
UNIT 17 FIRST RESPONDERS

Structure

- 17.0 Learning Outcome
- 17.1 Introduction
 - 17.1.1 Rationale of First Response
 - 17.1.2 Concerns for First Responders
- 17.2 Who is a First Responder?: Understanding the Concept
- 17.3 People as First Responders
- 17.4 Role of Government in First Response
- 17.5 Role of Community in Disaster Management
- 17.6 Conclusion
- 17.7 Key Concepts
- 17.8 References and Further Reading
- 17.9 Activities

17.0 LEARNING OUTCOME

After studying this Unit, you should be able to,

- Understand the significance of ‘first response’ and identify the ‘first responders;’
- Appreciate the role of community in first response;
- Discuss the need to strengthen first response on the part of people and government agencies; and
- Discuss measures to strengthen first response.

17.1 INTRODUCTION

The past few decades indicate substantial increase in the frequency and impact of natural disasters worldwide. These unwelcome events have caused substantive human and material losses. Analyses of response to past disasters have highlighted the importance of reaching the victims within the initial crucial period during an emergency, as it is a major requirement in protecting people and assets. Though some time lag between the event and official response is unavoidable, yet majority of casualties occur during this time. Thus there is need for such a mechanism to be in place, whereby, the immediate or the first response is ensured to the extent possible. The objective of First Response is to build resilience in the affected communities to respond with greater fortitude in the event of disasters so as to resist losses before official help arrives.

However, First Response is complementary to official response. Disaster Response on the part of government is a long-term concern since it is dovetailed with development. Social and economic vulnerability greatly reduces the capacity of the poor to cope with adverse

conditions. First Response, on their part, in disaster situations, is therefore greatly inhibited. As a prerequisite, their coping capacity has to be enhanced by improving their material situation. This could be possible only through combined effort on the part of the administration, non-government organisations active in the area of disaster management and more generically/generally, particularly in developing countries, in development concerns, such as poverty alleviation, uplift of weaker sections etc.

Since disasters and development concerns are interlinked, building resilience of vulnerable communities would demand *more urgent efforts* at alleviating poverty and removing infrastructure bottlenecks that hinder income and employment generation in the villages. That would demand attending to all aspects in the entire *cycle of disaster management*, that is, prevention, mitigation and preparedness in reducing risk and linking it to the development planning process. In the past, disasters were looked upon as isolated events, responded to by the governments and various agencies without taking into account the social, economic causes and long-term implications of such events. However, since disasters retard development severely, attempts are required to build up the coping capacity of the affected communities as well as the local administration for combined/concerted effort to mitigate the human and material cost of disasters, which was rightly emphasised in the Tenth Plan in India (2002-07).

17.1.1 Rationale of First Response

To reiterate, since there is understandable time lag between a disaster event and the administrative machinery or even the organised voluntary groups to swing into action to redeem the damage, more importantly to save lives. *People* are the sufferers in disasters and the extent to which disaster casualty is incident/ minimised would depend on the extent of *readiness* on the part of the affected to respond to the exigency. Until now such effort on their part had been informal and unorganised. However, it is in the process of being recognised officially now, and brought in tandem with government response, since it has proven crucial in saving lives in the immediate aftermath of disasters experienced in the recent past.

Following the Mexico City earthquake untrained, spontaneous volunteers saved 800 people. However, reportedly, 100 people lost their lives while attempting to save others. This implies training has to be imparted to the first responders in disaster response for better response effort on their part. It has been observed that enlisting the services of volunteer first responders who come from a cross section of society greatly economises response effort in terms of both time and money. Future scenario in this regard therefore, is envisaged as, first responders functioning as an extension service/additions to official agencies, offering immediate help to victims till the time professional help arrives. There are numerous examples of such intent on the part of governments globally, particularly on the part of those that have suffered disasters in recent years. The Los Angeles Fire Department (LAFD) created the Disaster Preparedness Division in 1985 with the purpose of training citizens and private and government employees in tackling fire disasters. The Whittier Narrows earthquake in 1987 further prompted the authorities to take an area wide approach to curb future threats in adjoining areas of California.

That readiness however, is not simply to be expected on the part of the people but needs to be *inculcated* in them through proactive effort on the part of official agencies to equip the people with requisite knowledge in this regard and the logistics: gloves, goggles, mask and disaster supplies (bandages, flashlight and dressings) to put response into practice efficaciously. In the U.S., dissemination of information among people in this regard has

been entrusted to the Community Emergency Response Team members (CERT) who are required to undergo in addition to their regular training, CERT Train-the-Trainer (TTT) programme conducted by their State Training Office for Emergency Management or the Emergency Management Institute. The training includes understanding of the disaster (s) as per the vulnerability of the area. The education process gradually converts an *ordinary civilian* into a voluntary *disaster worker* who is equipped with the know-how to save himself and his family in the event of a disaster. Examples in this respect include, fire suppression through education in fire chemistry, hazardous materials, avoidance/safe keep, and ways to extinguish small fires, administration of first aid to sufferers in such (all) cases, search techniques, rescue techniques, and most important, rescuer safety. They are also apprised of all legal and organisational formalities/stipulations in these regards. The effort significantly is a sustained one in that periodic refresher courses are conducted to maintain the interest and involvement of people even during 'lull' times. Accordingly, following the September 11, 2001 attacks in the USA, the country is gearing up to tackle the threat of terrorism by harnessing the individual skills of people and organising them as *Citizen Corps*. As articulated in the Pierce County Circulation (1995-2006) First Response is even more significant today in view of the threat of terrorism, which could even be in the form of biological or chemical attack on unsuspecting civilians or in the form of sabotage. In such events, often the critical facilities such as government offices and hospitals are the prime targets, which leave the administrative machinery paralysed and the people, helpless. In such eventuality, self- help on the part of people is significant in that it is the most effective initial response to the hazard response that can prevent losses considerably. Since terrorism is unobtrusive warfare, official response may not immediately get activated due to plain inability to comprehend a certain event as a terrorist attack, as for instance, the anthrax incidents in America, post September 11. This could increase significantly the number of incident fatalities since the period of uncertainty may be disquietingly extended. To reduce the magnitude of losses from a disaster and save on precious time in response, people have to be aware of the possible threats in their lives and prepared with plans and materials to face up to such eventualities. Accordingly, people in America are being advised to brace up for possible biological warfare where they could be exposed to germs, which cause lung infections and other fatal conditions. Anti -pollution masks for instance, as per the U.S. Department of Homeland Security, usually available with chemicals or even simple cotton cloth worn on the nose could significantly reduce the threat of fatality from germ warfare. Simple preparedness measures such as these are advised on the part of people, both to brace up for terrorist events as also other natural disasters such as a volcanic eruption where deaths result from suffocation, or a chemical disaster where similar measures would be needed to save lives. Hence, general preparedness on the part of people greatly helps reduce harm from adverse events, both natural disasters and terrorism (Pierce County Circulation, 1996-2005).

