

CHAPTER 6

ANALYSIS OF REPOSES

6.1 Introduction

A structured questionnaire comprising of 16 questions was constructed. It was administered to the doctors, paramedical staff, administrative, police and other field officials, law professors, businessmen, press persons, students and even judicial officials. The aim was to check the level of awareness and preparedness. It contained a few descriptive questions mainly with the objective of understanding the concept. Most of the questions were of multiple choice type which presented an option to the respondents to express their options. In the end the opinions and recommendations of the respondents was sought as to what should be done to improve the present system. Questionnaires were sent to almost 300 persons and many were contacted in person also. Out of these, almost 250 replied but, some have not been included in the analysis due to incomplete or incomprehensible responses. Only the legible 207 respondents have been analysed. Some interviews were also conducted personally in this process. Some sections appeared to be aware of the issue but were not convinced of the existing capabilities being able to handle such problems.

Especially the Delhi police personnel and some CAPF personnel were aware of mock drills being conducted. NDRF officials were fully aware and accepted the need to be more proactive in disseminating information. At the micro level, the lower level functionaries appeared to be better prepared to handle such emergencies.

The questionnaire which was administered is appended at Annexure 'A'. The analysis of the responses submitted by the various respondents has been done in the following paragraphs on various parameters so as to get a true picture.

6.2 Analysis of age wise responses

Age wise response was obtained from people from different age profiles. Most of the respondents belonged to the age group 40-50 years and second highest was 30-40 years Responses were given by 1 student below 20 years and 2 Professors/Doctor above 60 years age. Responses from females were also obtained and are given in the table below.

Table- 11

AGE PROFILE		AGE PROFILE	
MALES		FEMALES	
1	<20	0	
23	20-30	5	
51	30-40	8	
59	40-50	9	
43	50-60	6	
2	>60		
179	TOTAL	28	207

6.3 Analysis of rank wise responses

Effort was made to obtain responses from a wide range of officials from the states of Delhi, Haryana, Uttar Pradesh. The officials from the various Central Armed Police Forces, who are generally the first responders in the far flung and isolated areas was also obtained. The highest number of responders included constables and sub-inspectors above who are at the cutting edge of the administration and the first ones to reach any crime scene. These are mostly from Delhi Police. The other category included civilians and common man, most of which were from Uttar Pradesh and Delhi. Replies from the doctors, legal officers (including one judge) and Civilian officers (including one Range Commissioner) have also been depicted in the table below.

Table- 12

		DP/DELHI	HP	UPP/UP	SSB	ITBP	CRPF	BSF	NDRF	CIS F	TOTAL
CONST		19	1	1						2	23
HC		9		2						2	13
ASI		7	1								8
SI		11	2	8		2					23
INSP		10		5		2					17
ASST COM					3	7			1		11
DY COM						1			1		2
COMDT				1		3	2	3			9
ADDL SP				1							1
SP											0
DIG				1		2			1		4
ASST PROF/TEACHER				12							12
MEDICAL OFF		3		2		8					13
LEGAL OFF				4							4
DIRECTOR				2							2
STUDENT		2									2
OTHERS		26	3	31							60
COMM. UP				3							3
											0
TOTAL		87	7	73	3	25	2	3	3	4	207

6.4 Analysis of Profession wise responses

The respondents included Policemen, Personnel from CAPF's, Teachers/ Professors of Law, Legal Officers, Doctors and Officials from the Civilian Administration. Highest numbers of respondents were policemen as it was a conscious decision to seek their responses in case of any emergency/ disaster. Second highest are the CAPF personnel from different CAPF's who are the responders in the interior and inaccessible areas. These responses have been tabulated and graphically represented below. The responses give a viewpoint of a broad spectrum of people.

Table-13

POLICEMEN	82
CAPF PERSONNEL	29
TEACHER/PROF.	12
LEGAL OFF.	4
DOCTORS	15
CIVL ADMIN.	3
OTHERS	62
TOTAL	207

6.5 Analysis of qualification wise responses

Responses were received from a wide variety of educated people. In the process the highest responders were the graduates of various streams. This also included professionals including Engineers, Management Experts, Doctors, Doctorates, Medical Doctors, Veterinary Doctors and Specialist Doctors of various fields. Effort was made to include the highly educated people so as to see the preparedness and awareness amongst them as well as the government authorities, besides that of common man.

