
UNIT 9 VULNERABILITY: SOCIAL FACTORS

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9.0 LEARNING OUTCOME

After going through this Unit, you shall be able to:

- Understand social vulnerability in details;
- Examine the relationship between gender, poverty and vulnerability; and
- Discuss vulnerability of children, weaker sections and disabled people.

9.1 INTRODUCTION

“Hazards are a major risk for the poor and the marginalised, who are already the most vulnerable sections in a society; the destruction of property and livelihoods furthers their downward spiral into poverty. The recent tsunami and earthquakes in the Indian Ocean are a tragic example of disaster vulnerability and how communities can be reduced to extreme poverty in a matter of hours. Investing in disaster risk reduction reduces the vulnerability of people to hazards and helps break the vicious cycle of poverty” (International Strategy for Disaster Risk Reduction, 2005).

As per *postmodern* thinking, development is perceived more as per human development indicators than economic. The desirable approach is termed ‘sustainable development’ which is understood broadly as development with a ‘human face,’ defined as “development that maintains or enhances economic opportunity and community well-being while protecting and restoring the natural environment upon which people and economies depend” (*An Act*

from the legislature of the State of Minnesota). Accordingly, the stipulation that the government should ensure "the management of our resources in such a way that we can fulfill our economic, social, cultural, and aesthetic needs without permanent impairment to the resource base and the life support systems on which we all depend" (*Environmental Council of Alberta, Conservation Strategies in Canada*).

Development is a mesmerising term; everybody wants it, many chase it and few get it. Hence, development is a holistic paradigm having political, ecological, cultural and social ramifications. Social, cultural, economic and ecological factors are involved in examining sustainability of any measure. India has a higher *social vulnerability index* due to inequality in social order that is expressed in discrimination against the girl child and other disadvantaged sections of society, improper health care standards, etc., which suggest a society in the throes of change and not perhaps able to manage it.

9.2 VULNERABILITY AND SOCIETY

It is argued that much of India's current problems lie in the designs of western economic development, which have imposed an alien culture on the existing, traditional way of life. Though development has had lot many positives, it has certain negatives as well, which inhibit well rounded development; for example, the rising incidence of alcoholism among the urban youth or the rapid spread of fundamentalist psyche in cosmopolitan areas, social aberrations as fallouts of consumerist lifestyles, breakneck pace of life, loss of cultural values and consequent identify crisis.

Contemporary Indian society battles the opposing pulls of *tradition* and *modernity*. Such duality has paved the way for a feeling of aggressive divisiveness in the urban mindset centered on the false notion of undifferentiated oneness of a particular religion, caste or ethnic collectivity and the perceived incompatibility of one with the 'other' cultural stream. An explanation to it could be a defensive tactic in the face of aggressive modernisation rather than westernisation of the way of life. Such separatist consciousness has led to hatred and organised group violence, making certain sections of the society particularly vulnerable. There is constant downfall in moral standards in public as also private life. The situation is taking a worse turn due to the growing ugly menace of gender biases; illiteracy among children, and lack of livelihood security.

It is significant to distinguish between the inherent weaknesses of individuals due to *varying characteristics* and *social disadvantage*. It is the type of vulnerability associated with land degradation or urban overcrowding or lack of access to training and education, or unemployment/ underemployment and a group of other resources and services. It gets associated with a number of disadvantages arising from more or less permanent social conditions, which could be referred as '*structural*' vulnerabilities (by analogy with '*structural adjustment*' or '*structural violence*'). These vulnerabilities appear from the fabric of social life rather than particular hazardous conditions or fatal happenings.

In many, if not all societies, being born into a certain type of family or group, or gender can make one more vulnerable to a host of dangers. As constituent of a lower class or caste, or a member of certain religious, ethnic or other 'visible' minorities, may place one at more disadvantage regarding the means and opportunities for everyday life arising from ongoing social conditions.

It is also suggested that although poverty or ethnic status are indicators of greater vulnerability, yet the 'poor', sometimes the poorest of them according to standard

measures, are not always the most vulnerable. They may have special skills and flexibility enabling them to avoid or pull through a disaster. They may know how to take advantage of social safety nets more and at times more readily than others. It is also a known fact that at times ethnic minorities can be powerful or even controlling groups.

9.2.1 Gender and Vulnerability

It is desirable to understand the nature of interface of women and men with nature because it is rooted in their material reality and in their specific forms of interaction with the environment. Hence a gender perspective to class based division of labour and distribution of property and power is important for complete understanding of *social relations*.

Focusing on the class significance of communal resources provides only a partial picture in that there is the critical gender dimension. Especially women and female children are the ones most adversely affected by environmental degradation. The reasons for this are primarily three fold; *first*, there is a pre-existing gender based division of labor. It is women in poor peasant and tribal households who do much of the gathering and fetching from the forestry, village commons, river and wells. They also bear significant responsibility for family substances and in many female-headed households are the sole economic providers. *Second*, there are systematic gender differences in the distribution of subsistence resources (including both health care and food) within rural households, as revealed in anthropometric indices, morbidity and mortality rates, and the low female/male population ratios. *Third*, there are significant inequalities in men and women's access to the most critical productive resources in rural economies, viz. agricultural land, and associated production technology. Women also have a systematically disadvantaged position in the labor market (Agarwal, 1984, 1986).

