

## Framework of Food Safety Emergency Response (FSER) System

### I. Structural Components

#### 1. Introduction

Food Safety Emergency Response (FSER) Plans are a framework developed which aims at managing a potential or confirmed risk to public health arising from food through a timely and coordinated response so as to minimize any adverse impact on health and disruption to trade. Such planning also enables food safety authorities to focus on prevention and preparedness, rather than only on reaction to individual events, and therefore has greater long-term sustainability.

This document is intended as a framework for the concerned agencies involved in facilitating response plans to emergency situations in relation to food safety. As such also include incidents of emergency occurred either intentional or accidental contamination, whether caused by chemical, biological or physical hazards, which are unable to controlled in the normal food control system. This may cause risks or impacts upon health, trade, societies, and economy at both national and international levels that require an urgent and integrated action among relevant agencies. The criteria for determining food safety emergency situations envelop food hazards, size and severity degree of the incident.

#### 2. Objectives:

To establish a framework for:

- i. prevention of food safety related incidents
- ii. managing/responding to any food safety emergency situations which may endanger food safety and public health, both at national and international levels

#### 3. Definitions:

- (a) **Food Safety Incidents:** Any situation within the food supply chain where there is a risk, potential risk or perceived risk of illness or confirmed illness associated with the consumption of a food or foods.”
- (b) **Food Safety Emergencies:** A food safety emergency is a situation, whether accidental or intentional, that is identified by a competent authority as constituting a serious and as yet uncontrolled foodborne risk to public health that requires urgent action.
- (c) **Food Safety Emergency Response:** A process of assessing the risk, making risk management decisions, and communicating risks in the face of time constraints, and possible incomplete data and knowledge.
- (d) **Foodborne outbreak:** The observed number of cases of a particular illness that may be foodborne exceeds the expected number, OR the occurrence of two or more cases of a similar foodborne illness resulting from the ingestion of a common food and epidemiologic analysis implicates the food as the source of the illness.

**4. Scope:** This plan addresses policies and procedures that will minimize the impact of a food safety emergency situation related to the state's food supply. In addition, the plan addresses recovery following an incident. The plan stresses local, state and central interagency cooperation, as well as cooperation with industry. This cooperation will be essential when responding and recovering rapidly to any attack or threat to the state's food supply.

## **5. Key Partners of Indian Food Safety Emergency Response (FSER) Plan**

As the food safety hazards may originate from multiple sectors (plant, animal, feed, processing, etc.) and impact human health, therefore, the key to a successful response is to involve all relevant stakeholders from food sectors and health sectors. This helps to ensure cooperation and collaboration by all interested parties and facilitates the sharing of information among responsible agencies. The key partners sectors to involve or consult may include Ministry of Commerce, Ministry of Agriculture, Ministry of Health and Family Welfare, Ministry of Environment, Forest and Climate Change, Ministry of Woman and Child Development, State food commissioners, Custom officers, Department of Animal Husbandry & Dairying (DADF)- state officers, Marine Products Export Development Authority (MPEDA), National Centre for Disease Control (NCDC), Agricultural and Processed Food Products Export Development Authority (APEDA), Spices Board, The Federation of Indian Chambers of Commerce and Industry (FICCI)/Confederation of Indian Industry (CII), Export Inspection Council of India (EIC), Indian Council of Agricultural Research (ICAR), TEA Board of India and Indian Council of Medical Research (ICMR), consumer associations and the relevant agencies.

As regard to managing/controlling foodborne outbreaks/incidences, there is a need to establish a link between health and food sectors to exchange information during such situations. Since Integrated Diseases Surveillance Program (IDSP) under NCDC tasked to detect early warning signals of impending outbreaks and help initiate an effective response in a timely manner through district/state surveillance officers and rapid response team (RRT), the coordination of Food Safety Officers (FSOs) with Rapid Response Teams is essential to effectively respond to situations arising out of foodborne disease outbreaks/incidences.

### **5.1 Structural Components and their roles and responsibilities**

**5.1.1 National Emergency Contact Point (NECP):** It is a contact point from the national authority responsible for coordination of national food safety emergency response. FSSAI will function as National Emergency Contact Point (NECP).

