, Communications controller
- TORs of MACG
- Communication strategy for MACG members
- Operational & logistic arrangements (contact list of members, address, ph, e-mail)
<table>
<thead>
<tr>
<th>Representative Agency</th>
<th>Role and Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Food and Drug Administration</td>
<td>- Mandatory Food control, inspection and importing control</td>
</tr>
<tr>
<td>2. Department of Disease Control</td>
<td>- National IHR focal point</td>
</tr>
<tr>
<td></td>
<td>- Food &amp; water-borne disease, epidemiology data collection &amp; surveillance</td>
</tr>
<tr>
<td>3. Department of Health</td>
<td>- Food &amp; water sanitation, monitor &amp; educate food handler</td>
</tr>
<tr>
<td>4. Department of Medical Sciences</td>
<td>- National reference laboratory, standardized accreditation</td>
</tr>
<tr>
<td>5. Food Safety Operation Center</td>
<td>- Nation INFOSAN emergency contact point</td>
</tr>
<tr>
<td></td>
<td>- Functional structure to coordinate food safety policy and implementation</td>
</tr>
<tr>
<td>6. Ministry of Agriculture and Cooperatives</td>
<td>- Monitor and investigate primary products</td>
</tr>
<tr>
<td></td>
<td>- Control exported food products</td>
</tr>
<tr>
<td>7. Ministry of Industry</td>
<td>- Industrial standardization and conformance</td>
</tr>
<tr>
<td>8. Ministry of Commerce</td>
<td>- Facilitation, promotion and direction for trading in domestic and international</td>
</tr>
<tr>
<td>9. Ministry of Tourism</td>
<td>- Distribute information to tourists/guide, food safety warning</td>
</tr>
<tr>
<td>10. Ministry of Interior and Provincial Offices</td>
<td>- Local authorities of food inspection</td>
</tr>
<tr>
<td></td>
<td>- Liaise with food sector, trade and academia in communities</td>
</tr>
</tbody>
</table>
Establishing a National MACG – Bangladesh

Draft

• National Food Safety Emergency Coordination Committee (NFSECC)

• **Structure:** The NFSECC includes two Committees that are separate but complementary operational entities and both include representatives appointed by five core agencies involved in food safety in Bangladesh namely:
  - MoHFW, MoF&L, MoA, MoFDM, MoI

• The two Committees are:
  - *FSE Policy Group (SPG)*, top-level decision making entity of the NFSECC; includes top senior administrative level officials nominated by five core ministries/ departments.
  - *FSE Technical Group (STG)* is a separate but complementary entity of the NFSECC; includes top senior technical officials nominated by five core ministries or departments.
Incident identification

- Criteria for activating FSER; validation of criteria
- Identify possible information sources;
- Mechanisms for sharing information to be documented;
- Identify monitoring mechanism in multiple sectors – coordination mechanism; document
- Identify reference/ testing laboratories
- Identify documentation & evaluation mechanism (documents and records – where kept)
Incident Management (1)

- Relies on **establishing control, direction & coordination** to deal with incidents

- MACG is responsible for overall management – state the same

- Identify who takes **lead** in food safety/ health related investigations, define the **process of coordination**

- Describe the **process of flow of information** to MACG and from MACG to others (daily information reports – develop a format), identify population at risk, duty roster may be made
Incident Management (2)

- **Identify RM options** (detention, seizure, recall, closure of businesses, disposal of food products removed from food chain) & reference their procedures

- Procedure to decide **when to scale down**, communication process

- **Reference documents**, GLs, tools, check lists, templates

- A table of **agencies** with roles & responsibilities

- Process for maintaining central **records**
Post incident review & evaluation

- Outline the process to conduct review of how incident was managed; strengths/ weaknesses

- Include reviewing process for
  i. **response** activities,
  ii. **communication** methodologies,
  iii. regulatory procedures to prevent production/ distribution of **implicated foods**,
  iv. capacity & reporting of **lab & inspection** service,
  v. effectiveness of product **withdrawal**,
  vi. identify gaps in lab testing/ regulatory procedures

- Review plan, if needed

- Sharing of corrective actions with policy makers
Communication

- **Document strategies** for communication & information exchange (partners, media, public, international orgs)
- **Document processes** to address emergency alerts, intra agency communication, public messaging
- List of all **contact details**
- **Models & templates** - press releases, incident notification templates, recall/withdrawal notice templates
- Identify **means of information dissemination** (websites, newspapers, English language, public notices, SMS)
- **What to communicate** – the risk, what consumer should do if consumed effected product
- Decide on **spokesperson** (from an agency) – single person per event is preferable
Risk analysis in emergency situations
FAO/WHO guide for application of risk analysis principles to food safety emergencies