Because women are the main gatherers of fuel, fodder and water it is primarily their working day (already averaging ten to twelve hours) that is further increased due to depletion of and reduced access to forests, water and soils. As a woman in the hills of Uttaranchal puts it, "When we were young we get used to go to the forest early in the morning without eating anything. There we eat plenty of berries and wild fruits...drink the cold sweet (water) of the Banj (oak) roots... In a short while, we would gather all the fodder and firewood we needed, rest under the shade of some huge tree and then go home. Now, that the trees are going everything else is gone too ..." (Bahuguna, 1982).

Since women are responsible for domestic chores they are the main gatherers of fuel, fodder and water, which demands heavy physical labour. Firewood, for instance, is the single most important source of domestic energy in India (providing more than 65 per cent of domestic energy in the hills and deserts of the north). Much of this is gathered and not purchased especially for the poor. In recent years, there has been a several fold increase in firewood collection time in India. In some villages of the Gujarat, in western India, even a four to five hour search yields little apart from shrubs, weeds and trees roots which do not provide adequate heat. Another aspect is the deteriorating health of women. Burning of firewood and other like materials generate significant amount of smoke and while cooking on such fires they have to suffer a lot from such smoke. As a result, women are vulnerable to several health hazards like deteriorating eyesight, bronchitis and whooping cough.

The decline in gathered items from forests and village commons has reduced incomes directly. In addition, the extra time needed for gathering reduces time available for crop

production, which affects crop incomes, especially among hill communities where women are the primary cultivators due to high rates of male out migration. For instance, a recent study in Nepal found that the substantial increase in firewood collection time due to deforestation has significantly reduced women's crop cultivation time, leading to an associated fall in the production of maize, wheat and mustard which are primarily dependent on female labour in the region. These are all crops grown in the dry season when there is increased need for collecting fuel and other items of daily use.

The shortage of drinking water has further added to the burden of time and energy on young women and young girls. Where low caste women often have access to only one well, it's drying up could mean an endless wait for their vessels to be filled first by upper-caste women as happened in Orissa. A similar problem arises when drinking water wells go saline near irrigation works.

Poverty associated with environmental degradation could induce a variable range of fertility, reduced education for young girls as they devote more time to collecting fuel, fodder and so on. This leads to higher infant mortality inducing higher fertility to ensure a completed family to diversify incomes as a risk reducing mechanism in environmentally high-risk areas.

In Uttar Pradesh, according to women grassroots activists, the growing hardship of young women due to ecological degradation has led to increased rates of suicides in recent years. Their inability to obtain adequate quantities of water, fodder and fuel causes tensions with the senior members in the family who do not understand the shortage of resources which were quite plentiful during their times. In addition, soil erosion has compounded the difficulty of producing enough grain for subsistence in a region of high male out-migration (Bahuguna, 1984).

Due to decrease in the area and productivity of village commons and forests, there is decrease in the contribution of gathered food in the grains of poor households. The declining availability of fuel-wood has worsened the nutritional status. Effort to economise make people shift to less nutritious foods which either need less fuel to cook or which can be eaten raw, or force them to eat particularly cooked food or leftovers which could be toxic, or to miss meals together. Although these adverse nutritional effects impose on the whole household, women and female children bear an additional burden because of the gender biases in intra-family distribution of food and health care. There is little likelihood of poor women being able to afford the extra calories for the additional energy expended in fuel collection.

Apart from the health consequences of nutritional inadequacies, poor rural women are also more directly exposed to water-borne diseases and to the pollution of rivers and ponds with fertilizers and pesticide runoffs, because of the nature of tasks they perform, such as fetching water for various domestic uses and animal care and washing clothes near ponds, canals and streams. The burden of family ill health associated with water pollution also falls largely on women who take care of the sick in the family. An additional source of vulnerability is the agricultural tasks women perform. For instance, rice transplanting, which is usually a women's task in most parts of Asia, is associated with a range of diseases, including arthritis and gynecological ailments (Mencher and Saradmoni, 1982; UNDP, 1979). Cotton picking and other tasks done mainly by women in cotton cultivation exposes them to pesticides, which are widely used for this crop. In China, several times the acceptable levels of DDT and BHC residues have been found in the milk of nursing

mothers among agricultural workers. In India, pesticides are associated with limb and visual disabilities.

Women, whether Muslim, Hindu, Sikh or Christian, face indignities and flagrant violation of their basic rights and humiliations in various ways. It is felt that religion and society provide no safeguard against it. In such an atmosphere, it is not surprising that women-related social indices show a downward fall. For example, in the contemporary world, there is much more of domestic violence. The maternal mortality rate has increased and so has the incidence of stress, trauma, depression, spontaneous abortions and miscarriages amongst women. We are a democratic country where constitutionally, there is supposed to be no discrimination based on sex, religion, caste or creed. Even then, surprisingly a male child is preferred to a female child. A female child is vulnerable to foeticide (when in mother's womb), to infanticide (when born), to rape, and molestation, hunger and poverty if 'allowed' to live. The society will have to come forward and take responsibility of spreading awareness among women. The first step in this regard is to educate women, so they become aware of their rights for a good living.