#### **Key Roles and Responsibilities**

- Liaisoning with Food safety risk assessment Committee (FSRAC), Food Safety Coordination Committee (FSCC) and relevant stakeholders/focal points including state food authorities
- Providing secretarial support and convening meeting of FSCC and FSRAC, as and when required

- Taking decision as may be necessary, after the approval of CEO, when it is not feasible to call meeting of FSCC and the reasons be recorded in writing
- Responsible for risk communication to related agencies both at domestic and international level, the public and media as appropriate during emergency situations
- Collecting data/information from both domestic as well international agencies as appropriate
- Maintaining the records/database on food safety emergencies and actions taken thereon
- Responding to food safety incidents and trigger on appropriate response
- Maintaining the list of nodal points/national focal points and food analysis laboratories and updating it regularly
- Identifying and promoting need for capacity building and awareness
- Ensure coordination of state food authority with NCDC and other health authorities to investigate and respond to food borne illness
- Also act as INFOSAN Emergency Contact Point of India and therefore shall be responsible for reporting urgent food safety incidents of potential international significance to the INFOSAN Secretariat; requesting international assistance through the INFOSAN Secretariat to respond to a food safety event or emergency, as necessary; and taking action on INFOSAN Alerts and disseminates information accordingly
- Any other additional functions as outlined for National Focal Points (NFP) within its organisation

**5.1.2 National Focal Points (NFPs):** These are other national authorities who have stake in food safety. The following authorities/organization will nominate national focal points:

- i. Ministry of Commerce and Industry (MoC), Ministry of Agriculture and Farmers Welfare (MoA), Ministry of Health and Family Welfare (MoH&FW), Ministry of Woman and Child Development (MWCD); and Ministry of Environment, Forest and Climate Change.
- ii. State food Authorities,
- iii. Custom Department, Central Board of Indirect Taxes and Customs (CBIC),
- iv. Department of Animal Husbandry & Dairying (DADF)- state officers and,
- v. Marine Products Export Development Authority (MPEDA), National Centre for Disease Control (NCDC), Agricultural and Processed Food Products Export Development Authority (APEDA), Spices Board, The Federation of Indian Chambers of Commerce and Industry (FICCI)/Confederation of Indian Industry (CII), Export Inspection Council of India (EIC), Indian Council of Agricultural Research (ICAR), TEA Board of India, Indian Council of Medical Research (ICMR) and Consumer organisations.

### **Key Roles and Responsibilities**

- Nominate Nodal officer and share this information with NECP and other focal points

- Collaborate with and provides technical support to the NECP on food safety incidents/emergencies involving their respective agency
- Support local government efforts through resource and technical assistance during emergencies
- Engage in surveillance of food products in accordance with purview of their organisation
- Engage in sharing information with NECP including surveillance data and other members on food safety issues that may be relevant at the national and/or international level and beneficial to all members, such as, but not limited to: risk assessments on emerging hazards, lessons learnt, identified good practices, etc.
- Disseminate INFOSAN Information Notes, FAO/WHO guidelines, and other important food safety information received from INFOSAN within their agency, as appropriate

The specific responsibilities of State food authority and state health sectors are provided in box 1 below:

### **Box 1: Specific responsibilities of State food authority and state health sectors**

**1. Food Safety Commissioners (FSCs):** As per the Food Safety & Standards Act, 2006, the state food safety machinery is headed by the Commissioners of food safety, for efficient implementation of food safety and standards and other requirements laid down under this act and the rules and the regulations made there under.

#### **1.1 Responsibilities of FSCs (in addition to already defined responsibilities in FSS Act 2006)**

1. Overall governance of food safety incidents/emergencies in the state
2. Ensure proper surveillance of food products and provide surveillance report to NECP (FSSAI)
3. Ensure appropriate and proper investigations during food safety emergencies and take appropriate action/measures to mitigate it
4. Facilitate coordination with other relevant agencies/organisation or authorities during emergencies if required.
5. Carry out post incident review as mentioned in para “E” under Section II-Operational Procedures and present it in Central Advisory Committee (CAC) meeting.

**2. Designated Officer:** As per the Food Safety & Standards Act, 2006, the Commissioner of Food Safety shall, by order, appoint the Designated Officer, who shall not be below the rank of a Sub-Divisional Officer, to be in-charge of food safety administration in such area as may be specified by regulations. There is one DO for each district.

