

## Impact of Disaster on various sectors

N. Jayalakshmi <sup>[a]</sup>

### Abstract

When the going gets tough, tough gets going says a proverb. Thus Disaster is one such tough event in any man's life which distorts all belief on human existence. Disasters have always posed a serious threat to human survival. Human beings get shattered when one such event occurs. Disasters turn our attention and make us take a serious concern over man's deliberate misuse and abuse of nature under the guise of progress and development. When disaster strikes man opines that he is paying a heavy price for the acts of his, towards environment. Disasters are also a kind of warning that if the rhythm of the nature is seriously upset it may lead to extinction of mankind. Preserving of the nature is the need of the hour and entrusting it further to the next generation is the responsibility of every right spirited man of the society. Disciplined use, sustainable development, firm law, and affirmative decision on the part of the individual, the nation and at the international front should be the thought process and action at this junction to protect our nature. Aim of this study is to understand the impact of disaster on various sector and also the trauma faced by people, as disaster in just not the relief provided after the event but a continuing effort of rehabilitation.

**Key words:** General impact, Environmental impact, Psychological impact, Economic impact, Social impact

<sup>[a]</sup>N. Jayalakshmi,

Research Scholar,

National Law School of India University,

Bangalore

Phone : 9743698242 / 9036289953.

jaya\_raj74@yahoo.co.in

### 1. Introduction:

A well developed disaster management plan with efforts to streamline preparedness, response and recovery mechanism at all levels is needed. Experience felt by the disaster struck victims, the information gathered from the site of disaster and the information shared by the people, would be of great use to frame laws. At the International level all that is needed is that all the Government comes together and frame laws on the basis of humanitarian assistance being provided to disaster struck environmental refugees.

A holistic approach ensuring the coordination through appropriate chain of command and mobilisation of resources must be the broad feature of the international policy. The Law should have a detailed evaluation of the entire sector and issue guidelines while addressing the environmental refugee and mitigating the disaster. Further it is also needed to analyze the requirement of the people at this time of crisis. The analysis would definitely help in understanding the human rights perspective of the victims. Ensuring that the human rights of

the people have been respected by the Government while providing rehabilitation and an effort by various organization engaged in the relief work forms the critical component for the framing of the policy in the future.

## **2. Objective of the study:**

1. To understand the impact of natural disaster.
2. To understand the problems faced by victims & to provide solutions.

## **3. Method of analysis:**

The research carried is Doctrinal, analytical and descriptive method. The research attempts to cover the impact of natural disaster on various sectors and also the psychological effects on human beings and suggest some solutions to the problems faced by victims. Sources of data for the most part of this research paper are secondary. The secondary sources such as books, journals and the online data base materials are extensively used to bring out this research. Primary data such as Legislations, International Agreements and Reports were also referred to.

## **4. General impact of disasters:**

The general impact of disasters can be summed up as the following: People, loss of life, personal health, injury or disease, damage, destruction of property, damage, destruction of infrastructure, public service systems, damage, destruction of environment, damage, destruction of crops, disruption, loss of production, disruption, loss of essential services, disruption, loss of national infrastructure, disruption to governmental process systems, loss to national, local economies, disruption, loss of community or lifestyle, sociological and psychological consequences<sup>1</sup>. The damage caused by the disasters can affect all elements of society and government.

Damage to transportation can: cause inaccurate damage assessment, prevent ambulances from reaching victims, prevent police from reaching areas of civil unrest, prevents fire services from getting to the fires and interrupt the flow of essential supplies.

Damage to structures can: prevent damaged hospitals from admitting patients and increase the risk of damage from falling debris. Disrupted communication can: prevent victims from calling for help and hamper coordination of services. Damage to fuel supplies can: increase the risk of fire or explosion from ruptured fuel lines and pose a risk of asphyxiation from natural gas leaks in confined areas.

Damage to utilities can: cause loss of services, increase risk of fire and electrical shock, cause loss of contact between victims and service providers, cause an inadequate water supply for firefighting and increase the risk to public health ( if there is extensive damage to the water supply or if it becomes contaminated)<sup>2</sup>.