The inherent contradiction in Indian society is sharply reflected in its discriminatory attitude towards women, which, through the ages, have been the biggest barrier in the full blossoming of the other half of our population. The overwhelmingly patriarchal society, cutting across social and economic divides, seeks to obliterate the very identity of women, whose fulfillment is expected to be solely in going through life enacting the roles of daughter, wife and mother. Her interests and desires, even her sexuality, is stifled by what society expects of her.

Though banned since 1870, female infanticide has been reported to be widespread in some villages of Tamil Nadu, Rajasthan and other Indian states. A study conducted, in the North Arcot district in 1992, revealed that infanticide constituted 72 percent of female unnatural deaths in the area. The villages were remote, almost inaccessible and extremely poor and the common methods used for killing were poisoning, asphyxiation and hypothermia. Concerning female infanticide, India is among the few countries where men outnumber women. The country has only 96 women for every 100 men, leaving some 40-50 million female 'missing' from the population. Such strong gender bias, as revealed in the demographic structure, results from female infanticides and foeticides, higher mortality rates among girl infants and greater malnutrition among girl children.

The Indian Constitution, as per the Directive Principles, promises men and women, 'equal pay for equal work'. In reality, women are paid much less, especially as unskilled labor in agriculture and the construction industry, which are the biggest employers of women from the low-income groups. Such discrimination is not overt in the professions and the services sectors, which are drawing more and more women from the middle and upper classes, though men do get preferences at the workplace. Working women, who carry the added burden of running households and bearing children are defenseless against the denial of their lawful right to maternity leave and other benefits. In addition, the stigma attached to earning a living is difficult to overcome, even where women are the sole breadwinners of families.

In large-scale disaster events such as earthquakes and floods, some of the poor girls/women are enticed by pimps. For these types of important reasons relief and rehabilitation facilities should be prioritised for women and children, especially those so helpless and distressed.

Women, who are virtually household based workers, have to take responsibilities for protecting their houses, children, and other members of the family, livestock and belongings. Traditional gender specific work such as carrying water, cooking, caring for children and animals naturally becomes too difficult for them during flood. For the lack of resources, poor women face more problems than women belonging to the middle class and the rich households.

Women are the first and foremost victims of natural disasters. Their responsibility in the household is far greater than that of men. They are responsible for rearing and looking after babies, livestock and poultry rearing, kitchen gardening, and even cultivation of crops and preservation of seeds. During disaster period they have to still perform their normal domestic functions, like procurement of drinking water and fire wood, cooking, looking after the health of every member of the family, drying seeds and food crops, preventing all household belongings from possible loss due to floods or other calamities, and other difficult tasks. Some women may be pregnant and some of them may deliver babies during this period, which may endanger their health and life. In some local communities women may not appear in public, but they have major roles in important economic spheres.

9.2.1.1 Gender Based Approach to Disaster Management

Women generally have had less opportunity to play any role in disaster mitigation. There are great deals of obstacles preventing women from becoming positive role players but there is lot of benefit that could be procured through greater involvement of women in disaster management. Some unique characteristics of our communities make it imperative to lay special importance on participation of women in formulating plans for disaster preparedness. There is considerable difference between the activities of men and women. To incorporate all information in the formulation of any strategy, equal importance should be given to both. The nature of work that men and women perform, the man-woman relationship, their respective skills and social and economic roles vary from community to community. These may also be interdependent, and at the same time little may be known about their domain. Hence, planning cannot be dependent entirely on the information supplied by men, nor should information be collected about one from the other. For successful implementation, formulation of local plans has to lay special emphasis on women to make significant contribution towards it.

Disasters by definition are related to shortage of resources and lack of capacity to cope with the situation in the disaster area. This makes easier, the use of all available human resources (men and women). There is a stronger involvement of women in public, social and political matters during the emergency phase than in normal periods, and also a more active participation in the efforts of the community to deal with the situation. Nevertheless, in most cases women are involved in “secondary” support operations (such as food preparation and distribution, information dissemination, child care, health and psychological support, shelter) and not in the too well publicised and media attracting operations, such as search and rescue. Also, the involvement of women in most cases lasts until things “go back to normal.” A crucial issue is how to intervene at the transaction phase to support women keeping the role they gained during the extreme emergency phase. What makes unanticipated consequences and unsustainable change so likely? As per Enarson (2005), case studies and commentaries suggest a range of reasons for failure, including:

- Outside actors misinterpreting local power structures and social dynamics;

- Reinforcing local cultures that may in turn promote and reinforce a disempowering role for women;
- Inattention to how gender-targeted services are likely to impact men and women, respectively, over time;
- Short-term, self-interested perspectives on relief and recovery;
- Unintended programme effects which undermine women's capacities;
- Lack of empirical knowledge (research) about short- and long-term prospects for change;
- Backlash against challenges to gender power;
- The paternalistic disposition of aid agencies and governments; and
- Insufficient control over recovery and reconstruction resources by women.