## **Box1: Cont...**

### **2.1 Responsibilities of DO**

1. Act as **nodal officer** in case of food safety emergency including food borne illness outbreak and coordinate with health authorities, if required.
2. Immediately intimate FSSAI about food safety incidents as and when received.
3. Coordinating with IDSP/NCDC during foodborne illness outbreak.
4. Nominate FSO to be the part of RRT during food safety incidents
5. Transmitting the relevant data/information with respect to the food safety incidents to the NECP, FSSAI
6. Taking immediate actions on the directions given by NECP.
7. Keep track of investigations during food safety emergencies and take appropriate action/measures to mitigate it in consultation with FSC
8. Submit interim report within 48hrs of the incident and final report on completion of the incident to FSC and FSSAI

**3. Food Safety Officers (FSOs)-** Food safety officers are appointed by the commissioner of food safety for such local area as he may assign to them for the purpose of performing functions under FSS Act and the rules and regulations made thereunder.

### **3.1 Responsibilities of FSOs**

1. Act as a member of Rapid Response Team (RRT)
2. Inspect and investigate facilities associated with suspected or confirmed food borne illness.
3. Trace forward and back products with suspected ingredients.
4. Take field actions to mitigate incident under consultation with DOs and FSCs.
5. Coordinate with local health authorities and other agencies.
6. Regular follow up of the situation during emergency.
7. Preparation of the report on the food safety emergency
8. To follow guidelines investigating and responding to food borne illness outbreak in India as prescribed by FSSAI

### **4. Responsibilities of State/local health authorities**

1. Collection of food consumption history of patients with food borne disease and epidemiological data of food borne diseases.
2. Dissemination of information/data like clinical reports or suspected pathogens and suspected implicated foods etc. to the FSOs related to the Food borne illness outbreak
3. Coordinate with state food authority and NECP, FSSAI during emergency.

**5.1.3 Food safety risk assessment Committee (FSRAC):** FSRAC is a risk assessment body and shall be responsible for providing technical and scientific support both in normal or emergency situations. The committee shall provide preliminary information of risk assessment to identify emergency situations and their levels of severity in order to support decision making by the Food Safety Coordination Committee (FSCC) and FSSAI.

## **Key Roles and Responsibilities**

- Establish a system for risk assessment and collecting data in the case of emergency
- Analyse the gathered data/information in order to perform assessment of risk, its magnitude and range of the hazards as well as emergency events
- Provide advice to Food Safety Coordination Committee (FSCC) and FSSAI based on the risk assessment of hazards identified during food safety incidents
- Carry post incident review and evaluation and give suggestions/advices to further improve FSER systems based on gaps identified, if any, to the FSSAI and FSCC

## **Members for FSRAC**

The FSRAC will comprise of following members:

1. Dr. D Kanungo, Human Health Risk Assessment Expert and Former Additional DG of Health Services, Govt of India
2. Dr. V Sudarshan Rao, Scientist E, National Institute of Nutrition, Hyderabad, India
3. Dr. Kaushik Banerjee, National Research Centre for Grapes, Pune, India
4. Members/experts from NetSCoFAN on relevant subject matter
5. Representative from EIC
6. Representative from National Institute Epidemiology, India
7. Head of Food Safety Emergency Cell, FSSAI- Member Secretary/Convenor

### **5.1.4 Food Safety Coordination Committee (FSCC): Food Safety Coordination Committee (FSCC)**

FSCC is a committee constituted by FSSAI and shall be responsible for the implementation or management of food safety emergencies. The committee shall consider information related to range of hazards, its magnitude and affected people while making decisions. The Committee may support finances and other resources, if required, for operations.