Table-14

RESPONDERS QUALIFICATION

8TH		1
10TH		9
12TH		28
GRADUATE		78
POST GRAD		25
B.Tech		4
M.Tech		1
BVSc		2
MVSc		4
LLB		9
LLM		3
Ph.D		9
MBBS		6
Splt DR		13
B.Ed		8
M.Ed		2
MBA		2
OTHERS		3
TOTAL		207

6.6 Analysis of awareness among people

As can be seen from the chart, 68.6% of the respondents agreed that Food bio-terrorism is a real threat to the people at large and 24.2% agreed partially about the threat. So, almost 89% of the respondents state that law enforcement agencies, medical specialists, common man and the other educated people believe that the terrorists can use this method to bring harm to the society. The number of respondents who strongly disagree with the hypothesis that food bio-terrorism is a serious threat is minimal, to be around 2-3% of the total respondents. The percentage of people who do not know anything about this is also very less, which shows that people are aware of the problem. Although most of the people stated that they know about the issue of food bio terrorism, they could relate this issue with that of food adulteration only. Food adulteration in the vegetables, fruits and other items of grocery which are used daily in households was found to be extremely common during discussion and interviews.

6.7 Analysis on possibility of disruptions to society

Almost 96% of the respondents (70.5% fully agree and 25.1% partially) agreed that food bio-terrorism can cause some sort of disruption in the social fabric. It can be by causing economic damages, mass killings in some social event, social panic, etc. It is pertinent to mention that there are always huge functions like marriages, melas and other social/ religious congregations going on daily in different parts of

the country. The number of respondents who do not agree is negligible. People mentioning don't know is also very small. So, if any such incident occurs it may cause serious damage to the fabric of the country's economy and society.

6.8 Analysis about preparedness of government and others

Almost 63% of the respondents stated that the government is prepared to handle any emergency arising out of any such incident(54.6% stated they partially agree to the preparedness and almost 8% stated that the government is fully prepared). About 30% of the respondents either disagree fully or partially that the government is prepared to handle such situations. Most of the people who agreed to any degree belong to the law enforcement agencies and the medical fraternity. Almost 13.5% of the people mentioned that they don't know about the preparedness of the government. This category belongs mostly to the students and the common man.

It signifies that even though to some extent the government may be prepared mainly in the big cities, there is lack of awareness even among the people residing in these cities about it.

6.9 Summary of findings of responses-

6.91 Public awareness about food bio terrorism

Many respondents could clearly describe Terrorism as an unlawful means and indiscriminate use of violence to spread fear in the minds of the people especially civilians by certain people for their selfish/ political gains/

religious bent of minds. They have stated that it is an illegal act and many recalled the incidents including the 2008 Mumbai attacks, 9/11 attacks in New York, Pathankot attack, Samjhauta express attack, etc. Some of them recalled attending to the scene of crime while doing their duty. Very few had ever come across any case of food bio terrorism, as very few cases of this sort has ever happened in India, but, many mentioned that they had dealt with cases of food adulteration in their jurisdiction and during their professional work.

The summary of the responses can be described below-

1. Some of the respondents could clearly define Food terrorism as an act or threat of deliberate contamination of food for human consumption with chemical, biological or radio-nuclear agents for the purpose of causing injury or death to civilian population and/ or disrupting social, economic or political stability. However, most of them related it to food adulteration, food poisoning and intentional contamination of food for mass killing. They could describe the cause of adulteration as the help of chemical, bacteria, virus called food bio terrorism. e.g. H1N1, E coli, Zica virus, mustard gas. They were aware that the objective of the group or gang is to deliberately harm the food chain. Many of them were not even aware of what food bio terrorism is.

2. Regarding the awareness it was found that almost 89% of the respondents state that law enforcement agencies, medical specialists, common man and the other educated people believe that the terrorists can use this method to bring harm to the society. The number of respondents who strongly disagree with the hypothesis that food bio-terrorism is a serious threat is minimal, to be around 2-3% of the total respondents.

6.92 Preparedness and response

1. As can be seen from the responses, 63% of responders agree with the fact that the preparation of the government is adequate and about 30% of responders disagree with the level of preparedness. Some of them stated that they are not aware of the level of preparedness.

2. 96% of the respondents mentioned that if any such catastrophic incident occurs, it will have serious consequences for the country and especially for the food industry. This shows that they are somewhat aware of the harmful consequences. The health impact of such an event was not studied in detail, however, it is believed that there will be serious consequential impact on the health and well being of the citizens too.
3. Most of the respondents stated that in case of any such event occurring, the will first inform the police and the emergency services which mean that the police and the police control room are indeed whom a person approaches in any emergency. It also shows that the other agencies are either not working in emergency situations or there is no central control room or other mechanism to deal with these emergencies. Some of them mentioned that they will press into action all medical emergency systems, use mass media to alert public to avoid contaminated foods, medical services to gear up antidote medicines, hospital emergency staff beds be made available both at private and government hospitals, ambulances and village health workers, civil defence, all be put to jobs to provide medical aid, isolate affected areas and lodge a complaint while informing the food authorities. Very few stated that they will inform the local administration.