In France, 'First Response' is a specialised service in that training in this respect is imparted strictly under the guidance of physicians. In France, the prehospital care is either performed by first responders from the fire department (*sapeurs-pompiers*, most emergency situations) or from a private ambulance company (relative emergency at home), or by a medical team that includes a physician, a nurse and an ambulance technician (called "smur"). This may be a more desirable practice in view of the inadequate response to the Meerut Fire Tragedy in India (2006), where medical practitioners, particularly plastic surgeons, who were in dire need, were conspicuous by their absence in the disaster response team. In France, the first responders activity is called *secourisme* ("rescuism")

or *prompt secours* (“fast aid”), to make the difference with the *premiers secours* (“first aid”) performed by the bystanders (although the name of the diploma course offered contains the words *premiers secours*...). Volunteers are trained by agencies such as the Red Cross, who are asked to assist the official agencies and take charge of only minor casualties in case of bad response time.

17.1.2 Concerns For First Responders

Concerns have been expressed over behaviour aberrations that set in in personnel involved in first response out of exposure to harrowing scenes of death and devastation. As the affected, they too are affected by post-traumatic stress for which behaviour therapy in the form of psychological counselling is recommended. Institutionally, Post September 11, significance of inter-agency cooperation such as between police and fire service personnel (where not integrated) is being realised./stressed for effective team work. Significance of positive social capital between inter-agency personnel for mutual help in combating stress is also being emphasised (APA Task Force).

International aid agencies like the WHO have taken up the responsibility of educating laymen in first response. Helpful as they are to the general public they also provide useful guidelines to official agencies involved by dispelling some prevalent myths. Illustratively, a Field Manual for First Responders has been published by the WHO (2006) which is aimed at facilitating proper identification of victims and preventing mass burials and cremations. The book dispels the widely held myth/misconception that dead bodies pose a serious health threat in the aftermath of disasters. Most infectious organisms do not survive beyond 48 hours in a dead body, and it is the surviving population that is more likely to spread disease. Misconceptions in this regard lead to practices such as mass burials that create legal problems later on relating to identification of the dead, exact figures of the dead, legal claims for compensation, etc. (PAHO, 2006).

Competence in medical care is undoubtedly a critical requirement for emergency management. As per the WHO (1989), likely problems requiring medical competence are:

- States of shock
- Skull injuries
- Fractures
- Dislocations
- Burns
- Exposure to toxic substances
- Electrocution
- Drownings
- Cases of accidental hypothermia
- Haemorrhages
- Cardiovascular failure
- Respiratory distress

Likely injuries also depend on the hazard that has struck. In cases of *earthquakes*, head injuries are more likely and fractures and burn injuries where gas cylinders burst. Infections of wounds follow.

In *volcanic eruptions*, there are mostly suffocation and burns due to intense mudflows and burning lava.

In *floods*, mortality is high only in the case of sudden flooding or flash floods, the collapse of dams or tidal waves. Fractures, bruises or burns may occur or hypothermia in cases of extremely cold conditions.

In *cyclones* and *hurricanes*, mortality is caused by storm surges or tidal waves if/when they occur. Destruction of physical infrastructure due to heavy winds and rain results in fractures, cuts, bruises and other injuries.

In *droughts*, people suffer from protein-calorie malnutrition (Marasmus, Kwashiorkor) and vitamin deficiencies (particularly Vitamin A deficiency leading to xerophthalmia and child blindness). In famine conditions, measles, respiratory infections, and diarrhoea accompanied by dehydration may bring about a massive increase in infant mortality. Due to congestion in rescue shelters, or where people migrate, communicable diseases strike, such as, diarrhoeas, tuberculosis, parasitic diseases and malaria (WHO, 1989).

The above discussion underscores the need for good health infrastructure and competent personnel, both of which are lacking presently in the country, especially at the rural local level. Primary Health Care Centers are poorly serviced. Medical personnel resent rural postings, infrastructure in the centers is poor, absenteeism is rampant and availability of personnel and facilities grossly inadequate, given the requirements in rural areas. The need for upgrading health care has been recognised by the government (Economic Survey of 2004-05) and reiterated in the Common Minimum programme of the UPA government. The allocation for control of AIDS and other communicable diseases has been increased by about Rs. 280 crore. The State Health System Development Projects are underway in the states of Karnataka, West Bengal, Punjab, Orissa, Maharashtra, Uttar Pradesh and Uttaranchal with the World Bank assistance. The focus is on strengthening the health care delivery system at the secondary level and integrating it with the primary health care delivery system for improving overall health care services. The Alternate Economic Survey Group (2004-05) emphasises the need for administrative reform in this respect and articulates the need for horizontal integration between agencies involved and convergence in/of health care related schemes at the field for better outcomes. Presently, individual departments function disjointedly, with little coordination between them, when health is an inclusive subject and cannot be viewed in isolation from other inter-related concerns such as persistent poverty, drinking water supply, malnutrition and unhygienic living conditions. Also, there needs to be convergence intra programmes, as between AIDS control and Tuberculosis programmes as the two are related, and likewise. The emphasis should be on prevention of communicable diseases. Accordingly, a National Vector Borne Disease Control Programme (NVBDCP) has been started from 2003-04 through convergence of three on going programmes (Malaria, Kala-Azar and Filariasis) and inclusion of Japanese Encephalitis and Dengue. Attempt would be on understanding and prevention of vector borne diseases. Health and Education are important and, as pointed by Amartya Sen (1990), these are fundamental prerequisites for development. Freedom from disease and illiteracy would enable people to seek better lives through better *entitlements*, in his words, for opportunities such as employment which would lead to better resilience during troubled times such as droughts.

Before proceeding any further with the discussion on the Indian situation, it would be advisable first, to understand further the concept of 'First Responder.'