Women form the largest proportion of the vulnerable people. They play a crucial role in disaster management in many cultures and nations. Given their limited rights in private property, resources, that is, agricultural land and other community resources, for example, the village commons have provided rural women and children (especially those of tribal, landless or marginal peasant households) with a source of subsistence. They are often unmediated by dependency relationships on adult males. For instance, access to village commons is contingent on membership of the village community and therefore women are included in the way they would be in a system of individualised private land rights. This acquires additional importance in regions with strong norms of female seclusion (as in northwest India) where women's access to the cash economy, to markets, and to the marketplace itself is constrained and dependent on the mediation of male relatives.

The study of many types of disasters over a long period of time has shown that behaviour of men and women during disasters is quite often different. Also, in various stages of disastrous events, women's views and contributions are rarely given full recognition. For example, in the post-impact period, most women are left to perform the traditional and under-valued tasks, such as childcare, food preparation, and domestic work, while men are more likely to leave the women to participate in more visible and highly publicised relief efforts. Women are seen as the vulnerable group, less likely to participate in planning, in preparation, and unable to cope in the wake of disaster. Gender relations determine people's ability to anticipate, prepare, survive, cope with, and recover from disaster. Gender inequality embedded in the social and cultural fabric is the root cause of social vulnerability. The traditional view of women as victims leaves men to make decisions about their roles and needs which results in overlooking the vital work and unique perspective that a woman can bring to disaster management. In the smallest island of Micronesia, society functions have very clearly defined gender roles. Men are responsible for things related to the ocean and women for land-based activities. This role specificity has to be taken into account to restore social balance in case of disasters and adopt risk reduction measures in an equitable and efficient way (United Nations, 2001). From Armenia, the NGO, Women and Development targeted rural women for grassroots health education, capitalising on the period after a major earthquake to provide more knowledge, skills, and resources to women as family health providers. There is evidence from Armenia and India that women gained in self-confidence following gender-sensitive relief measures targeting women.

A study conducted by Seeds India reveals that women should be granted equal access to funds that flow during disasters. There are many cases of reported misuse. Hence, “gender aware reconstruction policy should be decided and measures should be taken with a view to long term intervention and change.” Besides women should be empowered and given greater participation in decision making in matters concerning them.

For example, self-help income-generating measures following South Asian cyclones started a new social system, wherein the position of women was higher than it ever was. This appears to have been well accepted by everyone. Also important here is the role of an Indian constitutional amendment reserving one-third of seats in elected local governments (rural and urban) for women. Though “there has been teething problems in the process, there is promise of a very positive impact.”

The changing nature of family also affects emergency response. The disappearance of joint and extended families, urban migration, separation of working couples, and the growing number of single parents raises new issues in disaster management. What happens to children when a single parent is needed for an emergency? What happens to children when both parents have emergency responsibilities? What are the childcare arrangements during disasters? Since most of initial search, rescue, and transport to medical assistance are done by the survivor’s onsite, the migration of men to find jobs may hinder initial response to local disasters. The longer life span of women also indicates that elderly women may outnumber men and often live on their own. The aged may be reluctant to move out at shorter notice and the prospect of approaching disaster can be very daunting.

Targeted awareness and demystification of stereotypes is required to remove biases and allow the consideration of the specific and differing capacities of women. The strengths, knowledge, and skills possessed by men and women in preparing, managing, and rebuilding are different, and thus useful in different ways. Women should be seen as part of the solutions. Bahattin Aksit (1999) observed after the Marmara earthquake in Turkey that men were left “lonely and lost” while “women’s local networks and friendships were empowering them to talk about the trauma and finding local community ways of coping with the new life.” While women’s local, community orientation was a powerful resource for them in the immediate aftermath; neither male nor female domains were significantly broadened or challenged in the aftermath of the event.

A paradigm shift is therefore required to inculcate gender consciousness and also to move from “relief” to “mitigation of disaster.” There is a need for active participation of women in disaster preparedness and in coping with its ensuing physical and mental stress. Enhanced leadership training can improve women’s awareness of local hazards, and their involvement in improving communication and delegating primary responsibilities in management of emergencies. Generating new attitudes towards women’s roles will improve the way we face emergencies, and allow us to deal more productively with the physical and societal impacts of disasters.

9.2.2 Poverty and Vulnerability

Vulnerability is a blend of features of a person or group, expressed in relation to hazard exposure, which derives from the social and economic condition of the individual, family, or community concerned. High levels of vulnerability lead to grave outcomes in hazard events but are a complex combination of both the qualities of the hazards involved and the characteristics of the people they are incident on. Poverty is a much less complex descriptive measure of the people’s lack or need. Vulnerability is a relative and specific term, always implying a susceptibility to a particular hazard.