### **4.1. International and National impact of disaster:**

The significance of disaster in global terms, unless the disaster can be managed and mitigated to the optimum extent possible, it will continue to have a dominating effect on the future. In national terms, the impact of disaster usually results in two major setbacks. They are first, the direct loss of existing national assets in various form and second, the diversion of

national resources and effort, away from ongoing subsistence and development, in order to achieve satisfactory recovery<sup>3</sup>.

**a. International Aspects:** When a country is struck by disaster there is usually widespread international reaction to offer assistance. This certainly applies when the stricken country is in the developing category and therefore has limited capability for response and recovery; it becomes particularly and understandably emphasized when the country is markedly disaster-prone. However, even large and powerful nations may attract international attention and assistance. There can, however, be damaging consequences from disaster where a nation's international image is concerned. This can apply even despite humanitarian sympathy and willingness to help.

In some cases, recipient countries have made good use of this international assistance and have strengthened their counter-disaster capabilities accordingly. Other recipient countries have not been able to exploit such assistance so successfully and such nations concerned may be dubbed with an image of incompetence and not deserving of further assistance.

In response operations, a stricken country which is well-prepared for disaster usually has a good idea of what its immediate post-impact assistance needs will be. However, in the case of an ill-prepared nation, difficulties are likely to arise in defining what type and scale of international assistance is required. Misunderstandings and irritations may then arise between the recipient nation and the donor agencies, and they may well have a subsequent adverse effect on the nation's international standing and image.

Often the stricken country feels itself being pressured into making hasty decisions and commitments, which subsequently lead to misunderstandings and difficulties. The stricken nation may therefore appear in a less than competent light to its helper counterparts. Such factors will not only tarnish a country's image but can also have repercussions on national development generally, because they may engender reluctance from the international community to provide assistance in the case of vital, non-disaster development programs<sup>4</sup>.

**b. National aspects:** From an internal viewpoint disaster can and often does affect a nation's standing, image and stability. Understandably, a government comes under heavy pressure when disaster strikes. A bungling performance by government, especially where it affects the basic needs of the people, will usually result in some form of political backlash. A hungry, uncomfortable and dispirited public is unlikely to be tolerant and forgiving towards incompetent leadership. A combination of the international and national effects which arise from disaster can therefore be damaging to a nation's prestige and status, and even its future<sup>5</sup>.

#### **4.2. Environmental Impact:**

Damage to animal species, reduction and degradation of fish and wildlife habitat, lack of feed and drinking water, greater mortality due to increased contact with agricultural producers, as animals seek food from farms and producers are less tolerant, disease, increased vulnerability to predation (from species concentrated near water), migration and concentration (loss of wildlife in some areas and too many in others, increased stress to endangered species, loss of biodiversity, damage to Plant communities: loss of biodiversity,

loss of trees from urban landscapes, shelterbelts, wooded conservation areas, Air quality effects (e.g., dust, pollutants) and increased number and severity of fires<sup>6</sup>.

#### **4.3. Psycho-Sociological Impact:**

It is universally acknowledged that displacement is stressful and sometimes leads to traumatic conditions. Fears and apprehensions are usually perceived as potential threats by the affected population, resulting in dysfunctional behavior patterns. It is imperative to have in-depth understanding of the consequences and subsequent careful handling, to minimize their adverse impact on mental health of people. This can be studied at two levels: Individual level and Group level.

##### ***Impact at Individual Level:***

(a) ***Loss Or Change In Primary Sources Of Satisfaction Of Needs:*** The major fear associated with displacement is, loss or change in the primary sources of satisfaction of needs. All behaviors are instigated by needs and are directed towards goals that can satisfy these needs. Personality has a system of organized needs such as: Physiological needs, Safety needs, Social needs, Esteem needs and Self-actualization (Maslow, 1954).