17.2 WHO IS A 'FIRST RESPONDER'? : UNDERSTANDING THE CONCEPT

As per the *Wikipedia*, "a **certified first responder** is a person who has completed forty to sixty hours of training in providing care in/for medical emergencies. They have more skill than someone who is trained in first aid but are not emergency medical technicians...A certified first responder can be seen either as an advanced first aid provider, or as a somewhat limited provider of emergency services." *Traditional* First responders as per the *Wikipedia* are the **Police** and the **Fire Fighters**. Apart from the above mentioned traditional responders, *Non-traditional* responders have now been brought within the ambit of the concept/definition of 'First Responders'. Those are listed as per the *Wikipedia*, as:

- Lifeguards
- park rangers
- utility workers
- teachers, childcare workers and school bus drivers
- worker-volunteers in a large facility (industrial plant) or at a remote site (fish-packing plant, commercial vessel, oil rig)
- truck drivers
- security guards
- bodyguards
- general aviation pilots and commercial flight attendants
- sports coach

Notably, these are all specialites that can contribute to response in keeping with their respective domains. Potential first responders need to be identified and associated with relevant agency, preferably an Incident Command Agency to work on a sustained basis through mock drills and training sessions towards disaster response. It might be pertinent to add in this context that there is lack of role clarity among the police with regard to their role in disaster management. The question that needs to be clarified is: is their role confined to enforcing law and order in such situations, or does it extend to a service function in an *Incident Command* mode referred above? Their efforts also often come in conflict with other departments such as the public works and others that are involved in disaster management within their respective jurisdictions. Situation after a disaster is chaotic since there are too many agencies involved without perceptible unity of command. In this respect, there would be need to refurbish training as also job description in this regard (The Indian Police Journal, 2003).

17.3 PEOPLE AS FIRST RESPONDERS

The rationale of the concept of first responders as explained above is that the time lag

between disaster impact and official and non-official response has to be minimised to reduce the loss of life, if not so much, property. Population that suffers disaster impact is the obvious first responder; therefore empowering those with basic know-how is the recommended strategy to help vulnerable people help themselves better. Socialisation of the communities in disaster management has to start early since aware communities are empowered communities. For that purpose, disaster education is now being included in school curricula to create aware communities in the future generations. The Central Board for Secondary Education (CBSE) has already taken the step in the desired direction and included the subject in their curriculum. Others are expected to follow suit. The tenth plan has unequivocally laid out the government strategy to engage the volunteer organisations active in the disaster arena, in closer association with official agencies to gain the maximum in terms of their manpower and expertise. Also, village volunteers would be trained by official agencies, the Police in particular, in organising and executing response in the immediate aftermath of a disaster. Introduction of disaster education in school curriculum would further emphasise the cause of preparing volunteers among the young who have the required predisposition to respond rightly which education would create in them.

There is, however, need for proactive information dissemination among the general public regarding self-help tips in the event of emergencies. For example, in the United States, the American Red Cross (1998) is educating people in protecting themselves in the event of natural disasters, such as earthquakes, floods, hurricanes and others through user-friendly modes such as pamphlet distribution and websites. For illustrative purpose, the following are some of the *Do's* and *Don'ts* prescribed for people inhabiting earthquake prone areas:

- Every room should have safe places like sturdy tables under which to hide. Many people have escaped injuries hiding under such furniture.
- Children should be made to identify safe places such as interior wall ways, away from heavy furniture, and given practice in promptly getting to them in the event of a quake.
- Professional help should be taken in structural mitigation techniques (retrofitting) such as bolting the house to its foundation, attaching furniture, particularly critical items such as water heaters (geysers) to wall studs to keep it from falling.
- People should volunteer for training programmes conducted by the local Red Cross Chapter in fire extinguishing and first aid requirements.
- Contrary to popular practice, people are advised to stay indoors and protect their heads using pillows, stay in their cars or away from buildings if they are outdoors, until the shaking stops.
- Communication equipment should be arranged, such as battery powered radio, flashlights etc. in ample measure to make search and rescue easy.

In cases of floods, people are advised to listen to the radio or television for flood updates regarding their area. In case of imminent threat, mitigation measures should be immediately taken, such as, raising electrical appliances to safe heights, keeping insurance policies, valuables and other documents in a safe deposit box, moving to higher ground if outside the house, leaving the gutted car immediately, avoiding driving close to barricades on sharp turns and other essential requirements as: canned food, first aid kits with essential

medications, can opener, and communication equipment: battery powered lights, extra batteries, etc. enough water for everyone and written instructions from professionals regarding how and when to turn off electricity, gas and water. Citizen approach should be proactive in securing this information. As per the Pierce County Emergency Management Programme, people in vulnerable areas should approach the nearest Emergency Management Centre to secure information about local disaster plans, disaster signals, how to take care of animals as they are usually not allowed inside emergency management centers, and the disabled who require special care; also ask about organised community preparedness in this regard and how it can help.

People should also seek education in reading disaster warnings. For example, FLOOD WATCH means a flood is possible in the area, while FLOOD WARNING means flooding is already occurring or will soon occur in the area; likewise for flash floods. Instructions should be issued by the authorities in the form of booklets, or put on the Web, as per the popular mode of access in this regard.

Disaster Planning should be taken up both at the family and the community level. As per the Pierce County Directive, likely activities in a family plan would be: keeping an out-of- state family contact that acts as a liaison between relatives in case of disaster, fixing meeting venues; for instance, outside the house in case of sudden emergency like a fire and in the neighborhood if outside. Everyone must keep in touch over phone and on other contact addresses. Evacuation should be carefully planned, addressing issues such as how to care for pets, etc. Outside the immediate family, people should form self- help networks incorporating people in home, school, workplace and assign functions to each of the friends, co-workers and relatives, etc., in cases of emergencies. Help should arrive immediately as per a pre-plan when a disaster strikes. Inventory of requirements and contributions from each volunteer should be carefully prepared and adhered to for maximum safety in times of emergencies.

The Pierce County (1996-2005) gives the following checklist to families to check the level of their preparedness:

Checklist

- Purchase battery operated transistor Radio for emergency alerts.
- Post emergency telephone numbers by phones (fire, police, ambulance, etc.).
- Teach children how and when to call Police and/or fire services and display the emergency phone numbers of these services prominently at home and also at the work places.
- Show each family member how and when to turn off the utilities (water, gas, and electricity)
- Get training for each family member on how to use the fire extinguisher (ABC type), and show him or her where it's kept.
- Install smoke detectors on each level of your home, especially near bedrooms.
- Stock emergency supplies and assemble a Disaster Supplies Kit.
- Take a first aid and CPR class.