“Vulnerability is the result of an accumulation of various factors and circumstances. For example, the vulnerability of human settlements to natural hazards depends mostly on the ability of physical infrastructure to withstand the hazards to which it is exposed. Social factors can also contribute to increases in vulnerability: people living in the same city can be affected differently by the same hazard. Experience has shown that people with different income levels are likely to be affected differently by the same event. An individual’s vulnerability to disaster tends to lessen the more money he or she makes. Access to information is another factor determining the degree of vulnerability: improvements in this area, particularly a greater awareness of existing risks and how to avoid or reduce them can significantly decrease an individual’s vulnerability to prevailing hazards” (*Countering Disasters: Targeting Vulnerability*).

Disaster vulnerability is closely associated with the economic gap between the rich and poor, which is growing in many areas. Over 20 million people cannot afford a nutritionally adequate diet. In Asia and the Middle east, about one-third of the population lives in a condition of poverty, a proportion which rises to nearly half in Sub-Saharan Africa. Globally, it has been estimated that some 20 percent population control 80 percent of the wealth. National disparities continue to increase thereby aggravating vulnerability. For example, in Chile, the wealthiest 20 percent of the population expanded their control of national between 1978 and 1985. Over the same period, the income share of the poorest 40 percent of the population fell from 15 percent to 10 percent (IFRCRCS, 1984).

Poverty is one of the most important causes for environmental destruction. It hampers the overall development process. Lack of safe drinking water and appropriate shelter increases vulnerability to natural disasters. It also determines the status of individual states internationally. As per World Development Indicators Database, (2002) in India, it is estimated that about 350-400 million are below the poverty line, 75 per cent of them in the rural areas. More than 40 per cent of the population is illiterate, with women, tribal and scheduled castes particularly affected. The main causes of poverty are illiteracy, a population growth rate by far exceeding the economic growth rate for the better part of the past 50 years, protectionist policies pursued since 1947 to 1991, which prevented large amounts of foreign investment in the country. Poverty in India has been reduced by 10 percent over the last few years.

Noticeably, most of the recent tsunami’s victims (26th December, 2004) were inhabitants of extremely poor communities in India, Sri Lanka and Indonesia, which are frequently exposed to the vagaries of nature. By contrast, wealthier countries such as Thailand and Malaysia saw substantially fewer human casualties. This may be due to the fact that the waves were lesser in intensity. But it is also at least partly due to the greater wealth of these countries, which makes them better equipped to cope with emergencies. Wasteful use of resources and over-exploitation of the resources by the developed nations put the developing nations at risk. Vulnerability to hazards to human and ecological health posed by various kinds of pollutions whether chemical, radioactive, and thermal or any other, is another important cause of social vulnerability. Also the pollution caused by improper sanitary conditions, malnutrition, and improper disposal of wastes reflects the system vulnerability of the country. Slum is an area of poverty, transition, and decadence, a catch for all criminals, defective, and the down and out (Gist and Halbert, 1956). It is the utmost form of human degradation. These people are vulnerable to starvation, malnutrition, unemployment, underemployment, exploitation, torture, depression, alcoholism, diseases and atrocious crimes. Although urban centers present real opportunities for poor

people, they also create and feed the conditions within which poverty spreads. All urban programmes must take account of vulnerability in an urban context.

According to Okonski (2004), the real problem for most of the people affected by recurrent disasters is poverty. "Yet the political economy of many Asian countries, especially those worst affected by the tsunami, retards such development. For instance, India, Sri Lanka and Indonesia have weak systems of property rights and other fundamental institutions, which inhibit investment and wealth creation."

As per Okonski, inhabitants of India's coastal shantytowns have not invested in sturdy structures, which might withstand nature's wrath, largely because they do not have enforceable, transferable ownership rights to their homes.

When combined with good governance, institutions such as property rights, well established in wealthy countries encourage a process of capital development that enables societies to reduce human vulnerability to natural disasters.

Besides a 'right' ideological stance in governance which is pro-poor and pro-development, provision of appropriate infrastructure, including warning systems that can save lives, communications systems, transportation infrastructure, medical facilities, and sophisticated construction methods are the tangible benefits of economic development. (Okonkski, 2004).

9.2.2.1 Basic Amenities Deficiency

Even more than fifty-eight years after independence, over half of India's population survives at below subsistence levels. Millions of villages and the poor in city slums still do not have access to shelters, safe drinking water, cooking fuel or proper sanitation facilities. The contrast of their way of life with that of the urban elites' is only too glaring. Absence of the bare necessities is the hallmark of rural India's well-known poverty and highlights the fundamental inequality between rich and poor in urban areas.

For millions of India's village households, firewood and cow-dung are the only means of lighting their hearth. With forests gradually receding, firewood is becoming scarce and in many areas, women have to walk over 10 km to get their cooking fuel and consequently making them more and more vulnerable. The rich and the middle class in the cities use LPG, a subsidised commodity. For the poor slum dwellers the cooking fuel bill is constantly rising with increasing prices of kerosene and smoke emanating coal. It makes the rural women more vulnerable to lungs related diseases.

Potable water is a rare commodity for India's rural masses. In almost 113,000 villages, sources of pure drinking water are, on an average, 1.6 km away from their place of dwelling. Nearly 163 million children in the country do not have access to safe drinking water and are therefore prone to water borne infections. Women are the worst sufferers of such degrading conditions. In urban areas, too, the shortage is endemic in the slums and tenement houses, though the rich, blissfully unaware of the reality, indulge in colossal waste of water. Policy planners have paid little attention to the issue till now.