6.93 Awareness of agencies and other stakeholders

1. As far as the awareness of agencies and hospitals are concerned, very few knew about any private agency or NGO's working in this area. But many pointed out hospitals including AIIMS, RML, Safdarjang and other government/ private hospitals in their areas. Some even pointed out that NDRF and DRDO were working in this area. One of them stated that the Environmental Protection Agency makes several key contributions to the Federal governments' bio terrorism defence programme. Investigation and enforcement services staff of roughly 140 employees throughout the country provides services to four APHIS programmes.
2. Almost 90% of the respondents mentioned that they were unaware of any

organised incident, but, many stated that they had come across cases of food adulteration during their professional careers. Some personnel of Delhi police mentioned that they had been made aware of such acts during mock drills and during preparations for the Commonwealth Games 2010. Their interaction with other departments was only during mock drills, so sharing of information and experience is restricted to mock drills only. Very few had attended some seminar for dissemination and discussion in this field.

6.94 Government policy

1. Regarding any policy of the government to deal with this, almost 85% of the respondents stated that they were not aware of any government policy. About 12-13% mentioned the Food Adulteration Act, Indian Penal Code, Centres for disease control and prevention (CDC) + DHHS - (department of health & human services) FDA, APEDA, FDI, MFPI, FSSAI, AGMARK and OSS. Some mentioned that even though the government had made some laws the implementation of these on ground needs much to be improved. One respondent, who replied online from Spain, mentioned that he was aware about the European Policy on this. The EU Directive on Hygiene and Foodstuffs (93/43/EC), the HACCP systems is the basis for safety procedures for all foods. All food processors that process, treat, pack, transport, distribute or trade foodstuffs are legally bound to have a HACCP plan.

6.95 Causative agents

1. Almost half of the respondents were not aware of the causative agents of food bio-terrorism. Almost 40% mentioned these agents as Biological agents like bacteria, virus, fungi, toxins or any harmful chemicals. The others have mentioned the causes as toxic chemicals, chicken and migratory birds, botulinium, ricin, salmonella, cyanide, arsenic, clostridium, E coli and Plastic rice grains; Wheat flour and marble powder; Tea leaves and cow dung; tea leaves and plant leaves, flower petals. One respondent mentioned examples of Alar being commonly used on apples to keep them on trees longer so that fewer would fall and rot before being harvested. It is said to be the

most potent cancer causing agent in our food supply. Toxicogenic mycoses are highly probable agents for bioterrorism because they have cross effect on plants, agricultural animals and humans.

6.96 Symptoms

1. 80% of the respondents were aware of symptoms which may be exhibited by the victims. They mentioned these as high fever, rashes on skin, vomiting, respiratory distress, irritation to the eyes, Nausea, Abdomen pain; Respiratory- Breathing, Asthma, Cough; CNS- Severe headache, Giddiness, Vision problems, upset gastro intestinal tract and neuro-systems, respiratory systems, breathlessness, headache, etc. So virtually everything was mentioned by the respondents. 20% stated that they were not aware as to how to detect this. Some of them could recall the incident of dropsy adulteration in mustard oil in 1988. Similarly, others too could recall some incident in their neighbourhood, but these were quite old.

6.97 Government response

1. Regarding the preparedness of the government to deal with such emergencies, 20% stated that the government was not at all prepared, 55% argued that government was partially prepared, about 10% stated that the government was fully prepared and 15% mentioned that they are not aware about the preparedness of the government in terms of law, prosecution and emergency response. Whatever preparedness they had was due to the mock drills conducted from time to time. It was recommended that proper equipments need to be provided to the hospitals and emergency services in order to make them better prepared to handle such emergencies. Hands on training needs to be imparted, awareness campaigns to be launched, chapters be added on disaster in the school curricula, protect the food and water supply systems by use of appropriate technology and generally prepare the society to equip themselves to handle these emergencies.

6.98 Suggestions from stakeholders

There were numerous valuable suggestions given by the responders in the responses submitted by them. Many of them have been listed as below-

- a) Publicity through advertisements, films and media is essential
- b) Training common man to identify such outbreaks/ issues
- c) Separate organisation in government to deal with such outbreaks/ issues
- d) **Strong laws and their strict implementation**
- e) Increase security around central food and water supply centres
- f) Mock drills to be conducted so as to prevent futuristic attacks.
- g) Alert food packaging and packaging industries
- h) Educate farmers, educate food merchants at mandis for handling agricultural produce
- i) Reserve drugs be kept at district Hospitals in the states
- j) Develop reporting and tracking systems & Develop system reliability checks
- k) Hi tech labs at small cities to diagnose any such incidences
- l) Research & Development wing related bio terrorism be established in the Universities
- m) Promotion of research in various organisations, public and private
- n) Funding through government agencies be increased
- o) Training police, civil defence, homeguards and hospitals
- p) Helpline number be established for informing and for providing people affected with medical assistance in case of the above menace
- q) Checking of food imports at the entry points into the country
- r) Co-ordination between agencies, Single apex agency instead of multiple agencies
- s) Formulate policy at national level