- Determine the best escape routes from your home. Find two ways out of each room.
- Find the safe places in your home for each type of disaster and learn shelter-in-place procedures.
- Practice and Maintain Your Plan
- Quiz your kids every six months or so.
- Conduct fire and emergency evacuations.
- Replace stored water and stored food every six months.
- Test and recharge your fire extinguisher(s) according to manufacturer's instructions.
- Test your smoke detectors monthly and change the batteries at least once a year.

17.4 ROLE OF GOVERNMENT IN FIRST RESPONSE

After the impacted populace, the government is the most significant first responder to a disaster event. Lack of preparedness results in catastrophes of the magnitude that were experienced following the Orissa Super Cyclone of 1999 when the state government was least prepared to meet the threat of the disaster. There was no single unified plan made for such an event. The state perspective was to receive a lot of relief material from various agencies. A Relief Coordination Centre was set up at Bhubneshwar with the operations starting from the Kalinga Stadium. The approach was totally agency driven and top-down with least participation/intervention of the people. Lessons were learnt albeit the hard way. Thereafter, a Disaster Emergency Committee (DEC), comprising national and international NGOs, namely Oxfam, Help Age India, World Vision, Care, Action Aid, Save the Children, International Federation of Red Cross and Red Crescent Societies, Tear Fund, Caritas, and Concern was constituted. The member organisations of DEC took a pro-active decision to carry out research on Community Based Disaster Preparedness (CBDP) in Orissa with special focus on cyclones. Subsequent to this effort, better preparedness arrangements are being put in place in the state to meet possible future threats (Sahni, 2000).

The strategy outlined and aforesaid, involved people proactively in that surveys were conducted and inputs procured therefrom were incorporated in official strategy for disaster preparedness. This underscores the need for voluntary organisations, representatives of the local governments and the official agencies involved to work in tandem for disaster response. For that fundamental change in governance *per se* would need to be affected, from a unilateral to a reciprocal mode where the interaction between the people and official agencies is maintained on a consistent basis, so are efforts for development of positive social capital in communities and institutions *inter-se*, such as police and revenue for effective total response.

Subsequently, institutional innovations have been introduced such as the State Disaster Management Authorities in States to better organise preparedness and response when a disaster strikes. The learners have been apprised of the developments in Unit-4 of this course.

It would be pertinent to discuss in detail here, the inputs in the District Contingency Plan that would henceforth be drawn up for better official response to disasters. The District Contingency Plan lists out the details regarding identification of the vulnerable areas in

case of specific natural hazards: earthquakes, cyclones, floods, and droughts and the requirements in preparation to mitigate involved threats. In case of earthquakes, for example, the administration is required to identify the hazard prone areas, and undertake advance preparatory action to mitigate the threats involved. Activities listed therein include:

- a) Preparation of Plans and skeleton organisation in advance,
- b) Training of Personnel,
- c) Establishment of alternative means of mobile communications,
- d) Mobilisation of Fire Services including auxiliary firemen,
- e) Plans of rescue of casualties trapped under-debris,
- f) Provision of hospital, medical and nursing staff,
- g) Medical plans for improvised first aid posts and emergency hospitals,
- h) Removal of Debris,
- i) Emergency sanitation, alternative supplies of water, salvage and custody of valuables, procurement, distribution, accounting of gift stores, care of animals, etc.
- j) Provision of welfare facilities for example of homeless, establishment of Games, information and guidance on essential matters, evacuation people, alternative of including food, clothing and shelter,
- k) Disposal of the dead after their identifications,
- l) Mobilisation of transport,
- m) Requisitioning of vehicles and issue of petrol, oil, lubricant, spare parts and repair facilities,
- n) Protection of properties including objects of art and things of cultural importance,
- o) Special measures for the protection/repair/restoration or essential service communications, industrial and vital plants,
- p) Publicity,
- q) Prevention of panic and upkeep of morale,
- r) Restoration of communications,
- s) Liaison, particularly with the Armed Forces,

Similarly, detailed list of tasks involved has been prepared for cyclones, droughts, and floods. To give a brief overview, to meet the cyclone threat, the district administration is required to keep adequate stock of grain and medicines and keep the vehicles and generators in a state of readiness. All Cinema Hall owners should be contacted and a list prepared of all available generators that can be called for in case of an emergency. Cyclone Stores should be opened to make available essential items such as tents, hooks etc. during such events. For more information on District Contingency Plan (see Appendix-1).

17.4.1 Building Resilience

As also mentioned earlier, Disaster Management is not an isolated event/activity. It has to be viewed in perspective of the wider developmental planning because vulnerability reduction is a mainstream development concern. The Tenth Plan (2002-07) recognised the interconnection between disaster and development; accordingly a separate chapter was incorporated on disaster management. Its practical implications are numerous. As read in the Economic Survey (2005-05), there are serious deficiencies with regard to storage facilities (godowns) for agricultural produce in rural areas in India. In 'normal' times it results in a raw deal for the farmer since he cannot store and market his produce at the opportune time. In cases of disasters, it severely compromises the resilience of communities to withstand the food shortage in the immediate aftermath of a disaster. The tenth plan points out that capital assets in irrigation and power have been insufficient. Public investment in agriculture has fallen which has caused deterioration in the quality of rural productive assets. While private investment is growing, that is hardly enough substitute by any measure, for public investment. Besides, even private efforts are thwarted due to infrastructural weaknesses in that while private investment in diesel run generating sets is increasing, operating capacity remains underutilised due to poor distribution and upkeep. The trend of declining public investment in agriculture as rightly conceded in the tenth plan would have to be reversed by increased investment in productive assets such as irrigation, power, credit and developing the rural infrastructure. In keeping with the revised paradigm of governance, as per the neo liberal philosophy, revival of farmer cooperatives is being strongly advocated to strengthen self-help on the part of people as a counterfoil to bureaucratic 'monopoly'. As announced in the tenth plan, the voluntary sector would henceforth be involved in to provide extension services in activities, such as, dissemination of new and environment friendly agricultural technology, research and education in animal husbandry and allied sectors, agricultural credit, social welfare services and development of weaker sections, particularly women and children and in tribal development. The voluntary sector and the private sector would be encouraged to provide extension services, both information and services including input supply and seed testing. The extension system would be revitalised and broad based through an inclusive network of Kisan Vikas Kendras (KVKs) functioning under the aegis of the Department of Agriculture and Cooperation, Non- government organisations, Farmers Organisations, Agri-business clinics/agri-business centers. To increase production, sustainable use of natural resources and development of water logged and wastelands for productive purposes would be taken up. The Rural Employment Guarantee Scheme currently underway (2006) is proposed to significantly improve the scenario with regard to rural employment and income generation. These are mainstream development concerns crafted for the twin objectives of development and environment protection. The difference now is that it would henceforth be development with a disaster management perspective which had been previously lacking. Hence, it would now be development that is sustainable, both environmentally and equitably across sections of society. In time it would serve to build both resilience and coping capacity in communities with a higher vulnerability quotient.