It is very rare to find a village or a slum in India with proper sanitation facilities. Though there have been stray attempts to develop and supply low cost and hygienic latrines, government's rural development programmes have more or less ignored this essential requirement of the poor millions. Out break of diseases, sometimes in epidemic form, has been the expected fall out.

9.2.3 State of Public Health

Public health facilities in the country have not come up to the mark for keeping pace either with population growth or the need of the times. There is shortage of government hospitals and health centers to cater to the increasing population requiring medical help. While the health sector has been near crippled with the steady withdrawal of subsidies, increasing pollution, environmental degradation, unsafe industrial practices and unrestrained life style based on consumerism has led to a rapid increase in the population requiring medical attention. The direct impact of environmental maladjustment to development is the resurgence of viral diseases in its more virulent forms.

The 'eighth cholera pandemic', which hit Chennai in 1992, quickly spread to other cities, which reinforces the adverse effects of random economic development on people's health. The cholera bacteria spread mainly through water sources contaminated by the excreta into the ground water and the shallow hand-pumps or tube-wells pump up the contaminated water. Introduction of toxic wastes and fertilizer residue also helps spread disease. Existing vaccines are ineffective against the new strains.

High pollution levels, unhygienic working conditions, mental stress, rise in atmospheric temperature, consumption of alcohol are creating a rising curve of infertility among married couples in India. According to a 1995 survey, the male female infertility ratio is 40:60 and the average national infertility about 10%. *Kala-azar*, a debilitating and often fatal disease caused by a protozoan parasite carried by the female sand fly, had disappeared from India in the 1950s. Today, it has made a comeback, affecting nearly 2,50,000 with a mortality rate of 5-10%. Drastic environmental changes are responsible for the resurgence of the disease, the ideal breeding ground for the vector being the stagnant pools created by the dams and embankments built for flood control. The sand fly has developed resistance to pesticides leading to patients being administered stronger drugs with serious side effects.

More than half of the 25 million children, born each year in India, do not get the security of the mother's milk during the crucial months of infancy, according to UNICEF. Maternal mortality and drying up of lactation from lack of nourishment, anemia and other debilitating diseases and breast cancer of the mother are the main reasons for babies being deprived of the protection, health and nutrition. Surveys have revealed a dangerously high content of toxic chemicals in lactating mothers exposed to environmental pollution and in areas where use of pesticides and fertilizers is intensive.

Due to unsafe and unhealthy working condition in Indian industry, exposure to occupational hazards is at frightening levels. From the data on death and injury reported under the factories act, the mines act and so on, it is estimated that of every 1,00,000 workers, as many as 7000 are injured around the year and 75 die. Of the total workers/workforce of 200 million, it means about 1, 50,000-recorded deaths per annum (Chowdhury and Chowdhury, 1999). These figures, however, reveal very little about the magnitude of occupational diseases in the country. A menace in almost all types of industrial activity, occupational health hazards are particularly rampant and severe in granite and marble quarrying, coal, iron ore, copper, zinc, and mercury mining, cement, asbestos, aluminum, chemicals, carpet, textiles, jute, paper, rubber, leather, spray and paints, electroplating, galvanising, battery, matches and fireworks, pharmaceuticals and viscous rayon industries. In addition it is also prominent in road building and construction, foundries, forging units, printing press, petrol pumps and automobile repair shops. Invariably, the hazards stem mainly from the cost-cutting nature of the technology used, and the overtly inhuman production structure, which puts profits before worker's health.

India has the dubious distinction of having the largest number of undernourished children in the world. UNICEF estimates reveal that nearly 75 million of the country's children, below the age of five years do not get even minimum nutrition and care required for survival and healthy development. Poverty, ignorance and neglect are the reasons why India's rate of malnutrition is as high as 63%, just a shade lower than Bangladesh and Nepal but more than double the average of Sub-Saharan Africa. More than 1, 00,000 children die every year from malnutrition, the majority being girls.

The total number of people living below the poverty line in India today exceeds the country's population at the dawn of independence with around 355 million people, or over 45% of the country's total population, live under grinding poverty in both urban and rural areas. Absence of true land reforms, economic growth at the expense of social justice, growing inequalities in the distribution of income and resources, concentration of wealth in a few hands along with increasing marginalisation of vulnerable sections of society are the main causes for the poverty spiral.

9.3 OTHER VULNERABLE SECTIONS

9.3.1 Vulnerability of Children

After independence, unbalanced and inequitable development in our country has had the most adverse impact on children. Despite of a National Plan of Action for Children based on the UN convention on the rights of child, thousands of children are denied their fundamental rights to life and survivals, protection and development. Over the past half a century, life expectancy at birth has doubled and infant mortality declined: yet 2 million infants die every year and 63 percent of under- five years children remain under nourished. Even education is a luxury for countless children mixed in domestic labor or toiling to help families survive. With no one to stand up for them, the uncared for, future generation is an easy target for the worst kind of discrimination and exploitation.