Key Steps

- Preparedness
- Preliminary risk management (risk evaluation)
- Risk assessment
- Risk management
- Risk communication
Food Safety Risk Analysis – Elements & Process

Risk Management (RM)

Preliminary RM Activities
- Identify FS Problem
- Develop Risk Profile
- Establish RM goals
- Decide on need for RA
- Establishment of RA Policy
- Commissioning RA (if needed)
- Consideration results of RA
- Rank risks (if necessary)
- Identify & select RM options
- Implement RM decision
- Monitoring and Review

Risk Assessment (RA)

Hazard Identification
- Hazard Characterization
- Exposure Assessment
- Risk Characterization

Risk Communication

By Dr. Yukiko YAMADA
Preliminary Risk Management Activities

• Preparedness for food safety emergencies (criteria, decision trees, templates)
• Initial steps after identifying a food safety event
• Activation of emergency response
• Formulating targeted questions for risk assessors
Initial steps after identifying a food safety event

• On receipt of report of food safety event (widespread, difficult to control, serious health consequence)

• Determine
  – Likely magnitude of event
  – If need to inform/ involve higher officials
  – If emergency response plan needs to be activated

• Consider
  – Initial source of information (media, food inspectors, lab tests, partner alerts, consumer complaints)
  – Verification/ validation of initial reports
Initial steps after identifying a food safety event

• Initiate investigations (food safety & epidemiological) to determine
  – Whether food potentially contaminated with a food hazard
  – Whether severe illness or death is involved
  – Whether event localized or widespread
  – Whether source of hazard has been identified
  – The involvement of a particular food source
  – Likely scope of distribution of product (e.g. local, regional, national, international)
  – If no action could it result in widespread illness
Activating of Emergency Response

- FSE identified
- RA procedures followed - more dynamic & intense
- RM actions before RA completed
- FSER Plan activated
- MACG established (r&r already defined)
- Risk communications expert included
Activating of Emergency Response

• Risk managers should
  – Set the objectives for the emergency response
  – Identify data required
  – Evaluate any other relevant factors
  – Consider need to include other relevant agencies/ministries in MACG
  – Determine stakeholders to be notified (e.g. senior officers, other agencies, affected private-sector establishments)
  – Consider inclusion of decision tree to model initial steps & resulting outcomes
Formulating Targeted Questions for Risk Assessors

• Interaction between RA & RM rapid & frequent, initiated early, all channels used

• For formulating Q on RA, need to
  
  – Formally engage relevant partners to gather additional information
  
  – Begin to collect & focus information for RA components eg hazard characterization
  
  – For new/ unusual hazards emphasis on collecting field data
  
  – Standardize terminologies understood by industry, RAs & RM to reduce miscommunication
  
  – Targeted questions to RA in standard format
Annex 1.
Example template for a
Risk Assessment Request Form

Emergency Risk Assessment Request Form
(to be completed by risk managers)

1. Issue Identification

<table>
<thead>
<tr>
<th>Issue description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of concern</td>
<td></td>
</tr>
<tr>
<td>Date of request (YYYY/MM/DD)</td>
<td></td>
</tr>
<tr>
<td>Issue number</td>
<td></td>
</tr>
<tr>
<td>Trigger</td>
<td>Issue report attached? (please check)</td>
</tr>
<tr>
<td>Requestor name</td>
<td></td>
</tr>
</tbody>
</table>

2. Scope (Please state clearly the risk management questions)


3. Product Information

<table>
<thead>
<tr>
<th>Product category:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Common name:</td>
<td></td>
</tr>
<tr>
<td>Product type:</td>
<td></td>
</tr>
<tr>
<td>Hazard:</td>
<td></td>
</tr>
<tr>
<td>Brand name:</td>
<td></td>
</tr>
</tbody>
</table>
Risk Assessment
Risk assessment

• Screen incoming/ other available data & information **rapidly**

• Decide on appropriate **methodology & scope** of RA

• Does a RA need to be conducted?
  – Are food safety standards already in place?
  – Is there sufficient data to conduct an RA?
  – Could existing RAs be used to feed into the current RA?