Human beings are constantly seeking for pleasures, reflected through satisfaction of above mentioned needs in their unique manner through their established sources of livelihood, social relations, social status, kinship ties, etc. Any change or blockage, though temporarily, in the manner of satisfying these needs, will result in varying degrees of tension and stress in different people. Therefore social environment together with the satisfaction of needs in an acceptable manner, become extremely important. The compulsive change in the basic style of satisfaction of these needs is usually not welcomed by the people and hence often resisted. People may start perceiving themselves as having low self-worth, self-respect and develop negative attitude towards them, they may also develop identity crisis. All these result in lack of adjustment, leading to psychological stress or shock or trauma. The major factor associated with this is loss or change in the sources of occupation/livelihood leading to varying degrees of occupational redundancy and loss of social relationships<sup>7</sup>.

**Change In Occupation/Livelihood:** Fear of change of source of livelihood leads to ‘Occupational disruption’. This may lead to low to high degree of ‘Occupational redundancy’. This loss, even if substituted by the new ways of managing earning of livelihood, often leads to a state of mental stress. Loss of agricultural land by the landowners, though made up by ‘economic compensation’ and also new occupational opportunities under various ‘rehabilitation programmes’ by the government, could not fulfill the psychological loss such as, social status enjoyed through Feudalistic culture, and the village leadership leading to psychological satisfaction. Loss of land and property is a blow to the oustees, who are unable to secure an alternative source of livelihood because of lack of education and skill. All these occupational disruptions, especially loss of job/sources of livelihood, lead people to experience feelings of insecurity, defunctness, powerlessness and loss of self-confidence, leading to stress and in extreme cases, to psychological shock.

The change in the job is also associated with variety of problems, such as, lack of skill and interest in the new job. Though people are provided training for the new jobs under

various Occupational Rehabilitation Programmes, yet they are unable to use their potentials which demotivate them in the new jobs<sup>8</sup>.

**Loss of Social Relationships:** Displacement also forces individual to change the pattern of social relationships, individuals have to undergo an entire process of resocialization and adjustment in a new social milieu. This leads to loss of existing, social relationships. Kinship ties which are important sources of individual's gratification of social needs are in no way less important for an individual's survival. Evidence also suggests that the oustees are sometimes rejected by the parent group. Having faced rejection by the parent group and unacceptance by the host population, the oustees go through a tremendous psychological trauma and face an identity crisis. This sometimes leads people to go for second displacement.

**Compensation Package:** Inadequate or inappropriate compensation package also results in psychological tension/stress among the oustees and lot of psychological stress for the people. The illiterates found it difficult of utilize the compensation amount appropriately. This has led to social evils like alcoholism, gambling and prostitution (Advani, 1990)

**Impact At Group Level:** Displacement also results in disintegration of family, other social groups and occupational groups and also to trauma. These get manifested in variety of dysfunctional behaviours leading to mental ill health and sometimes to mental sickness<sup>9</sup>.

#### **4.4. Psychological Impact:**

The disasters cause severe stress, grief, trauma, anxiety, depression, haunting and above all disorientation to the life and world. Disasters unleash stress not only for the victims but more so for survivors as well as rescuers. Disasters also cause believment and grief to those which have to suffer the irreparable loss of their near and dear ones. The survivors become victims to Post Traumatic Stress Disorders (PTSD), including depression and anxiety disorders. While the adults suffer from a disorientation syndrome to life and world, the children suffer long lasting strain on their consciousness and development delay<sup>10</sup>.

With the occurrence of a disaster the human mind, passes through four stages. They can be classified in the following categories:

- **Heroic:** This state of mind in the human comes just after the disaster to attempt at saving the lives of the affected with great amount of involvement and feelings. Personal preferences, schedules or priorities take backseat and the need for social help drives the mind.
- **Honeymoon:** A sense of relief and satisfaction (short-lived) that the disaster is over and the destruction and damage shall no more be there. A sense of rebuilding and making a new world prevail.
- **Disillusionment:** A sense of frustrations when the work of recovery and relief often fails to reach up to the expectations of the affected and fails to bring back normalcy.
- **Reconstruction/recovery:** The phase of work, labour and involvement to build up the damaged and restore the loss<sup>11</sup>.

### **Common Reactions To Traumatic Events:**

Fear & anxiety, re-experiencing the trauma, increased arousal, avoidance, anger and irritability, grief and depression and increases sense of vulnerability<sup>12</sup>.