The condition of millions of children born and bred in the streets of Indian cities is as dehumanising as to those in the other urban landscapes of the underdeveloped world. To the uncaring populace, they are pavement dwelling urchins and rag pickers responsible for the petty thefts in the neighborhood. But behind the face of each street child lies a story of deprivation, depravity and a constant struggle to stay alive. Threat of oral cancer, respiratory infection, STDs and AIDS loom large over their marginalised lives.

9.3.2 Vulnerability of Weaker Sections

Dalits in rural India face the brunt of casteism due to agrarian conflicts around the issue of minimum wages, land water hunger and social dignity. Panchayati Raj institutions and the other Integrated Rural Development Programme (IRDP) schemes, targeted essentially at the rural 'dalits', add to inter caste tensions. West, South and North India have been the predominant arena of the recent anti dalit conflicts which are largely the result of resistance to upper caste domination and exploitation of these, the South Indian States have experienced the most serious conflicts accompanied by the destruction of property, displacement and the denial of rights for dalits (Guru, 2000).

Recently, there has been the increasing jostling for position within the dalit social hierarchy. This is aggravated by a conflict between dalits and tribals, fallout of competing for government programmes and subsidies, which are focused on their intentions but not on their targets. Do these stresses qualify as caste conflicts? Both dalits and tribal societies do not admit of a caste system, but in Bisipura in Orissa, tribal today accept an ideology

of caste subversion and pollution of purity. In states like Maharashtra, (Mahars vs. Matangs), UP (Jatavs vs. Valmiki) and AP (Malas vs. Madigas) the tussle has been engineered by caste leaders, the state government and even some Naxalite groups (*ibid*).

The ideology of relative deprivation does explain to an extent, this horizontal conflict. Two marginal groups found them locked in a battle for scarce resources; the dispute between them centered on the share of local power and status in the village hierarchy. In Maharashtra the Mahar/ Matang conflict revolves around the distribution of reservation facilities according to population proportion.

Social maturation breeds its own tensions. The Mahars converts to Buddhism and therefore more aware of alternatives, have always considered themselves a step above Matangs. Their education and modernisation resulted from their displacement from the villages due to inadequate work opportunities, to urban centers like Mumbai, Pune, Manmad and Nagpur.

The key to improving the lot of the dalits lies in their economic empowerment. In India, 70% of farming population consists of small and marginal farmers cultivating land less than 1 hectare in size, average size of which decreases by half every 15 years due to the rapid population growth. Today nearly 60% of the farmers belong to marginal category with an average of 0.4 ha land. Vigorous policy initiatives in instituting land reforms and improved physical working conditions in factories would help pull-up the disadvantaged sections from the vicious circle of poverty.

Agriculture in India is mainly rain fed and majority of the farmers have little access to alternate sources of irrigation. These poor farmers are still dependent on the vagaries of the monsoons to sustain their livelihoods. Thus no availability of affordable, dependable irrigation devices is a major factor behind increasing number of farmers being drawn into the poverty spell.

Major parts of Eastern India comprising the sub-Himalayan *terai* belt and the Brahmaputra valley have a very high water table. However, the nature and cost of the technology limits independent access to groundwater for irrigation. More than 70% of Indian farmers are small-scale operators cultivating plots less than one hectare. They are largely constrained due to the absence of simple and low cost technologies suited to small plots, which can be managed by them. The present technologies are expensive and fit for use in large fields for big farmers. Thus the systems needed to be technically less obscure so that the farmers could easily manage it and set it up themselves. Learning practical lessons from grassroots practitioners' -the farmers, efforts have been made to embark upon the innovative adaptations of low cost systems catering to the needs of the smaller farmers, bringing in more flexibility simplicity and affordability. These drip kits cost almost 80% cheaper than the conventional drip kits and thus bring about a shift from subsistence farming to higher value production farming doubling the income of the poor farmers and greatly enhancing household food security.

Low cost drip irrigation technology and manual treadle pump technology frees the farmer from the limitations of rain fed farming, enabling him to grow wider variety of crops, cultivate all the year round, higher cropping intensity and do priority farming. Good irrigation technologies and agricultural practices coupled with enhanced participation of the poor in the markets is the key to income generation. Income dimension is important because it has the potential to buffer the poor communities against the stresses and shocks they encounter.

9.3.3 Vulnerability of Disabled People

Armed conflicts, ethnic or communal violence, floods and earthquakes create distress and anxiety in extreme forms and frequently cause physical to mental disabilities. Disability is highlighted during disasters, as the ability to cope with disasters, gets greatly reduced. Specific policy interventions to help people with disabilities would be required. The following measures are recommended for more effective disaster response effort (Bacquer, 2000):

- Relief and relief workers must be made disability sensitive.
- Relief and rehabilitation programmes must be disabled friendly and must be thoughtfully designed and implemented.
- Relief and rehabilitation policy think tanks and agencies must include in their membership representatives of the disabled and disability advocates.
- Indifference to and ignorance of current disability issues is as harmful and non conducive to rehabilitation as active rejection or denial of care.
- A portion of disaster relief and rehabilitation budgeting must be spent on research (with the active participation of the consumers and providers of services) to acquire insights into the specific needs of the disabled and to provide estimates to meet such felt needs.