• Time constraints may not support full RA but needs to be **robust**
Example of a Decision Tree for Initiating Risk Assessments

1. Are risk management policies in place that reduce/remove the need for risk assessment (RA)?
   - **YES**: In such a case a risk characterization may still be needed, taking into account the current modes of exposure and occurrence.
   - **NO**: Are there sufficient data or information sources available on the current hazard-food combination to conduct an RA?
     - **YES**: Carry out an RA.
     - **NO**: Do RA exist that can be used to feed into the current RA?
       - **YES**: Use/adapt the existing RA to inform the current RA (see the example below).
       - **NO**: Initiate data collection to fill data gaps. Perform an RA based on expert opinion.
Risk assessment

• In an emergency situation, communication between RM & RA more frequent

• Peer review of RA especially where data is limited

• Use of existing tools can help – national or international consumption data sets, expert networks, international reference values, advice from international counterparts

• Specific Considerations - Absence of specific experience in country may contact CA/ experts from other countries; use of pre-existing scientific information or data specific to incident; information from company/ industry experts; expert opinions
Risk assessment

• **Hazard identification**
  – Where data is insufficient/ hazard not fully identified/ insufficient time to generate new data
    • Surrogate data may be useful (e.g., unknown serotype non 0157 E. coli, 0157:H7 data could be used)
  – Testing methodology
    • Validated rapid test methods used to identify hazards if possible
    • Where no validated method available in-house, review literature/ seek international advice/ develop a method.
Risk assessment

• **Hazard Characterisation**
  – Existing data from toxicity studies, guideline values, dose-response models, etc can be used to expedite RA
  – Where dose-response information is not available, a conservative approach should be taken and whole population should be considered sensitive
Risk assessment

• Exposure assessment
  – Existing national consumption data preferred
  – Alternatives include
    • Household food expenditure surveys
    • Models
    • Other national datasets
    • International data (eg WHO GEMS)
      – *It is important to identify & document assumptions used in dietary exposure assessment modelling
      – Refined as new information available
Risk assessment

**Risk characterisation**

- During an emergency, initial information is often *qualitative or semi-quantitative* due to time and information constraints.

- **Decision trees** can be very helpful in quantifying and communicating levels of risk.
Risk assessment

• Expedite the RA
• Important to document and explain limitations and uncertainties (data gaps)
• Need to revise risk assessment as new data becomes available
• MACG to consider revised risk assessment – and RM or RC implications
Risk Management
Risk management

- Although **public health and safety** is paramount, social and economic impacts also to be considered.
- **Preparation** will help with RM decisions in an emergency – eg pre-agreed RM options, decision triggers, documents, templates/decision trees etc.
- **Documenting** RM decisions critical.
- **Risk categorization** system useful – enables rapid, consistent RM decisions.
Risk management

• Factors to consider in selecting RM options
  – **Capacity issues**, eg to implement RM or laboratory capacity/ability to obtain assistance from elsewhere
  – **Uncertainty** about the nature of the risks
  – **Public expectations & perceptions**
  – **Legal considerations**
  – **Industry** considerations (Industry support/ cooperation
  – **International** considerations, eg actions taken by other countries, trade implications
  – Others
Risk management

• **Implementation** of RM decisions
  – May need to involve agencies/ministries not usually involved in food enforcement
  – Legal authority for dealing with industry eg recall actions else advice to public
  – Consultation and coordination with industry
  – Widely used ingredient - complex supply chains and traceability

• **Monitoring, evaluation** of options/ results
Risk Communication
Risk communication

• May be very different from usual approach
  – Demands for frequent updates from different stakeholders
  – Urgent demand for up-to-date reports
  – Communicating complexity & uncertainty
  – Messages developed in very short timeframes
  – Messages change as situation unfolds
  – Public, media or political scrutiny & pressure for action
Risk communication

• Communicating with industry
  – **faster response** & possible an earlier return to market of implicated products
  – **Contact points** for use in emergency established - industry/ government
  – **2-way**– industry a good source of information & may assist in implementing RM
  – Industry to be aware of investigation approaches, RM options & legal basis, FSER GLs
  – **Consistent/ complementary** messages by government & industry
Risk communication

• Communicating with the general public
  – Early communication critical even in uncertainty
  – Two-way
  – Public trust can be easily damaged
  – Be as accurate as possible, timely, consistent, demonstrate confidence, well targeted & address public concerns
  – Identified agency to take lead
  – May need to counter inaccurate/ misleading statements by others
Risk communication

• Communications to the public to cover
  – Details of the food safety emergency
  – The foods involved
  – The risks & if known
  – Levels of exposure that are harmful
  – What public should do if affected products consumed/ obtained
  – How to access additional information

• Different ways to communicate with public
  – traditional/social media, signs in shops, advertising, health/ field officers
Risk communication

• Communicating with international/ regional bodies
  ✓ International counterparts
  ✓ Importing countries
  ✓ International bodies, eg INFOSAN
Conclusion

• Countries **to define emergency** in terms of own, systems, resources & capacity
• Emergency response can **differ** in countries
• Application of RA to follow **same principles** as in normal situations
• **Differences** are factors effecting decision making – time pressure, increased uncertainty
• increased need for **multi-agency coordination**, strong demand for timely communication
• **Preparedness** is the key – FSER Plan & team, MACG, data & information, tools
THANK YOU

Any Questions?