**Emotional Issues:** During the response and recovery phases, along with adrenaline, emotions run high, and together they create stress, which expresses itself as both physical and mental stress combined to create guilt. Sometimes the stress manifests itself in an inability to function, guilt complexes, and a decreased level of morale.

This shows itself in staff working very long hours without sufficient breaks and striving toward superhuman efforts to do more than required. The guilt can manifest itself in physical work that may result in accidents from doing too much and being overtired. Some staff take disasters personally and think they are the only ones who can “set things straight”.

In the case of a wide-area disaster, reactions may range from shock and disbelief to anger and guilt and numbness and grief to depression. Mental stress will be most visible in the disaster response team. The mental stress comes from dealing with the overload of work to be done and the decisions to be made. Physical stress, decreased morale along with an inability to function, is the way some people deal with disasters. During a wide-area disaster, emotional issues and stress are compounded when staff members worry about their families and homes. They will be torn between taking care of personal problems and the guilt associated with helping out at work. Many will feel that personal crises take precedence over work<sup>13</sup>.

### **4.5. Impact On Health:**

Mortality caused by tour: Burying in debris, drowning, hunger, fear Psychosis, famine, electrocution, accidents and poisonous gases, Morbidity and Mortality from Communicable diseases: Lack of safe drinking water, lack of sanitation, improper Nutrition, food shortage, failure of Electricity, Injuries-many people suffer injuries mainly fractures (orthopaedics), hemorrhages, Lacerated wounds and burns and Psychiatric: Diseases born out of sudden shock, e.g. depression, stress, social disharmony<sup>14</sup>.

**Water Borne Diseases:** Diarrheal disease outbreaks can occur following contamination of drinking water. Hepatitis A & E transmitted by the faecal-oral route, in association with lack of access to safe water and sanitation; Hepatitis E outbreaks frequently follow heavy rains and floods. Leptospirosis is a zoonotic bacterial disease that is transmitted through contact of the skin and mucous membranes with water, damp vegetation, or mud contaminated with rodent urine<sup>15</sup>.

Acute respiratory infections (ARI) are a major cause of morbidity and mortality among displaced population. Natural disasters, can affect vector breeding sites and vector-borne disease transmission.

Malaria outbreaks and dengue transmission in the wake of flooding are well known phenomena. The risk of vector-borne disease outbreaks can be influenced by other complicating factors, such as changes in human behavior (increased exposure to mosquitoes while sleeping outside, movement from non-endemic to endemic areas, a pause in disease control activities, overcrowding), or changes in the habitat which promote mosquito breeding (landslide deforestation, river damming and re-routing)<sup>16</sup>.

#### 4.6. Impact On Development:

- 1) **Loss of resources:** Development resources are lost when a disaster wipes out the products of investment-it shortens the life of development investments. The disasters affects development through: Impact on capital stock and inventory, loss of Production and provision of services due to disruption and increased cost of goods and services, the secondary effects of the disaster include inflation, balance of payment problems, increase in fiscal expenditure, decreases in monetary reserves, other indirect losses, for e.g., loss of economic growth, delays in development programmes, cancellation of programmes, and disincentives to new investments, there may also be a shift in skilled human resources toward high visibility recovery activity a diversion from long-term to short-term needs.
- 2) **Interruption of Programmes:** Disasters interrupt ongoing programmes and divert resources from originally planned uses.
- 3) **Impact on investment climate:** Disasters, have a negative impact on the incentive for further investment. Investors need a climate of stability and certainty to be encouraged to risk their money. The disaster further clouds the investment picture when it has caused loss of employment, thereby depressing market demand, and resulting in a stagnation which limits overall growth.
- 4) **Impact on non-formal sector:** Disasters have special negative impacts on the on-formal sector where approximate costs of disasters are often underestimated. Disasters depress the non-formal economy through the direct costs of lost equipment and housing. The indirect costs of disasters include lost employment, and lost income. Sometimes the importation of relief items creates disincentives to producers<sup>17</sup>.
- 5) **Political destabilization:** The stress to a country caused by a disaster often results in the destabilization of the government. This may occur for several reasons. For example, the government may have mismanaged the disaster relief and recovery, leading to discontent on the part of affected communities. Or the survivors may have had unmet expectation which, for whatever reason, translate into some form of protest. The government could also become the scapegoat for problems beyond its control, again leading to its possible downfall. In fact, it is very common for a government to collapse or be overthrown within two or three years of a major disaster. Some types of development projects commenced or implemented without fully assessing their impact on the environment may increase vulnerability to natural disasters<sup>18</sup>.