17.5 ROLE OF COMMUNITY IN DISASTER MANAGEMENT

Before understanding the role of a community in disaster management and how they normally act as '*first responders*', one needs to understand the basic concept of 'community'. 'Community' is a term difficult to define because of its usage, which includes the following:

-A community can be defined such as ***“a cluster of household, village or a township”***. Community can also be defined by shared experience: particular interest group, ethnic group, professional groups, language groups etc. Community can be defined by sector such as farmer, fisher folks etc.” But we define community as *‘a group having face - to - face contact, having a harmony of interest and aspirations, and bound by common values and objectives.’* This implies that the community is homogenous.

The ‘community based’ or the ‘bottom-up’ approach is not new. However, this is relatively a new concept in the discussion of disaster mitigation strategies. With the identification of the direct link between ‘development’ and ‘disaster’ the issue is now being given some attention. It is increasingly becoming evident that with appropriate support in skill development and infrastructure, communities can play a central role in disaster management, particularly in emergencies. The place and the role of the community in disaster preparedness and mitigation vary depending on the approach one takes.

The domain approach to deal with disasters offers no space for community based initiative, since it sees community/ victims as a part of the ‘problem’ for which solutions need to be worked out. Communities’ are considered ‘victims’ and ‘beneficiaries’ of intervention by outside ‘experts’. The alternative perspective that needs to be promoted is to see community as a part of the ‘solution,’ indeed, as an important part of it. A sustainable way of addressing disasters, disaster preparedness and emergency management lies in recognising the community as a ‘resource’. This approach makes it possible to find solutions within, and makes communities and victims less dependent on outside help and relief.

Communities/ victims are a resource because:

- They are knowledgeable about disasters happening in their own area/ environment, and are sometimes able to foresee them.
- They have the best estimate of the likely impact.
- They are rich in experience of coping, both in preparedness and in emergencies. Their coping methods practiced over time and derived from their own experience suit the local environment best. The richness and diversity of local people coping strategies is certainly a resource to be recognised.

Communities spend their real priorities in the context of all the constraints they face, including social, economic and political pressures, whereas outside experts are generally not aware of the complete picture.

By itself, community capacity is not sufficient for effective disaster mitigation. But it is a vital part of any integrated and sustainable disaster mitigation strategy. With the changing nature and the increasing intensity of the impact of disasters, community efforts needs to be particularly supported since there are a number of barriers to the full realisation of community efforts namely:

- Lack of resources
- Inadequate technologies

People have lived under threat of disaster in India for thousands of years. In that time they have developed their own ways of coping with crisis: for instance, traditional wooden buildings in parts of Himalayas are designed to withstand the earthquakes, and many communities have well established procedures for protecting their belongings in time of floods.

- Lack of capacity in community organisation
- Difficulties in negotiating with governments and other agencies
- Lack of control over structural factors (such as land and product market)

An effective disaster mitigation strategy should take action to remove these barriers to facilitate the full potential of community efforts by:

- Recognising their resourcefulness,
- Identifying the gaps in community coping methods and providing support;
- Acquiring the required skills;
- Improving the infrastructure (for example, information, warning system);
- Creating appropriate financial and human resources; and
- Strengthening community organisations.

17.5.1 Community Based Disaster Risk Reduction Process:

“The local community is taken as primary focus of attention (in disaster reduction) since that is the common unit which is affected by disaster and, more importantly responds to deal with the event. Disaster planning is seen as an ongoing social activity which needs to be incorporated into social life.....” Russell Dynes.

The paradigm shift in the understanding of disasters as social phenomena rather than ‘natural’ occurrences also shifts the stress from physical and technological solutions to those, which are social in nature. The emphasis on ‘social’ allows opportunities for proactive rather than reactive strategies, which are part of the development process. This means that people improve their level of adaptation to their environment and reduce further vulnerabilities. Dynes (1991) cites that among the various social units which are involved in disaster risk reduction planning and action- individual, household, group, organisation, community, society etc the local community level is where there is greatest potential for impact. Collectively, the community has greater resources to respond to the social disruption caused by disasters than do individuals, households, groups and organisations. In fact, local communities become involved in disaster response prior to the involvement of outsiders from the larger society in the international system.

The foundation of community-based disaster management is disaster risk reduction. While the community undertakes the broad range of disaster management activities, including emergency response as necessary, the emphasis is on reducing disaster risks. The disaster risk reduction process has the six sequential stages, namely Initiating the Process, Community Profiling, Community Risk Assessment, Risk Reduction Planning, Implementing and Monitoring, and Evaluation and Feedback, which can be operationalised before a disaster occurs (Dynes, 1991). These are discussed in the succeeding text:

1) ***Initiating the Process: Initial Awareness and Rapport Building:*** Various agencies both government and non-governmental bodies have come forward to carry out Community Based Disaster Risk Management. A minimum rapport needs to be built up with the vulnerable community through casual interactions. Government functionaries at the village level, namely the Block Development Officer, Extension Officer or the local Voluntary Organisations work for the preparation of the plan at the community level.

Existing youth clubs, self help groups, village committees, elected leaders etc. could be used as the entry point.

In many instances, a probable hazard event or disaster threat can be turned into an opportunity to start a community based disaster management programme. A recent disaster incident and the losses and risk involved could be discussed so that it generates interest among the members of the community. The discussion could be done through a participatory process by involving community members of various age groups. If the community does not have any recent disaster or event to recollect, then they can discuss a major event that had caused a huge damage in the nearby locality and in the process the potential hazards underlined in that could be highlighted.

Natural hazards are not new and people have been living with them for centuries. They have inevitably, devised their own methods for protecting themselves and their livelihoods. Indigenous knowledge is wide ranging. It includes technical expertise in seed collection to house building. These indigenous knowledge or the local coping mechanisms should not be therefore ignored in the process of discussion with the community. Awareness among the community can be generated by various means such as:

- mass meetings
- cultural activities
- audio/ visual aids
- street plays

These awareness campaigns will help the people to understand the need of the plan for any possible critical event (both natural and manmade). The plans prepared need not be sophisticated, very scientific, neither computer model, nor it needs to have a series of flow diagrams showing the process of plans. These should be kept simple and easy to understand and follow.