## **Key Roles and Responsibilities:**

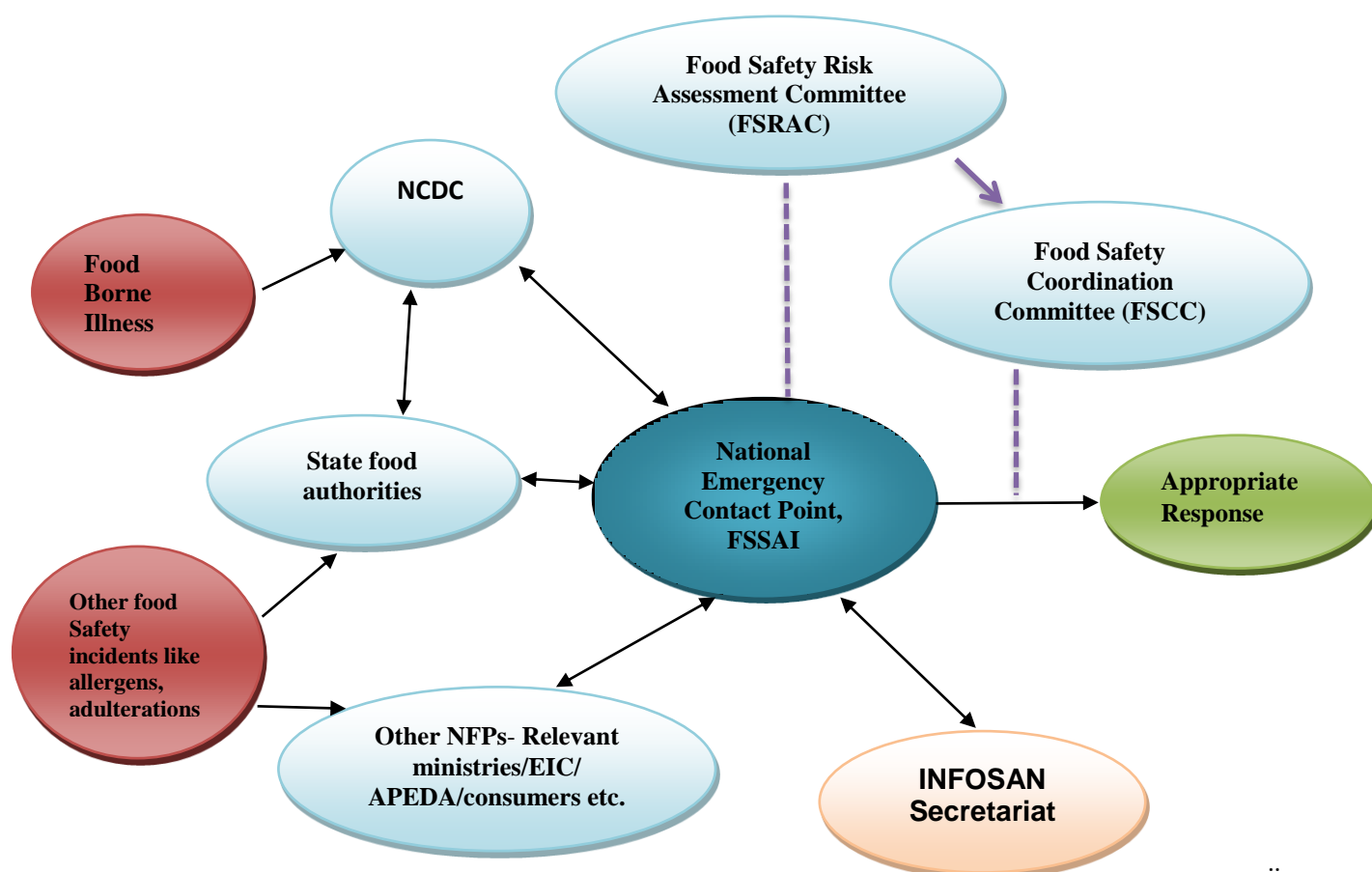
- To take decisions for controlling and management of food safety emergency situations based on the recommendation of FSRAC
- Direct the planned measures to related agencies in implementing control and monitoring actions
- Monitor, evaluate and review the measures used that are fit to the situation.
- Consider and make a decision when the situation has been controlled in order to increase or decrease the response level, including incident closure.
- Advice for policy making for management and control of food safety emergency situation from time to time.