**Effects on contemporary development:** Disaster can have very serious effects on the contemporary development of a nation. This is especially so in revenue-producing areas and infrastructure. Examples include: Crops which have been developed over a number of years to produce an export capability may be destroyed or seriously damaged, land inundated by cyclonic storm surge or tsunami can bring about salinisation, with severe consequences of both domestic and export food sources.

**Effects on long-term Development:** The contemporary effects mentioned above can obviously be crippling for ongoing programs. However, some of the long-term consequences may be equally bad, or even worse. As a simple example, damaged coconut palms may take

7 – 8 years to rehabilitate. By this time, a valuable export capability may have become outdated, or lost to other countries.

The national effort and cost required to make good this kind of loss in resources must obviously detract from what is available for long-term development. A second major effect may be on the development planning process. Most countries nowadays work to planned periods of development, such as a series of Five Year National Development Plans. Disaster can seriously upset this sequence of planning and implementation, possibly as follows: It may disrupt the current plan; it may make it difficult to forecast development progress, and to predict the likely status at the end of the ongoing plan. These factors will then create problems in determining the start-up parameters for the next planning period; it may raise problems in formulating the scope and content of the next national development plan, because the post-disaster recovery process is difficult to define accurately.

These factors, and others which may apply to individual cases, may cause difficulties in the areas of: forecasting, budgeting, planning progress and program implementation

A third effect on national development may emanate from limitations which apply to normal international assistance programs. For instance, bilateral assistance programs usually have mutually agreed limitations on scope, size, time and cost<sup>19</sup>.

This combination of loss and extra assistance means that the overall cost of the program to the donor country may have escalated considerably. In fact, with non-disaster assistance programs generally, it is often common practice that any extra costs incurred by disaster are offset in future segments of such programs. Thus national development overall can suffer from various forms of restrictions. Various other factors arising from disaster may also affect long-term development. They include things such as: long-term unsuitability of land areas and the enforced relocation of communities.

An important underlying national factor is that the loss, damage and disruption caused by disaster can significantly affect a nation's capacity to absorb subsequent assistance programs, at least temporarily. Assistance inputs can then have an unsatisfactory forced-feeding effect which, far from assisting development, can actually slow it down<sup>20</sup>.

#### **4.7. Economic Impact Of Disaster:**

In the statistical information from Munich Re, economic losses in the lowest income group were slightly higher than should be expected from the number of events. In the countries with the highest income, economic losses were highest due to the high concentrations of value. Insured losses were also highest there, constituting about 90% of total global insured losses. In the other countries the share in insured losses is much smaller, being negligible in the poorest countries. In these countries, therefore, insured losses have to be borne by the victims and, as is often the case, if the victims are unable to do so, the government has to assist.

Of greater significance, however, is to compare the economic losses to GDP. The poorest countries exhibit a higher ratio in this regard; with total losses over this period averaging 13.3% of GDP while the richest countries had a ratio was still high at 2.5%<sup>21</sup>.

***Economic Analysis Of Disaster:*** When estimating the economic consequences resulting from a disaster, it is common to identify direct, indirect and secondary effects. Direct effects include damage to property and loss of income to persons, business enterprises and

communities. They may be further defined as: Losses of capital, such as the destruction of housing, factories, means of communication (bridges, roads, railways, telephone system), and community infrastructures (schools, hospitals, churches, electricity networks, sanitation system), loss of stocks intended for final consumption or for intermediate production units, production losses which will result in a reduction in income; for example, poor harvest, destruction of crops, death of livestock or closure of small businesses and the costs of emergency relief and repairs.

