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PREPAREDNESS AND RESPONSE TO DISASTERS: A CASE OF 2014 FLOODS IN JAMMU CITY

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Abstract

The State of Jammu and Kashmir has a unique geographical personality. It is well endowed in renewable natural resources. The State is distinct from rest of the states in terms of topography, climate, economy, social setting and because of its strategic location. Besides all this, the state is multi- hazard prone region of the country. It has a long history of natural hazards like floods, earthquakes, drought, landslide etc. Recent Floods of 2014 in Jammu & Kashmir raised several questions. The questions range from varying figures of causalities to the role of local people and Army in rescue operations. The fundamental question was that whether this disaster was a natural calamity or man-made. It raised eye brows to the human interference and non-eco-friendly development in Jammu and Kashmir which has been considered the major reason for such disasters. It primarily questioned the disaster preparedness and response of administration and other government and Non Governmental organisations. However the role of army, police personnel was widely acclaimed but the floods exposed the untimely response and preparedness of the institutions

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like State Disaster Response Force (SDRF) which is the sole authority in case of disasters in the state. The floods were unprecedented and one of most devastating in terms of loss of lives and property. The present paper explores the consequential nature of recent 2014 Floods in Jammu and Kashmir particularly on socio-economic life in Jammu city and to find answers for the above questions and to give some suggestions in terms of prevention, preparedness and response.

1. Introduction

It happens persistently in every year, floods causes devastation at various magnitudes in different parts of India. Flooding in cities and towns is a recurring phenomenon by heavy precipitation, indiscriminate encroachment of waterways, inadequate capacity of drains and lack of maintenance of drainage infrastructure. Environmentalist degradation in the catchment areas has increased the frequency of flood in the mountainous regions. Heavy sediment load is eroded due to degradation of watershed areas after a rainfall in the catchment area. Insufficient carrying capacity of rivers and encroachment on waterways result into drainage congestion and erosion of river banks that leads to flooding. A disaster is an event which gives rise to casualties, loss of property, damage to infrastructure, essential services and means of livelihood, on a scale which the affected community cannot cope with unaided. Disasters ruin years of investment in the development process, placing new demands on society for reconstruction and rehabilitation. Disasters are not totally discrete events. Their possibility of occurrence, time, place and severity of the strike can be reasonably and in some cases accurately predicted by technological and scientific advances. It has been established that there is a definite pattern in their occurrences and hence we can to some extent reduce the impact of damage though we cannot reduce the extent of damage itself (Sundar and Sezhiyan, 2007). Preparedness involves the activities, systems and programmes developed before the disaster. It is designed to build and enhance capabilities at an individual, business, community, state and federal level to support the response to and recovery

from disasters. Preparedness measures include preparedness plans, emergency training, warning systems, evacuations plans and training, resource inventories, emergency personnel, mutual aid agreements and public information/education (Statler, 2011).

Floods in Jammu and Kashmir mostly take place in the summer when heavy rain is followed by a bright sun, which melts the snow. If an embankment is breached, even a driest place could turn into a lake after a few hours. The memories of 2010 flash floods in Leh are one such instance. More than 250 people were killed and property worth crores was broken in those floods. Jammu And Kashmir State has a very diverse geography and climate. Most of the valley regions of the state are fed by rivers like Jhelum, Indus and Chenab. Low-lying areas of the Kashmir Valley, especially Srinagar, along with parts of Jammu, are susceptible to floods that happen due to heavy rainfall in upper catchment areas. Floods in Jammu and Kashmir are not exactly an infrequent phenomenon, if history and indeed its geography are to be believed. Floods in the state are invariably related to the Jhelum River and its history of crossing the danger mark, its streams and rivulets overflowing and thereby inundating the Valley in the process. The 2014 flood in the state is unprecedented in nature because besides the river Jhelum, the river Tawi also crossed its highest danger mark in the history of flooding in Jammu where most parts of had received very high rainfall. Weekly total rainfall for most of the stations for the period Sept 2 to Sept 8, 2014 was more than 200 mm. Ecological degradation caused by unplanned development and urbanisation has played an important role in these floods. The preparedness and response of both the central and state government have proved not very grim and prompt in such situations. During the incidents of 2005 earthquake, 2010 floods and then in 2014 floods the disaster management preparedness authorities had failed to tack such events due to the lack of response, coordination, and Preparedness. Thus it is necessary that the emphasis should be placed on recovery preparedness i.e. on planning not only in order to respond efficiently during and immediately after disasters but also in order to effectively navigate challenges associated with short and long-term recovery.