2) **Village profile/ Community profiling:** Community profiling involves building up a picture of the nature, needs and resources of a community with the active participation of the community. It is an important preliminary process in any planning process. It involves gathering basic information or the surfacing of the general community profiling. It leads to an understanding of the community's development position and the context upon which disasters will impact. Data pertaining to the following are reflected.

- Population
- Local resources (both human such as skilled manpower – health practitioners, ex-servicemen, etc., and material resources like boats, generators, cutting equipments etc.).
- Housing pattern in that locality (RCC, tiled, thatched, etc.).
- Cropping pattern

3) **Community Risk Assessment: Participatory Situational Analysis (Understanding the Risk of the locality).**

This step aims at taking a detailed stock of the existing situation.

Why situational Analysis?

The situational analysis is mainly to understand and assess jointly, the following factors along with other stakeholders, especially the community.

- People's perception of the risk
- Hazard assessment
- Vulnerability assessment
- Capacity assessment

Assessment needs to be built upon from the situational analysis in the form of an assessment towards possible risk and the opportunities and capacities that can be made to reduce the vulnerability and the risk.

How to do a Situational Analysis?

The situational analysis or the assessment can be done with the help of *various Participatory Rural Appraisal (PRA)* tools with the other members of the community. The steps below will give an idea of the type of information that needs to be generated and suggested PRA methods.

History of Disasters: A community plan should be based on the type of hazards that they are frequently affected with. This can be analyzed by taking into consideration 20 to 50 years of data and listing out the hazards that have affected the most in the years.

Seasonality calendar: While analysing the past experiences pertaining to various natural disasters, communities develop the seasonality calendar based on the occurrences of the disaster events. The calendar prepared by the community should show the month of occurrences of events and the months for preparedness and mock drill.

Mapping Exercise: One of the most important activities is the mapping of the risk, vulnerabilities and capacities of the village by the community itself because it is considered to be very simple, easy to understand and cost effective tool to collect ground level data. Four different types of maps are drawn namely:

Social Mapping: In this map, the following things are to be shown-

- Habitation in the village (total number of houses in each hamlet)
- Type of houses (kutcha, pucca, tiled / asbestos)
- Roads (kutcha / pucca)
- Embankments
- Bridges (concrete / temporary)
- Water sources (Ponds, wells, Tube wells, Lift irrigation points, canals, rivers)
- Community infrastructure (places of religious worship, club houses, cyclone shelters, schools, Post Office, Public Health Centers, etc.)

Resource Mapping: The map should show the available resources of the village

- Lands (forest, agricultural, grazing land)
- Tube wells, Ponds, irrigation facilities

- Grain bank, boats
- Government and Private institutions (Financial Institutions, Health Centers, rice processing mills, NGO, Office)
- Livelihood assets, etc.

Risk/Vulnerability Mapping: The maps should show the vulnerable populace, property and assets at risk. The map should focus on “*who is at risk*” and “*what is at risk*”.

- Vulnerable houses (partially broken or weak houses, thatched houses, etc.)
- People at risk like old, sick, pregnant women, physically or mentally challenged persons, single women & children below 5 years.
- Fishermen at sea, cattle and livestock etc.
- Vulnerable embankments
- Livelihood assets like nets, boats, etc.

Opportunity/ Safe Mapping/ Alternate Route Mapping: The map should show all the places within the village where the villagers can take shelter at the time of emergency and all others that reduce risk to life and property.

- Cyclone/flood shelters, high land or mounds, schools, community center, high embankments, etc.
- ‘Pucca’ houses on high land.
- All the alternate route system both roadways and water ways.
- Existing health, medical and sanitation facilities that can be used and strengthened at the time of any disaster.

4) Risk Reduction Planning: Formulation of Disaster Risk Reduction Plan:

After Preparedness and mitigation measures to reduce disaster risks are identified, various Disaster Management Teams / Task Forces are formed so as to take the lead in organising and carrying forward the tasks in pre, during and post disaster operations.

These DMT members have sectoral focus such as:

- Early warning
- Shelter management
- Evacuation, Search and Rescue Team
- Identification of the dead and their final rites
- Medical and First Aid
- Water and Sanitation
- Carcass Disposal
- Trauma Counseling
- Damage Assessment and

● Relief and Coordination

Willing and active men and women from the community can be members of the Disaster management teams. The DMTs/task force should also involve experienced and skilled people such as doctors, nurses, fire fighting personnel, ex-service men, police personnel, swimmers, and youth with Scout/NCC/NSS background, Civil Defence personnel's, *mahila samiti* members and others. It is ideal to have a team of 25 members per task force for a unit of 400-500 households. If the area/community is large, it is advised to increase the number of teams accordingly. It is necessary to allot and specify the responsibilities to the selected task forces in pre/during and post disaster operations. Based on the need assessment of the teams, specialized trainings could be provided to the members. The groups that need to be trained are as follows:

- 1) First Aid
- 2) Evacuation Search and Rescue
- 3) Water and Sanitation
- 4) Trauma Counseling

To train these task force members, one can take the help of the Fire services, Police personnel, Local Health Centers, Red Cross, and St. John's Ambulance Brigade, etc.

5) **Implementing and Monitoring: Mock Drill/ Rehearsal of the plan**

Mock drill is an integral part of the planning process, as it is the preparedness drill to keep the community alert. The drill are basically a series of actions according to the plan and are usually tried out as a dummy exercise by keeping the people informed of the exercises and seeking the cooperation in carrying out these drills. These mock drills are conducted in a village to active the DMTs/ Task Forces. In areas prone to floods and cyclones mock drills can be conducted twice a year, one immediately after the cyclone/ flood season and one after 6 months time. The plans prepared should be revised and updated every six months.

6) **Evaluation and Feedback: Identification of Hazard specific mitigation activities and integration of the same with the development plans:**

While developing the plan, the community needs to develop a mitigation plan for each hazard for long term planning. These could be coastal belt plantation, cyclone shelters in cyclone prone areas, and improved drainage system in low-lying areas. These plans need to integrate with the development plans of the area like the Food for Work, Poverty Alleviation Programme, Indira Aawas Yojana, Crop Insurance, and Water Shed Management Programmes etc.