Each of these direct losses may have indirect effects, for example, if a factory is closed because of an earthquake there will be: reduction in activity of suppliers without alternative markets, reduction in purchases of goods and services by people who have lost their jobs and reduction in national income through reduction in tax revenues.

Further, both direct and indirect effects result in secondary effects, which may appear sometime, after the disaster and might include: Epidemics, inflation, an increase in individual and family income disparities and imbalances in the economic health of different regions in the country, economic opportunities lost as a result of a redirection of economic activity, ecological changes and negative changes in the balance of payments the goods or services. Parallel to these investments – specific issues, economic analysis requires: evaluating the cost of disaster-related events and their impact on foreign exchange earnings and import requirements<sup>22</sup>.

#### **4.8. Social Impact:**

Disaster is not merely a physical calamity; it is as much of a social calamity. This is so for two reasons. First, any physical disruption that occurs in a situation where no human habitation is involved does not really constitute a disaster; no matter how great is its scale. Second, a disaster is a disaster in what it does to the people, their material and social worlds, their bonds and values. It connotes a crisis in the lives and world of the people, a crisis of the magnitude that calls for immediate remedial measures to restore order not only in the material but also the social and psychological lives of the people. Thus, disaster is as much of a disequilibrating social event as it is physical.

A disaster is a disaster not merely because of its dislocating effects on physical infrastructure, essential services and human habitation, but more so because of the loss of lives and limbs, near and dear ones, and a blow to the normal rhythm of the social life. It leads as much to the disruption of socio-economic transactions as of physical and material infrastructure. It causes rupture of social bonds, breakdown of legal and moral order and grievous hurt to emotional attachments. It as well causes enormous social stress due to turmoil in the social life of the affected people. It throws the social order out of equilibrium in its initial impact.

Another facet of the social consequences of disaster is its differentia effects on different sections of society. Generally, it is the underprivileged, vulnerable and weaker sections of society who bear its brunt as they are helpless and vulnerable. In most cases of disaster, it is mainly lower class people, women, children and aged who are its worst victims. Thus social consequences of disaster have a class dimension<sup>23</sup>. Accordingly, many unfortunate people will continue to face social upheaval until the worst outcomes of disasters can be assessed<sup>24</sup>.

Disasters are part of the larger category of collective stress situations. A collective stress occurs when many members of a social system fail to receive expected conditions of life from the system. Collective stress can arise from sources either outside or inside the social system<sup>25</sup>.

## 5. Conclusion:

The concept of protecting human being through law even during disaster plays a very dominant role as the responsibility on both the international and local government is fixed. The natural disaster can no more be assessed as a problem of one nation, as the disasters do not know boundaries. A disaster in one area can lead to repercussion in another boundary. It's high time that all the nations come together and frame laws forgetting their sovereignty as the human beings are at distress when such calamity strikes.

Legal framework is required to guide actions and identify the victims for the purpose of rehabilitation. Exchanging of information and management programmes during such times becomes very crucial. It becomes the job of the government to organize, control, prepare, mitigate and rehabilitate the people through proper planning. However much has been done in this field, it remains as though nothing has been done as catastrophe is usually a complete wipe out of the human races and their civilization.

## 6. Recommendations:

- 1) *Country struck by disaster should utilize the relief measures properly and adequately.*
- 2) *Accountability should be there for every penny spent on relief work.*
- 3) *Create confidence in the minds of the people, as the relief workers are also sensitive towards the relief and they are not just government official working on pressure*
- 4) *Relief workers should also be given break and they should be deployed to work on shift basis or there should be rotation of relief workers as fatigue might set in.*
- 5) *Relief workers must be sensitized about the human rights perspectives of the victims*
- 6) *Tolerance is the important attribute during disaster both from the side of the relief workers and victims.*
- 7) *Psychiatrist should also be employed in the place of disaster for treating the trauma*
- 8) *Best medical facility should be in place & ambulances should be ready.*
- 9) *Special attention should be given to women, children and aged.*
- 10) *Women and children should be kept in separate disaster relief camp as they are more prone to crime*

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