## **Members of the Committee:**

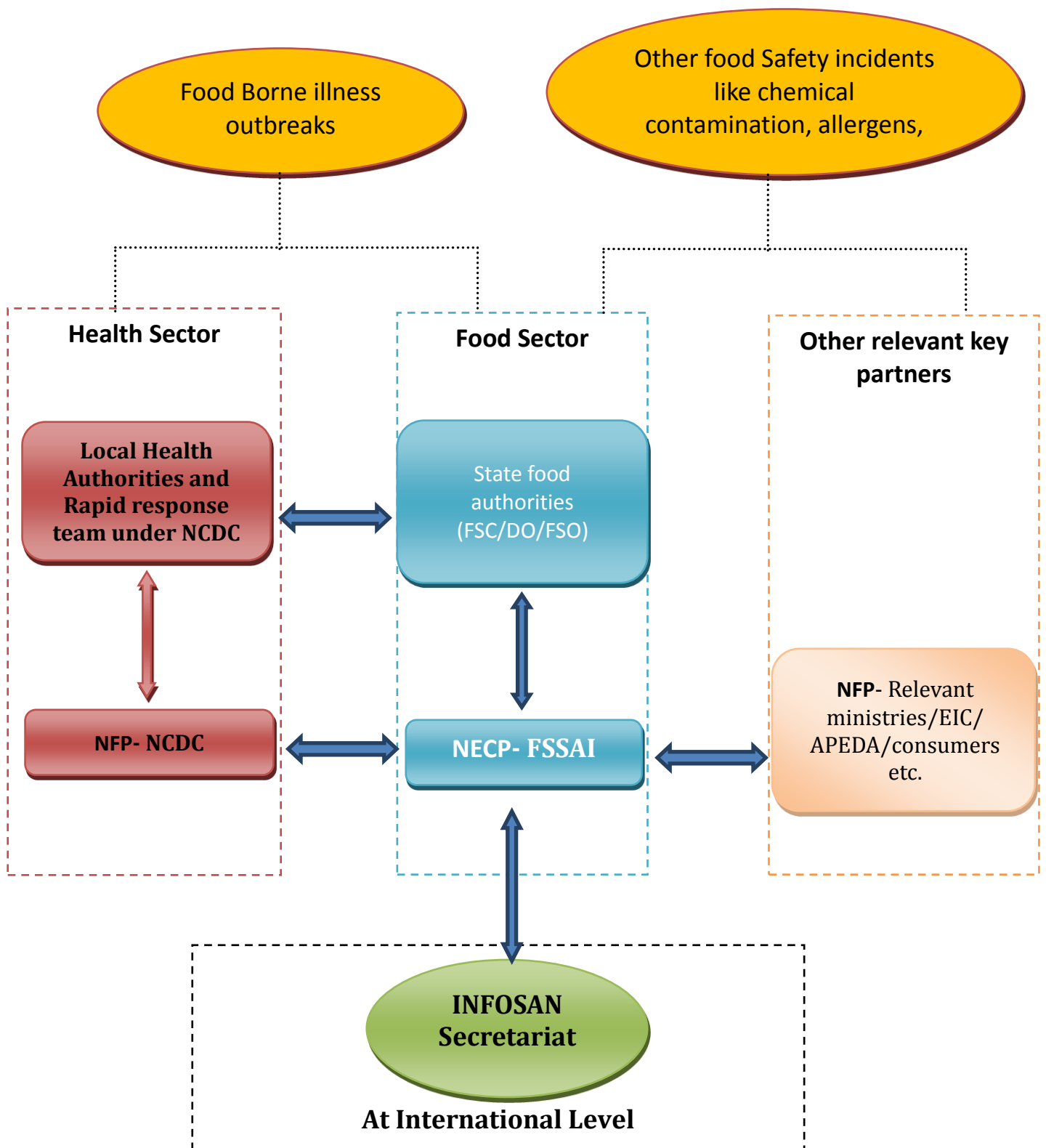
1. CEO, Food Safety and Standards Authority of India (FSSAI) – Chairperson of FSCC Committee
2. Executive Director (Compliance Strategy/Training), FSSAI
3. Advisor (Science & Standards), FSSAI

4. Joint Secretary, Department of Health, Ministry of Health & Family Welfare or his representative
5. Joint Secretary, Ministry of Agriculture and Farmers Welfare or his representative
6. Joint Secretary, Department of Commerce (EP Agri Division), Ministry of Commerce or his representative
7. Joint Secretary (Cattle Dairy Development), Department of Animal Husbandry, Dairying and Fisheries (DAHD) or his representative
8. Joint Secretary, Ministry of Consumer Affairs, Food and Public Distribution or his representative
9. Joint Secretary (Fisheries), Department of Animal Husbandry, Dairying and Fisheries (DAHD), Ministry of Fisheries, Animal Husbandry, Dairying or his representative
10. Joint Secretary (Nutrition), Ministry of Women & Child Development (MWCD) or his representative
11. Joint Secretary (Livestock Health), Department of Animal Husbandry, Dairying and Fisheries (DAHD), Ministry of Fisheries, Animal Husbandry, Dairying or his representative
12. Director, Export Inspection Council of India (EIC) or his representative
13. Director, National Center for Disease Control (NCDC) or his representative
14. Representative of Indian Council of Medical Research (ICMR)
15. Director (Imports), FSSAI
16. Head of Food Safety Emergency Cell, FSSAI- Member Secretary/Convenor