9.4 OTHER FACTORS OF SOCIAL VULNERABILITY

Vulnerability itself is a property or a circumstance of persons, activities and sites. The forms and degrees of vulnerability to storm or famine are often related to gender and wealth, to influence or lack of it. In wartime, or in industrial or transportation 'accidents', occupation and life style may be critical to vulnerability. Age group may be decisive in how people are affected by economic trends or urban congestion. These in turn arise from human conditions having little or nothing to do with the causes and patterns of flood and drought, or types of industrial process, yet they may be critical to risks from these dangers. A modern economy reflects the larger spaces of economic and political organisation. Local societal conditions and protections are more or less adapted to and dependent upon them.

Some persons or activities are usually vulnerable to biological, physical or design characteristics. There is, of course, an actual or implied comparison with others less vulnerable, even some implied 'norm' or desirable degree of strength. Small children and the elderly, and the people who are ill, disabled, undernourished or recovering from some other hardship may be inherently less able to withstand certain assaults. Children tend to be more sensitive to nuclear radiation, as was tragically shown in the case of victims of Chernobyl. Since then, they have smaller organs particularly thyroid glands as exposure to radionuclides is proportionately more harmful to them than to an adult.

9.5 CONCLUSION

Policy formulation has to attempt interest articulation on the part of the passive segments of society in order to impart realism to policy content and ensure success of the implementation process. Negative fallout of globalisation and liberalisation has been the shift in focus as also resources away from the social sector. This would hamper our

efforts towards development of human capital and future manpower planning efforts. Human resource is the most important as per postmodern organisation thought. Poverty and vulnerabilities of women and children and other disadvantaged groups have to be tackled on priority basis. To that end our current development objectives may need to be revised in favour of infrastructure and the social sector to minimise loss of precious life.

9.6 KEY CONCEPTS

- DDT** : Dieldrinodiphenyl Trichloro Ethane is a fertilizer that is commonly used to keep away pests from grains. Over use of the chemical can penetrate and affect adversely the safety of the crop for human consumption.
- Modernisation** : Adoption of western political values and institutionalising the same through representative institutions, democracy etc. in order to transform traditional ways of governance on lines of western political philosophy is understood as modernisation.
- Postmodern** : Sustainable development and other general humanistic concerns, like protecting environment, life, equity considerations; precisely, a human outlook, appreciating diversity and pluralism of life characterise *post-modern* thinking. Postmodernism looked at the culmination of modernity in the 20th century, the results of forces such as nationalism, totalitarianism, technocracy, consumerism, and modern warfare-and said, we can see the efficiency and the improvements, but we can also see the de-humanising, mechanising effects in our lives. The utilitarian perspective dominated post-industrial thinking. It was characterised by material as opposed to human centric approach. Emphasis was on material comforts of life and exploitation of nature for the same through harness of science and technology.
- Social Vulnerability** : As per Marxist critique of society, the haves own the means of production, and relegate the have-nots, to a disadvantageous position, as with economic power comes social power. Progressive exploitation down the centuries creates sections of what are known as the disadvantaged sections of society. Disadvantaged sections of society are the women, children, minorities, people suffering from physical and mental infirmities, people belonging to lower castes, or classes. These sections lack resilience and are vulnerable to disasters than the privileged sections of society due to lacking the means of defence or survival in the event of a catastrophe. Social vulnerability factors are therefore specifically enumerated as, gender, caste and class related.

- Structural Adjustment** : Structural adjustment is a term which is being used to refer to ‘system’ changes (from mixed or socialist economy) in free market set up for better integration of the world community, better known as globalisation. Free flow of goods and services demands opening of economies, promotion of the private sector and liberalisation of rules and regulation of commerce accordingly.
- Sustainable Development** : Sustainable development aims at maintaining ecological balance in development at large, industrialisation, and development of modern infrastructure. Concern for the environment is intended to secure better conditions of life for the future generation. Ecological balance includes respect for traditional cultures and traditional knowledge, which needs to be studied and incorporated in modern scientific understanding.
- Traditional** : ‘Traditional’ as opposed to ‘modern’ is an adjective used to describe, non-rational primitive cultures, based on caste, class ethnic affinities/differences. Perception is clouded with convention and age-old practices more than rational reasoning, which is the chief characteristic/informing ethic of modern way of life.
- Westernisation** : Westernisation implies following the charted path of western economic development. It has a cultural connotation in that it involves co-opting western values, giving up traditional beliefs. It implies culture change, which comes about as a result of conquests (previously) and the information communication revolution, which is exposing societies to new values and cultural influences. Since Europe has dominated world affairs for most part of the century, western cultural values have influenced traditional societies.

9.7 REFERENCES AND FURTHER READING

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9.8 ACTIVITIES

- 1) The genesis of a majority of India's current social vulnerability is in the designs of western economic development, which has imposed an alien culture on the existing traditional way of life. Discuss.
- 2) Do you feel that women are most adversely affected by disasters? Give reasons in support of your answer.
- 3) Write a note on poverty and vulnerability.