

Catastrophic Event of Floods and to minimize its Vulnerability**Ramesh B**

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Shivamogga.**Abstract:**

Although man has been responding to floods since historical times, scientists, planners and politicians are still not fully understood the floods. Still more, this is true of the general public, for whom floods are an unexpected, often inexplicable and always traumatic experience. Floods have been a very important natural hazard for the human beings especially in the tropical countries. The complex system of monsoon winds, orientation of mountains and erratic path of the cyclones lead to a wide variability of rainfall with scarcity of water in some areas leads to drought situations whereas abundance of water with heavy downpour in some other areas leads to flooding.

In this paper an attempt has been made to examine the vulnerability to floods on various aspects of human life with reference to Floods in North Karnataka, December 2009. The primary survey conducted in the five severely affected district found that lack preparedness to face the vulnerability to floods. The study recommends Suggestions. This enables the administrators to take adequate precautions to lessen impact of floods on mankind.

Keywords: Catastrophic event, Disasters, Floods, Hazards, Vulnerability, Relief, Rehabilitation.

1. Introduction

Disasters are common in all countries. In recent times they happen with high occurrence and extent and with complexity. The high financial loss is also part of the nature of disasters. Among the emerging countries the disasters are threat to the sustainable development and to places where people are vastly concentrated. All over the world, in the second half of the twentieth century, more than 200 serious natural disasters occurred. The total lives lost was 14 lakhs and Asia surpassed in the list of casualties.

Disaster is a sudden calamitous event bringing great damages, loss and destruction and devastation to life and property.

Disaster is also defined as a “catastrophic situation in which the normal pattern of life or ecosystem has been disrupted and extraordinary emergency interventions are required to save and preserve the lives and or the environment”.

There exists a close relationship of man with the rivers since early times. Therefore, one of the most conspicuous attributes of human settlement is man's affinity for riverine locations. From ancient period, man has been attracted to riverine areas. There are certain numbers of reasons for the strong attraction of riverine plains to man, but the problem arising out of natural hazards like flood, erosion, landslides etc, is prominent.

Flood as an important geomorphic event occurs due to several causes like heavy precipitation, sudden release of water resulting from the thawing of snow cover or from the blockage of flow by landslides, cyclonic rainstorms, release of water from reservoir etc.

Vulnerability was seen as the result of many factors such as hazard, sensitivity, social discrimination, economic disability, non-availability of physical facilities and living environment. Vulnerability is the term said to be the status as the result of the infirmities caused in physical, economic, environmental and social aspects of life.

2. Review of Literature

Kumar P.N. (1951) made a scientific assessment of the flood problem of country and concluded that the behavior, period and causes of flooding of river in four regions of India are different.

Dhar and Nandrgi (1998), studied floods in Indian river and concluded that during the summer monsoon month. There are 3 broad regions of the country i) northeast India ii) north India iii) central India and its attached northern peninsular India, are flood prone areas. And also observed that majority of floods have been happening in northeast India and north Indian regions.

Purba et.al., (2002) argued in their study that the exact number of flood affected areas can be arrived from the remote sensing images. They used the near real time satellite images, to generate the data before the flood and during the event. Both the layers of the pre-flood and during the flood were combined to prepare a flood map.

Ray-Bennett, (2010) had assumed poverty and vulnerability were correlated. Soon after the flood of 2000, the study was conducted by administering an interview schedule to two poor communities. The study affirmed the existence of different kinds of vulnerability.

2.1 Research Gap

The literature reviewed on various dimensions of the topic of research ie. Disaster, Floods and Vulnerability can be summarized that, impact of flood vulnerability can be minimized. The survey of related studies on flood vulnerability are available, but most of the available studies are on impact of floods, how to control floods, mitigation of floods, flood warning system etc. There are very less studies available which are focused on to minimize its Vulnerability

The present study is taken up with the objective of filling that gap by assessing the vulnerability and to minimize its Vulnerability to floods by studying the 2009 floods in North Karnataka.

3. Objectives of the study

- 1) To study the vulnerability to floods.
- 2) To recommend suitable policy measures regarding floods to minimize Vulnerability to floods on human beings.

4. Research design

The information of flood affects is collected from the victims as the sample. Apart from this to understand the situation by family members, discussion will be held with the personnel of government and other voluntary agencies working on flood affected area.