The Networking of all structural components of the FSER system and multi-sectorial coordination are depicted in figure 1 and figure 2 respectively as below:



**At Domestic Level**



**Figure 2: Multi-sectorial Coordination**



## II. Operational Procedures

### Key Elements of FSER

#### A. Criteria for considerations of food safety emergency

**Food hazard characterization:** The determination of significant hazard should be conducted by experienced risk assessors and information derived from food safety monitoring at the national level should be considered to identify a level of severity in each food safety incident

**Magnitude and severity degree of the food safety incident:** To determine, numbers of cases, magnitude of a hazard and the degree of consequences due to consumption of foods or food products reported are taken into account. This also includes potential of incident spreading with respects to distribution route, consumption rate and consumer trends. Magnitude and severity degree of the incidents are divided into

(1) “Restricted area” defines as foods or food products afflicted are distributed or sold or caused illnesses from consumption in the restricted area, which is under the responsibility of sole province and stays under control.

(2) “Widespread area ” defines as foods or food products afflicted are distributed or sold, or caused illnesses from consumption in widespread areas covering more than one province, or exported to other countries, or spread out to various areas domestically and internationally. Such incidents can barely be managed within the sole province.

In addition to above, following queries may also be considered:

- Whether the event caused by intentional contamination
- Whether the event poses a risk to public health that requires an urgent action
- Whether the event poses a potential to illnesses or deaths of public, which may spread intra or inter- country, or causes serious impacts on society, as well as domestic and international trade

**B. Incident Identification:** Surveillance will be essential in identifying a food emergency or the initial signs of an emergency unfolding. Local sources will be instrumental during the initial identification of an unintentional or deliberate food-related incident. These local sources would include consumers, local health departments, food retailers, manufacturers, distributors, processors, producers and media. Events detected through national food control system may be assessed, for identifying whether an event is an emergency or not, considering criteria as mentioned above in section 5.2 (A). Food safety incidents/emergencies may include cases of illness due to an outbreak of food and water-borne diseases, cases of food or food products contaminated by chemicals like metallic contaminations, residues of pesticides or veterinary drugs which poses potential risk to health, cases of food adulterations etc.

Food safety emergency situation shall be declared by FSSAI or FSCC after reviewing and analysing the information collected for food safety incident. In case of food borne illness, outbreak shall be declared by NCDC/health departments in consultation with FSSAI. If incident is identified as emergency then a response phase will be initiated.

### **C. Emergency response phases**

- i. Alert phase:** Notifying identified food safety incident to INFOSAN Secretariat and/or National authorities or organization or media, if required. The kind and extent of alert will be decided by Coordination Committee based on the analysis report submitted by FSRAC to Coordination committee.
- ii. Action phase:** Food Safety Coordination Committee will take immediate actions/safety measures in order to control food safety emergency situation. Following measures may be taken based on the need of the situation:
  - a) investigation for the source of food throughout the food supply chain, from import, production and distribution including those related to food or food products that may pose additional risk
  - b) In case of food borne illness outbreak, actions may be initiated by state food authorities as per the guidelines prescribed by FSSAI for “Food borne illness outbreak investigation and response”.
  - c) Directing related agencies for surveillance/prevention/disease control according to their roles and responsibilities
  - d) Enforcement of law e.g. i) prohibit or stop the distribution, detention, control or recall in order to remove food or food products from markets, case by case; ii) place measures to protect the public from food hazards that may affect health.
  - e) Advise consumers on the extent of risk, measures taken by the authority, measures to be taken by the consumers or issuing other relevant advisories time to time (via television, radio, cable operators, internet, social media sites etc.)
  - f) Monitor and evaluate the situation continually and adjust the measures until the event is controlled
- iii. Stand down phase:** If the risk is mitigated or situation seems to be in control then advisory should be withdrawn and further advice to industry and consumer should be issued, if necessary. This will be decided by FSCC. Spoke person who is assigned by the FSCC will inform relevant agencies, stakeholders, media and the public that the event has been implemented and solved and returned to normal condition normal. The measures used in emergency management, lesson-learned and impact of the food safety event will be reviewed and evaluated to restore and prevent of the incident that may happen in the future.