17.6 CONCLUSION

In this Unit, we have learnt about the significance of first response. First response in the form of positive social capital and self-help on the part of people in the *interregnum* between the disaster strike and official response is critical to save lives as the official machinery takes time to gear into action. This has been realised from experiences in recent disasters. Voluntary effort on the part of people though has to be supplemented by proactive government support in this regard. Measures are already being taken in countries like the USA and France, to prepare people to face disaster onslaughts: be they

natural hazards or acts of terrorism. Education in Disaster Management creates the predisposition to act desirably when exigent circumstances present themselves. Hence, introduction of disaster management in school curriculum is a strategy towards the end. In addition, people in general are being educated in efficacious response through information dissemination in this regard. Popular modes are government websites, pamphlets and proactive citizen effort in this regard. In this Unit we have also learnt about the role of the community in organising and sustaining first response.

17.7 KEY CONCEPTS

- Bureaucratic ‘Monopoly’** : Monopoly is explained as a condition where there is only one provider of goods/services. Bureaucratic monopoly is a term borrowed from the public choice theory, which implies that in the absence of alternate providers of public goods and services (security, water, power etc.) bureaucrats enjoy virtual monopoly. There is little incentive to be efficient. They are also not sufficiently accountable.
- Socialisation** : Socialisation is a gradual process of internalisation of ideas and values that result in personality development in the family, school, the office and the general social environment. Socialisation results in development of perspectives that we carry through most part of our lives.
- Neo-Liberal** : As per the Wikipaedia, the term neo-liberalism was coined by Conservative Republicans to describe a political-economic philosophy that had gained ground since the 1970s. It de-emphasises or rejects positive government intervention in the economy (that complements private initiative), which makes it anti Keynesian economics, focusing instead on achieving progress and even social justice by encouraging free-market methods and fewer restrictions on business operations. It legitimizes use of political bargaining powering international relations to make countries free up markets and remove all restrictions on trade.

17.8 REFERENCES AND FURTHER READING

Alternate Economic Survey, 2004-05, The Alternate Economic Survey Group, Daanish Books.

American Red Cross, 1998, “Are You Ready for an Earthquake”, and “Are You Ready for a Flood” at <http://www.redcross.org>

APA Task Force, Gregory A. Leskin, Leslie Morland, Julia Whealing, George Everly, Brett Litz, & Terrance M. Keane, Laura Barbanel, (Ed), *Fostering Resilience in Response to Terrorism: Working with Psychologists*, at <http://www.apa.org/psychologists/pdfs/firstresponders.pdf>.

“Certified First Responder” from Wikipedia the Free Encyclopaedia, at http://www.enwikipedia.org/wiki/first/American_Red_Cross

“Citizen Emergency Response Teams”, at <http://www.citizencorps.gov/cert>

Dynes, Russell R., 1991, *Disaster Reduction: The Importance Of Adequate Assumptions About Social Organization*, Disaster Research Center.

GOI, *Tenth Plan* (2002-07), Chapter, 7, “Disaster Management: The Development Perspective”, Chapter 5.1 “Agriculture”.

GOI, *Economic Survey*, 2004-05, Chapter “Health”, & *Economic Survey*, 2003-04, “General Overview.”

Indian Police Journal, fortnightly magazine, Bureau of Police Research and Organisation, 2003 issues.

Ministry of Home Affairs, Government of India, 2003, “Contingency Action Plan” at <http://www.ndmindia.nic.in>

Pan American Health Organisation (PAHO), 2006, Press Release, “New Guidelines for Handling Bodies after Disasters”, at <http://www.paho.org>

Pierce County, 1996-2005, Emergency Preparedness: What can you do? At, <http://www.piercecountywa.org>

Sahni, Pardeep, 2000, DEC Orissa Report.

Sen, Amartya, 1990, *Development as Freedom*, Oxford Univeristy Press.

U.S. Department of Homeland Security, Preparing Makes Sense, Get Ready Now” at <http://www.ready.gov>

WHO, 1989, *Coping with Natural Disasters: the role of local health personnel and the community*, published by the World Health Organisation in collaboration with the League of Red Cross and Red Crescent Societies, Geneva.

WHO, 2006, *Management of Dead Bodies After Disasters: A Field Manual for First Responders*, (Eds), Oliver Morgan, Morris Tidball Binz, Dana, Van Alphen, at <http://www.who.int/hac/en>

17.9 ACTIVITIES

- 1) Explain the six broad steps for carrying out Community Based Disaster Risk Management for your locality?
- 2) Identify five different ways of carrying out awareness campaigns for disaster management in your area.
- 3) Prepare a Disaster Management Plan for your locality, which lists out all the steps mentioned in the Unit (This could be taken up as a project work).
- 4) Visit a Primary Health Care Center in your immediate neighborhood and prepare a report on its working.

APPENDIX-I

DISTRICT CONTINGENCY PLAN

After an Earthquake

- 1) Instant reaction
- 2) Establishment of Control
- 3) Military Assistance
- 4) Corpse Disposal
- 5) Medical
- 6) Epidemics
- 7) Salvage
- 8) Development of Resources
- 9) Outsides Relief
- 10) Camp-work and Employment
- 11) Fire-Fighting
- 12) Information

CYCLONE: PRE-INCIDENCE MEASURES

- 1) *Action after the first warning*

The Collector should ensure-

- i) That sufficient stock of food grains, kerosene and other dry food commodities are available for distribution to the victims.
 - ii) That Medical and Veterinary Departments are fully equipped with required Drugs and Vaccines for taking preventive steps after cyclone and to arrest the spread of epidemics.
 - iii) That all the Government vehicles are kept in road-worthy condition for putting them to use in the emergency.
 - iv) That a list of generators available with the Cinema Theatres and other undertakings is maintained by the Officials of State Electricity Board and advance action taken immediately to use them when necessity arises.
 - v) That action is taken for opening of cyclone stores for providing the following materials
- 1) Hooks of the type available with the Fire Service Department for cleaning debris.
 - 2) Rubber tyres and tubes for using as floats in water.
 - 3) Tents

- 4) Kerosene lanterns.
 - 5) Large cooking vessels for use in relief camps.
 - 6) Identity slips to be issued to victims in relief camps.
 - 7) Copies of maps, etc.
 - 8) Ropes, wires, chains, lights, with wire fittings, lead wires, torches, etc.
 - 9) Spare Road Marker Stores Cells, Steel poles, Bamboos, G.C. Sheets, tarpaulin sheets and Slotted Stripes of metal (to be laid on churned up road surface for better transportation).
 - 10) Double handle shaws (for cutting fallen trees), Shovels, Candles, Hand Hailers, Hose pipes, first aid kits, cyclone duty sign Boards, Rods, Asbestos, Sheets, Torch lights, Ditty cans, empty oil drums, gunny bags and sand bags, polythene bags (for dropping supplies), buckets, V.H.F. sets with batteries for use
 - 11) Pumps for bailing out water along with hose, spades, crow bars, hand gloves, Eucalyptus oil, naphthalene balls, bamboo mats, phenyl slake lime, etc
- 2) *Action After Receipt of The Second Warning (Actual Threat)*
- i) Evaluation
 - ii) Relief to Stranded persons.
 - iii) Stoppage of traffic on National Highways
 - iv) Stock of food grains
 - v) Declaration of local holiday to the Educational institutions