The secondary sources of information have been accessed at national level, state level and district level. At the national level the sources of information include Annual reports of Ministry of Water Resources, Planning Commission Five Year Plan Documents, NDMA Annual Reports. At the state level the sources of information include Department of Revenue - GoK, Karnataka at a Glance, All District Human Development Reports - 2014, District Disaster Management Annual Reports of various years.

5. Vulnerability to Floods: An Empirical Analysis

The Primary data is collected from the victims of floods through a structured questionnaire which contained 30 questions. 200 respondents were selected as a sample from the study area. In this few tables and figures are shown as follows.

Table no 1. Families affected by Floods

Floods effects	No of Respondents	Percentage
Yes	200	100
No	0	0
Total	200	100

Source: Field Survey

Table no 1. elucidates the position of respondents who are affected by floods. All the 200 respondents (100%) are told that they are affected by floods.

This is due to more respondents are residing in the low laying areas near to the river and for the research purpose the we selected the flood affected people as the sample.

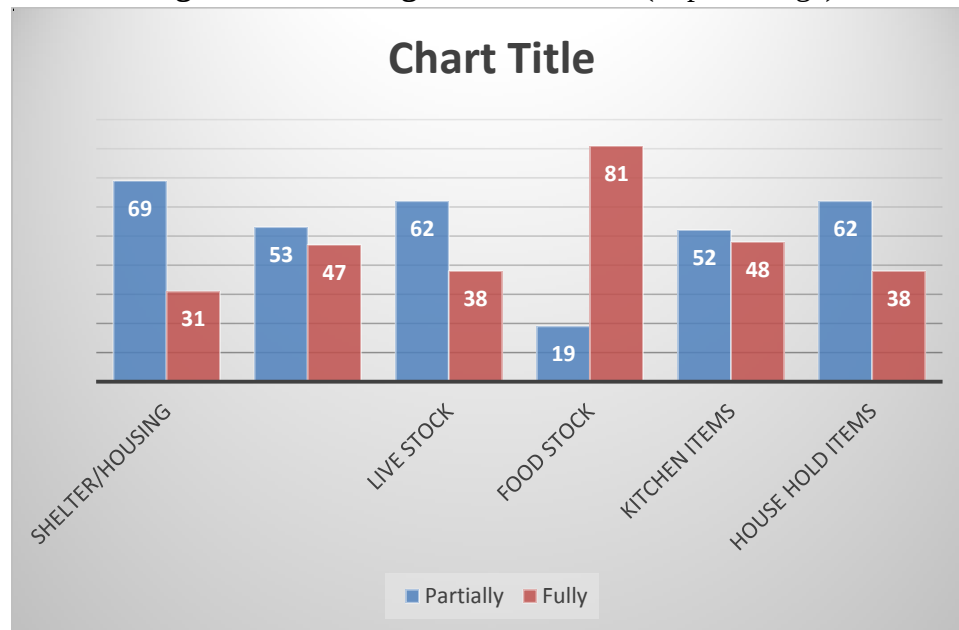
Table no 2. Damages due to Floods

Items	No of Respondents (sample)			Percentage		
	Partially	Fully	Total	Partially	Fully	Total
Shelter/Housing	138	62	200	69	31	100
Agricultural Land/Crops	106	94	200	53	47	100
Live stock	124	76	200	62	38	100
Food Stock	38	162	200	19	81	100

Kitchen Items	104	96	200	52	48	100
House hold items	124	76	200	62	38	100

Source: Field Survey

Figure no 1. Damages due to Floods (in percentage)



Source: Field Survey

Table no 2 and figure no 1 presents the position of items which are damaged by floods. Out of 200 respondents, nearly 62 respondents (31%) are told that their houses are fully damaged by floods. 47 per cent respondents are told that their Agricultural Land/Crops are fully damaged by floods. 81 per cent respondents are told that their Food Stock reserves are fully damaged by floods. 52 per cent respondents are told that their Kitchen Items are partially damaged by floods. 62 per cent respondents are told that their House hold Items are partially damaged by floods.

The vulnerability created naturally by the floods is hazardous and affect the basic necessities of their day to day life.

Table no 3. Personal health affected due to floods

Effected	No of Respondents	Percentage
Yes	200	100
No	0	0
Total	200	100

Source: Field Survey

Table no. 3 shows that the personal health is affected by floods. All the 200 respondents (100%) were told that their health is fully affected by floods.

