Space based disaster management of 2008 kosi floods, north

Sociology, Communication

The author introduce that Plains of North Bihar is most vulnerable to the floods During the last thirty years period these plains have experienced the highest number of flood incidences (Kale, 1997). The author make us notice that the flood of 2008 was one of the deadliest floods which Bihar ever faced. It was one of the worst floods disaster in 2008. As in the bihar there regular floods like in 1963, 1971, 1984, 1991, 1995 and the devastating flood of 2008. The most important thing about this flood of 2008 that it affected those area which was earlier not affected or we can say that the area was not traditionally floood prone. As it effected those area which earlier were regarded as flood safe zone in northern Bihar. The people and administrator of that area were unaware of that type of situation or they didnot know how to cope it from it.

Causes of the floods

The two major river of these area are which are main culprit of floods are as:

Kosi

Gandak

Other small river system like the Burhi, bagmati and Kamla_Balan. Especially Kosi river in this region is known as Sorrow Of bihar as it brings floods which causes huge loss of property and damages every year. During the the last two centuries the Kosi river has shifted its course by about 150 km (Gole and Chitale, 1966; Wells and Dorr, 1987) One important thing is that the new course is now passing through the centre of the city Madehpura district of Bihar.

As these floods affected more than 300 million people and hundreds of villages got submerged under the water. It seriously damaged the livelihood of that area. The area which submerged under the water on august 29 2008 was 1, 16, 036ha.

Management

The author wants to focus on the importance of timely information during the disaster as it ease decision making for the concerned authorities. These dissemination system specially like remote sensing are cost effective and they having the better accuracy level. As the traditional method requires a lot of humanitarian efforts and there are chance of errors to. While the uses of remote sensing gives us large multi temporal coverage as well it provides the image of inaccessible areas and remote area as well. The use of this technology makes us to predict the flood situation during or before the floods disaster. Space technology offers critical and synergistic potentials towards developing the operational framework for space based disaster management system (Venkatcharyet al., 2001). Many spaced programme is started by ISRO to strengthen the disaster management system. To integrate and to provide timely information to the affected region it started programme like Disaster Management Support (DMS). it gives the timely information with having accuracy as well. During the flood of 2008 it kept the eye on the whole area and provide timely information for the concerned authorities. As the help of these technology it ease the evacuation process.

In the flood of 2008 about 30 satellite were used including both microwave and optical. These were used for mapping and monitoring the scenario of the

flood affected area of northern Bihar. Cartosat-2 and IRS P6 LISS _iv MX were used to study the breach and inundation of river. The map showed the real picture on the ground surface as these images were further disseminated to the Ministry Of Home FFiars, Central Water Commission, State Relief Commissioners and Flood Management information system and Patna Govt. as these concerned authorities used this information for the mitigation, relief and rescue activities to adverse the impacts of floods disaster. The hard copy of these maps were circulated to the concerned authorities to the local level concerned authorities. As the immediate response required from the all level of department as well as local people. Local people prior knowledge of the disaster is necessary as they are the first responders of any disaster. Without having coordination with local people no managerial activities will be successful.

Around 200 flood inundation maps were prepared for the monitoring purpose as it supported to the Indian government as well as Nepali government too.

The flood inundation maps provide the information related to what damages happened in the villages, as well as impact of floods on agricultural land, transportation system like railways, roadways. As it gives detailed information that which area are affected to the particular type of disaster so the evacuation activities start accordingly and relief is distributed to the most affected person.

Satellite Based Observation suggested that the devastating flood of 2008 occured due to the breach in the eastern embankment of the kosi river which

spread to the 12 km upstream of Birpur barrage, near Kusaha in NEpal on Aug 18, 2008. The breach happened due to the floods was 1. 7km which was observed by the Cartosat-2(PAN). Due to this eastern embankment formed three channels. The channels 1 and channels2 now passes through the Supaul, Madhepura, and Saharsa. As it was earlier mentioned in this flood river changed their course, Kosi river changed their 90 percent and now flows through different course. As satellite image showing that previously channel of kosi river was almost dried and we can easily find out sand dunes and their are broad sandbars are visible on that particular river course.

As the author mentioned lastly that from the space based satellite observation we can depict the situation that there is reduction in the cross sectional area of the area of the river and their is change in carrying capacity of river and there is change in the angle of attack of the kosi river.

After analysing the Space Based Observation, We can conclude that Remote sensing is one of the important tools for synoptic coverage as it is cost effective and hence it can be used to analyze the river shifting and also effective for the planners to taking measures related to structural and nonstructural measures. I am concluding my words that for the effective management we should come together as it is concerned of two nation i. e India and Nepal. So being an International issue it required a lot of attention in coordination to make disaster resilience society. So for this We should not only concerned to the hydrological aspects as it also requires a lot of attention of geomorphological, geological aspects of the rivers too. By coordinating efforts we can change the Sorrow Of Bihar in to the Pride of

Bihar as We having a very good example of Sorrow Of China i. e Hwang Ho river which is now world’s one of the largest hydroelectricity plant and it become a source of generating huge economy.