POST-CYCLONE MEASURES

- i) Convening of the meetings of the Committees
- ii) Rescue Operations.
- iii) Removal of dead bodies and carcasses.
- iv) Health Measures.
- v) Restoration of traffic.
- vi) Adequate number of mobile squads shall also be made available by the Police Department for helping clearing the fallen trees, etc.
- vii) Electricity Board should clear the roads of fallen electric poles and restore power supply as quickly as possible.
- viii) The Public Relations Department must ensure to build up photographic record of the damage simultaneously, using services of the local Officers or by employing local man.
- ix) Immediately after the cyclone, the Divisional Revenue officers should form required number of teams to assess damage to the houses, crops, loss of human lives, livestock etc.

FLOOD: PRE-FLOOD ARRANGEMENTS

- i) Convening a meeting of the District Level Committee on Natural Disasters;
- ii) Functioning of the Control Rooms;
- iii) Closure of past breaches in river and canal embankments and guarding of weak points;
- iv) Rain recording and submission of rainfall reports.
- v) Communication of gauge-readings and preparation of maps and charts;
- vi) Assigning charge of flood Circles;
- vii) Dissemination of weather reports and flood bulletins issued by the meteorological Centres, Central Water Commission, Flood Forecasting Organisation;
- viii) Deployment of boats at strategic points;
- ix) Use of power boats;
- x) Installation of temporary Police Wireless Stations and temporary telephones in flood-prone areas;
- xi) Arrangement for keeping telephone and telegraph lines in order;
- xii) Storage of food in interior, vulnerable, strategic and key areas;
- xiii) Arrangements of dry food stuff and other necessities of life;
- xiv) Arrangements for keeping the drainage system desilted and properly maintained.
- xv) Agricultural measures;
- xvi) Health measures;
- xvii) Veterinary measures;
- xviii) Selection of flood shelters;
- xix) Advance arrangements for army assistance;
- xx) Training in flood relief work;
- xxi) Organisation of relief parties;
- xxiv) Other precautionary measures; and
- xxiii) Alternative drinking water supply arrangements.

ARRANGEMENTS DURING AND AFTER FLOODS

- Organising rescue operations.
- Organising shelter for the people in distress, in case the efforts of the civil authorities are considered inadequate, Army assistance should be requisitioned.
- Relief measures by non-official and voluntary organisations may be enlisted as far as possible.

- Organise relief camps.
- Provision of basic amenities like drinking water, sanitation and public health care and arrangements of cooked food in the relief camps.
- Making necessary arrangements for air dropping of food packets in the marooned villages through helicopters.
- Organising enough relief parties to the rescue of the marooned people within a reasonable time limit.
- Establish alternate communication links to have effective communication with marooned areas.
- Organising controlled kitchens to supply food initially at least for 3 days.
- Organising cattle camps, if necessary, and provide veterinary care, fodder and cattle feed to the affected animals.
- Grant of emergency relief to all the affected people.
- Submission of daily reports and dissemination of correct information through mass media to avoid rumors.
- Rehabilitation of homeless.
- Commencement of agricultural activities-desiltation, resowing.
- Repairs and reconstructions of infrastructural facilities such as roads, embankments, Resettlement of flood prone areas.
- Health measures.
- Relief for economic reconstruction.

DROUGHT: PRE-INCIDENCE MEASURES

- I) *Early Warning System*- Monitoring of rainfall in the pre-summer season and identification of water scarcity areas.
- II) *Contingency Planning For Agriculture*
 - 1) Crop life saving measures.
 - 2) The alternative cropping strategy.
 - 3) Compensatory Cropping Programme.
 - 4) Supply of Inputs.
 - 5) Provision for irrigation.
 - 6) Supply of Power.
- III) *Drinking Water*:
 - 1) A detailed contingency plan for supply of drinking water in rural areas to be formulated with technical help from the Central Ground Water Board (CGWB) and utilising if need be, the rigs and other capital equipment from the CGWB.
 - 2) Make adequate plans to supply drinking water in urban areas through bores, tanker special trains and other suitable measures.
 - 3) Monitor continuously rural and urban drinking water availability in drought affected areas.

Water Resources

- 1) Prepare a water budget for each irrigation reservoir covering drinking water, kharif and Rabi requirements and evaporation losses, after working out a trade-off between kharif and Rabi benefits from the available water.
- 2) Undertake repairs of tube wells to make all tube wells operational and install additional tube wells taking care at the same time to prevent over-exploitation of and damage to ground water regime.
- 3) Regulate supply to water-intensive industries, if necessary.
- 4) Minimise evaporation losses in tanks and small reservoirs by using chemical restorations subject to Health clearance.

IV) Employment Generation:

- 1) Adequate scarcity relief works to be taken up to generate the required employment.
- 2) The funds available under employment generation scheme like R.FOR EXAMPLES., J.R.Y., and scarcity relief etc. should be dovetailed and integrated.
- 3) Shelf of projects should be kept ready to be taken up for employment generation during drought.
- 4) Drought proofing schemes to be identified and to be given higher priority.

V) Public Health:

- 1) Disinfect drinking water sources to prevent the spread of water-borne diseases.
- 2) Draw up plans to cope with likely epidemics.
- 3) Constant surveillance of public health measures including immunisation to be undertaken.

VI) Women and Children

- 1) The nutritional requirements of all the children, expectant mothers and nursing mothers should be taken care of.

IV) Fodder:

- 1) Assess fodder requirement in drought-affected districts and locate areas where shortages are likely to occur and arrange for supplies from outside.
- 2) Monitoring the prices of fodder in selected places/markets.
- 3) Arrange to procure fodder from surplus States.
- 4) State Forest Departments to arrange for the cutting and bailing of grasses in the forests, wherever possible to meet the demand from fodder deficit districts.
- 5) Fodder cultivation to be encouraged wherever feasible.
- 6) Ensure supply of molasses to cattle feed plants.
- 7) Obtain from NDDB and other sources premixed feed and urea-molasses-bricks to the extent necessary.

Source: <http://www.ndmindia.nic.in>