The floods create hazardous effects on the personal life as well as on the livestock. The floods bring water which is contaminated and polluted and not suitable for human consumption. Post floods many contagious diseases start spreading, which affects people's health.

6. Interaction with Government Authorities

The sample size is 10 Gram Panchayath / Government Heads (PDO's). In the 5 severely flood affected districts, highly vulnerable one taluka is selected. In that two flood affected villages have been chosen for the interaction.

In this informal discussion, a structured questionnaire has been asked. These questions are same questions asked to the flood victims. This has been done to cross verify the facts given by the flood victims.

The areas on which questions have been raised to understand the responsibility of facilitating agencies, obstacles for Intervention and finally suggestion for effective intervention.

6.1 Responsibility of the government authority

Government of Karnataka's Revenue Department is the Nodal agency which is responsible for the any disasters. In the discussion most of the officials disclosed their responsibility in 2009 flood affected areas. Flood alert have been given through the media, auto announcement and by the people representatives.

On the time of heavy rain, people are not able to leave their houses and belongings. In this situation authorities will shift the people to Gruel centers. In the Gruel centers, government will provide the basic and emergency services that is food, shelter, Medical assistance, clothes immediately to flood affected people.

The officials at the ground level has to report higher authorities at district level every hour.

6.2 Facilitating agencies

On the occurrence of heavy rain forecasting the district administration will give full power to revenue dept. to counter the situation. The revenue dept. in convergence with Police department, Health Department, Food and civil supplies department will take necessary action to solve the immediate problems arising out of heavy rains.

6.3 Obstacles for the Intervention

- There is no preparedness in the government authority.
- There is no mandated training for government authority.
- Because of natural calamity the mode of communication is very less.
- Convergence among and within the department is very low.
- Transportation is disrupted.
- The size of government employees is very low, so they cannot work effectively in large areas.
- This is round the clock and continuous work. The efficiency of the work will come down slowly.

6.4 Suggestions for effective intervention at the time of floods

- Mandated training should be given to the all government employees at the probationary period as per the guidelines NDMC.
- Like NSS and NCC, the Disaster Management Cadet groups (DMC) Should be created for assisting at the time of floods.
- At the state level a separate Disaster Management Department has be created under Revenue department.
- By force or through counselling, the people who are in the flood prone area should be evacuated and Re-settled in safety areas.
- At Gram Panchayat level a Disaster Rescue team has to be formed with involving local youths.

7. Discussion with NGO's

In the fulfillment of objectives of the study the opinion of NGO's is more relevant to understand the participation of NGO's and its effectiveness to overcome by the problem.

In the 5 severely flood affected districts, highly vulnerable one taluka is selected. In that two flood affected villages have been chosen for the interaction.

In this informal discussion most of the NGO's and CBO's workers and executive members are partially involved in rescue and relief activities. Most of the NGO's are not trained and they are not having the capacity to work with flood disaster. They are only working for the formation of SHG's and Women Empowerment activities. Emotionally they are involved at the time of heavy rain in the month of October 2009. They are served in Gruel centres for distribution of food and other necessary daily needs of the flood affected.

7.1 NGO's prior Experience

Most of the organizations are not having the prior experience of responding to disaster because previous floods occurred in 1992. On that time NGO's are in nascent stage.

Government or any other institutions are not giving training for any NGO's or CBO's. They don't have exploration in intervention.

7.2 Obstacle in the intervention

NGO's are not having that much of capacity to deal with the disaster either technically or financially. Government departments not giving much co-operation, identity and recognition is very less at the flood rescue time.

7.3 Suggesting for Effective Intervention

- NGO's should be given training by Government Department.
- NGO's should be involved in Relief, Rehabilitation process.
- NGO's should be given adequate space in Disaster planning.
- NGO's should be made as members in District Committees.

8. Conclusion

Disasters are extreme environmental events that adversely affect all areas in the world. As vulnerability to disasters is unavoidable, greater attention has to be directed to

reducing risks. In this research it is stated some possible solutions for the problems through this research, survey and samples. In the past, when natural disaster occurred, government followed disaster with impact assessment study. Now the government is proactive, Response, Recovery activities and Reconstruction activities took place to return the region or locality to its pre-disaster state.

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