**D. Communication:** It is an important process to inform of the efficiency of the measures to the public and stakeholders through various means like media/press. Communication language during emergency event must be easy to understand and must cover all groups of stakeholders, press and media, public and international organization.

Effective communication is a crucial aspect of successful food safety emergency management. Throughout the course of emergency, it is important to share relevant information with:

- the general public.
- the media;
- the people directly affected;
- authorities and other professional groups;

**Communication with the public:** The purpose of public information in the event of a food safety emergency is to provide: - accurate information about the food safety incidents/emergency; - information on implicated food products and how they should be handled; - advice on personal hygiene measures to reduce the risk of person-to-person spread.

State Food authority should periodically issue mitigation measures or do's/don'ts through press releases to the public.

If a food safety emergency has attracted intensive publicity, it may be necessary to establish a telephone helpline for the public. It is important that such help lines are staffed by individuals who have been trained in gathering additional information (e.g. details about cases) from callers.

**Communication with the media:** As the major interface between the general public and the health authorities, the media play an important role during food safety emergency. Developing good relationships with the media before an outbreak occurs may be very helpful in facilitating crisis-related communication. The media may be notified of such outbreaks either officially through the FSSAI or State Food Authority media releases. In either circumstance it is important for local government to contact the FSSAI before releasing any outbreak information to the media and to ensure that any investigatory work undertaken by the FSSAI is accurately reflected in the media correspondence.

**Communication with authorities and other professional groups:** The most relevant authorities and professional groups include local health authorities, food, water, agricultural and veterinary authorities, and educational organizations. Whenever possible, established communication channels and regular meetings should be used as the most efficient means of keeping authorities and other professional groups fully informed. It is the responsibility of the Food Safety Commissioner to communicate with authorities and other professional groups, if needed, through appropriate means from time to time during food safety emergency.

### **Responsibility of the Food safety agencies/authorities during food safety emergency situation:**

- Establish communication channels such as social network, phone etc.;
- Arrange meeting using teleconference and/or video conference to communicate in emergency events
- Provide an update situation of food safety emergency and reporting via website and
- allocate personnel to take charge on a 24 hour basis

**E. Post incident review and evaluation:** It includes the review process for response activities, communication methodologies, and regulatory procedures to prevent production/distribution of implicated foods, capacity & reporting of laboratories, inspection services, and effectiveness of product recall. Based on the review learning lessons from the food safety incidents or emergencies, gaps may be identified which could be addressed to improve measures of the FSER plan and also preparedness for resources and development systems or of structure that can be implemented by the measures more efficiently. Further, it also includes maintenance of record of such emergencies faced like product description, type of hazard and health effects observed, actions taken and their result, duration of emergency etc.

A district level and/or state level advisory committee are responsible for post incidence monitoring and review and therefore should:

- Identify the long-term and structural control measures, and plan their implementation;
- Assess the effectiveness of FSER plan and difficulties in implementing them;
- Assess whether further scientific studies should be conducted;
- Clarify resource needs, structural changes, or training needs to optimize future outbreak response;
- Identify factors that compromised the investigations, and seek solutions;
- Identify necessary changes to current investigation and control guidelines and development of new guidelines or protocols as required; and
- Discuss any legal issues that may have arisen.

## **7. References**

- i. Enhancing INFOSAN in Asia and Implementation of Regional Food Safety Strategies: Meeting Report 2012 by FAO/WHO.
- ii. The International Food Safety Authorities Network (INFOSAN): Progress Report 2004-2010 by FAO/WHO.
- iii. FAO/WHO Framework for Developing National Food Safety Emergency Response Plan
- iv. National Food Incident Response Protocol: *A guide for the coordination of Australian government agencies responsible for food safety and food issues in the event of a national food incident*
- v. National Guidelines for Food Safety Emergency Response Plan of Thailand