Objectives of the Study

The following are the research objectives of the study

- To examine the role played by administration and locals during 2014 floods in Jammu City.
- To assess the impact of 2014 Jammu and Kashmir floods on socio-economic structure of Jammu City.
- To study the effect of urbanization and planning on the floods in Jammu City.

2. Research Methodology

Methodology plays an important role in the research work. It not only helps the researcher to formulate research questions but also assists in resolving various issues related to his research work systematically. The study is based on both primary as well as secondary data. Primary data has been collected through various group discussions, personal interviews during the fieldwork that was conducted in Jammu city. The secondary data has been collected from various reports, journals, books and also accessing to some websites.

The universe for this study consisted of affected population from different areas of Jammu city. The sample was purposively selected for the study. Total 50 respondents were purposively drawn from the three most affected areas of the Jammu city selecting 10 respondents from each area; rest of the sample included 10 respondents from local people who had volunteered the help during floods, and 10 respondents from the administration. The Preparedness level of both the affected population and administration was measured on the basis and analysis of responses given by the respondents.

Table No.1.1: Sample size of the study

Area/Block	**No. of respondents**	**Percentage**
Gorkha Nagar	20	20.0
Gujjar Nagar	20	20.0
Karnala Chak	20	20.0
Locals/Neighbours	20	20.0
Administration	20	20.0
Total	100	100.00

Analysis and Discussion

Role played by administration and locals

It is important to note that it was local People, Army, Police, NGOs and Students risking their lives and carrying the rescue operations. However the first persons to reach the spot were the neighbours who either heard the voices or were communicated to come for rescue. The rule of airline companies did not apply here and people had started helping others before saving their own lives which according to the victims turned out fatal for them.

Table 1.1: Immediate Rescue Responses

Rescue operations by	No. of Respondents	Total
Police /Army	55	55.0
Local people	10	10.0
SDRF	30	30.5
Others	5	5.0
Total	100	100.00

Source: Field Survey

It is quite evident from the table 1.1 that 55 (55.0 percent) of the respondents were rescued by the Police while 10 (10.0 percent) were rescued by the local people of the surrounding area. It is very pertinent to mention that most of the respondents asserted that it was the local people from the nearby neighbourhood who were the first to come for their help during the floods. The table further reveals that 30 (30.0 percent) claimed to have been rescued by the SDRF. It further shows that 5 (5.0 percent) were rescued by the students from the university and colleges. There seemed a clear unawareness of civil defence techniques among the masses that helped each other by hook and crock.

Impact of 2014 floods on socio-economic structure

Socio-economic status indicates one's access to collectively desired resources, be they material goods, money, power, friendship networks, healthcare, leisure time, or educational opportunities. And it is access to such resources that enable individuals and/or groups to prosper in the social world. During the September 2014 floods the socio-economic structure of the people was badly affected. The people of villages like Dewara, Beli Charana Karnala Chak and Swanjana which had their occupational structure based on agriculture land, livestock and dairy farms before the

floods had an occupational shift after floods had destroyed their means of earning of livelihood. Most of the agricultural land was eroded and the fertile part on which cultivation takes place had turned into barren.

Within a short span of time floods brought vast destruction all around the city particularly to the areas which are close to the both sides of the river Tawi. Many people became homeless and were forced to move to the safer places. Delay in the rescue operations had a viscous impact on the socio-economic life of the people.

Table 1.2 Major Casualties during flood

Casualties	No. of Respondents	Total
Houses and agriculture land	**58**	**58.0**
Cows, buffaloes and cattle	**35**	**35.0**
Injuries and deaths	**07**	**7.0**
Total	**100**	**100.00**

Source: Field Survey

The Table 1.2 shows that majority of the respondents, 58 (58.0 percent) have lost their houses and agriculture land during the floods followed by 35 (35.0 percent) who turned out to be jobless and lost their cows, buffaloes and cattles also 7 (7.0 percent) of the total respondents have got injuries.

In the village of Beli Charana, Karnala Chak and Rajiv colony people had an ample number of buffaloes which was their only way of livelihood which they utilised to make dairy products to sell in the nearby urban markets. Most of their buffaloes were drowned during floods which ultimately forced the people to look for other means of survival. Even the relief from the government did not help them to restart their dairy farms.

An aerial view taken from an Indian Air Force's helicopter shows the remains of a bridge at Beli Charana after it was swept away by floodwaters from the river Tawi on the outskirts of Jammu.

There were people in these villages that had lost their homes and were still living with the nearby neighbours. One of the respondents stated that he had shifted to their relatives after his house was washed away during the floods and was still waiting for the relief of his loss. Another respondent of village Beli Charana claimed that he had lost his three storyed house and was still along his entire family living with his relatives. The flood affected not only economically but it had a huge social impact on the families who have lost their nearest kins. The children of some of these families are still not able to have access to schools as there has been a delay in the process of reconstruction of the government infrastructure in these areas.

Effect of urbanization and planning on the floods

With rapid pace of urbanization and development of economic activities in Jammu, the city's influence has been increasing in range and impact. The city of Jammu grew almost 1.6 times during the last two decades and 2.4 times during 1971-1991 and hereafter. This phenomenal growth in population was due to several reasons including: Migration, religious tourism, and growth of commerce and industries. The socioeconomic and political compulsions pushed intra-regional migration to the city, militancy in the state drew a large number of people from the

Kashmir Valley. This trend of in-migration also attracted construction workers from other states which contributed to the construction activities required to house in-migrants from both countryside and from the valley. The city also faced rapid growth of commercial and industrial activities. This scenario has led to a severe urban sprawl. Besides this, the floating population of pilgrims to Mata Vaishno Devi, Amarnath Yatra, military and para-military forces and their families stationed at Jammu also add to the population of Jammu. Lastly, the shift of capital city from Srinagar to Jammu during winters also brings many families to Jammu. Most of such population is situated on the banks of either the river Tawi or other Nalas such as areas like Gorkha Nagar, Gujjar Nagar, Satwari and Beli Charana of the city making them vulnerable to the disasters like floods. In our study most of the affected population happened to be situated in these areas.

3. Key findings of the study

Therefore, it is evident from the above discussion that a grave situation existed regarding disaster preparedness in Jammu and Kashmir particularly in Jammu city. Tackling such natural calamities remain a huge task for the government as well as for the common people. The study highlighted in the form of following main findings some of the important variables covered under the study.

1. Lack of awareness of preparedness among majority of flood victims and State Disaster Response Force (SDRF).
2. Lack of proper rapid response system.
3. The SDRF claimed to be technologically not sound enough to handle such a grave situation.
4. The study found that the SDRF personnel were also not provided with proper training and equipments to manage the floods.
5. The study found that most of the people still relied on the conventional methods of tackling the floods like putting sand bags around the houses.
6. There was delay of relief and rescue operations at places which were completely disconnected from the down town area.

7. There had been no early alarming systems installed, no evacuation plans crafted, no relief and rescue measures adopted prior to the disaster.

8. The study found that people who lost their agriculture land and cattle during the floods and who were totally dependent on it, turned out to be jobless for some period of time.

9. The unplanned development and irresponsible behaviour of the authorities led the construction on the banks of the river Tawi. This population became the most effected during the floods.

4. Conclusion and Recommendations

Forecast and Warning Systems should be established in different districts of the states, there is no doubt, that we cannot stop them from occurring but with advanced technology and skilled manpower, could reduce and minimize their magnitude of destruction. The mitigation and prevention of disasters cannot be ensured unless the people living in vulnerable areas are sensitized and made aware about safe construction practices. Besides, the objectives of safe constructions and observance of building codes, guidelines, safety regimes etc. can be achieved only when engineers, architects, builders, contractors, construction workers, masons and carpenters are trained in this field. Therefore, Government shall arrange for training of these people in disaster related safety procedures and mechanisms. Planting of trees is very much important. Deforestation leads to the soil erosion which will ultimately cause flash floods which are very destructive in nature. Therefore the need of the hour is to plant as many trees as possible. Afforestation should be encouraged by government among people, NGOs, corporate sector, School & higher education departments. There is the great need to strengthen weak bunds of the major rivers of J&K well in advance. Disaster management has to be made a part of the curriculum. The subjects like ekistics and architecture need to be introduced in colleges besides giving a boost to professional Social work in State Universities. Thus it becomes significant that Construction of residential colonies on river banks and flood plains should not be allowed and offenders should be strictly dealt under law.

Disaster preparedness requires social and individual awareness along with administrative efforts. Only Byelaws/Rules and Regulation will not help to overcome the problem, unless there is a sustained awareness among citizens and different sections of the society. Thus to enhance the

capacity of community and sensitize the masses on possible risk during pre and post disaster the awareness camps and orientation programs about disaster preparedness and management are a key to tackle the consequences of floods.

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