Problems of flood in Bihar review of measures of controls

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Abstract
People have usually know the shifting and sitting of the rivers to be the main cause of floods. But is this the case with only rivers of Bihar or with all the rivers elsewhere? Then why is it that Bihar faces floods year after year? When we easily say that the continuous siltation has made the rivers shallow and losing their depth they are unable to face the forceful rain during the monsoons which in turn result in the spread of water on the plains breaking its banks. Then here why do we miss to mention the human faults, which have hampered the natural resources by shifting forests in large quantities? People, since ancient period, have been struggling with severe forms of flood and making balanced adjustment with dangerous trends of flood. O Malley observes, “Thousands of years people have seen the indecent form of flood.” Flood is closely attached with human beings in Bihar since long years. It is not that their roots right from the beginning. The economists took the pains of evaluating only the economic factors that played role in the problem leaving aside the non-economic factors. In fact, these non-economic factors have always played a major role from behind the curtain having more differing in to this perspective then it will appear as something different or say, the same old book with a new cover yet to be unveiled.

Keywords: Flood, Rivers and Economists

Introduction
Flow of water without proper management is attributed as flood. The living beings of earth always lament due to the paucity of water and since time immemorial the government and the administration always assure to provide adequate water supply for drinking and irrigation. It reflects that there has been always possibility of crisis of water. The human efforts and natural trends have contributed less to check the unnecessary flow of water. On the contrarily, the various sources of water, which are also a natural gift but managed by human beings inflict soaring problems for plants, animals and entire assets of earth as well. This clearly shows that so-called flood is nothing but a man-made phenomenon. If we minutely scrutinize the factors that have played a pivotal role in adding to the permanency of this problem, then some human weaknesses become major highlights. When features like mismanagements, ill attention, corruption and all other negative aspects of human character encircle any measure, then the results are sure to meet disaster. This, in fact, is real problem, which could be solved with the work of management of water in Bihar.

In Bihar, flood is such a natural disaster, which has remained the cause of huge loss of wealth and person always. The state has abundant water and human resources but state is left without industrial resources after the division of Bihar. Under these circumstances the state is bound to depend upon the human beings of the measures pursued by them.

Impact of floods
The flood causes much damage to the life and property of the people when it visits. It presents disaster scene of crops being washed away. Men and cattle are drowned. Trees are uprooted, Houses collapsed. A large area is turned into a vast sheet of water. Roads and streets are under water. There is no means of communication other than boats at that time. Towns and villages are cut off from one another. The life of the people of the flood affected area is very miserable. They suffer from want of food and clothes. Their homelessness presents pitiable sight. They take shelter on road, railway lines and other higher sports when flood subsides epidemics breakout.
The average total damage to crops, houses, and public utilities during the period 1953-95 was about Rs. 9270 million. Flood has affected 16 districts of Bihar and had caused hardship to 1.25 Crore people of these areas. Following are the damages caused by flood.

- Flood causes loss to agriculture in huge quantity. Due to inundation the standing crops are lost. Many fields are covered with sand during flood, which make agriculture activity difficult afterwards.
- Flood causes loss of enormous human and animal life every year. It is because people do not get enough time to shift to safer places at the time of flood.
- At the time of floodwater over the road and rail embankment and breaches the rail and road communication. Consequently, untold miseries are caused to people of the areas. Besides this, sometimes floodwater washes out the bridge and causes long-term disturbances in the communication.
- The common features of the flood is flooding of homestead land and houses, the kachcha houses of mud are razed to the ground. The domestic households are. Lest sometimes we find whole villages are also washed off.
- Flood causes disruption in public utility services. These services consist of electric supply, telephone, water supply and sanitation.
- Flood creates not only the situation of crisis of safe drinking water in the areas but also spreads up water borne diseases in the areas.

Causes of floods

From the above discussion it is clear that these are considerable damages due to flood in Bihar. We find the following main causes of flood. While discussing the causes of flood, we should also make efforts to know the conditions of flood. These conditions may be described as flooding conditions. Floods are caused mainly due to heavy concentration of rainfall in the catchments area of river. Following causes of flood in Bihar may be summarized.

- All rivers of North Bihar have been changing their courses and this process in still continuing. The rivers change their causes abruptly, opening up new channels and causes of flood considerable damage.
- Silting of the rivers is one of the causes of flood in North Bihar. Continuous silting has made the rivers shallow and has reduced their depth.
- Increase in population another causes of flood problem in North Bihar People have constructed building and other structures in the plain, so free flow of water is blocked. As a result, they cause fresh flood up stream and prolonging the flood agony.
- Loss of vegetation cover in catchments area is also one of the causes of the flood in North Bihar, causing erosion of soil. The soil erosion creates obstruction on the flow of water and also changes the course of river. All these affects increase in flood peak.
- Flood is also caused by breaking up water in the tributaries due to higher level in the main river. Besides this, there is also effect of flow retardation due to tidal and backwater situation.
- The banks of river have inadequate capacity in the North Bihar. So they cannot contain high flows, which results in flood.

- Cyclone and heavy rainfall also cause flood in the area. The continuous and heavy rainfalls raise the water level in the flood affected areas.

Flood control measures: A concern

Flood control measures to be applied in North Bihar is a very difficult task. We can go through the flood control measures having tried since flood affected badly in state. North Bihar is one of the most flood-affected states in India. According to the Rashtriya Barh Ayog (1980), 16.5% of the entire flood prone area within the country is located in North Bihar while 22.1% of the total flood affected population within the country resides in the flood plains of the state. This implies that the number of persons hit by flood per unit area in Bihar is quite large and in fact, it is the highest as compared to the other prone states within the country.

Bihar has an area of 174 lakh hectares with a population of 7.12 millions (2001). The Ganga flowing from west to east bisects the state in two parts. The alluvial plains, north of the Ganga, are drained by the Ghaghra, the Gandak, The Burhi Gandak, The Bagmati, The Adhwara group of rivers, The Kaml, The Koshi, The Mahananda, which are the tributaries of the Ganga. It acts a master drain. These northern plains are generally to as North Bihar and comprising of 21 districts together with one subdivision of Bhagalpur (Naugachia). North Bihar has a population of 5.12 millions and an area of about 54 lakh hectares with a population density of 781 persons per square kilometre. 76 percent of the total population of North Bihar is reported to be flood prone. The average rainfall ranges from 1250 mm to about 1300 mm in this region. The alluvial plains of North Bihar are very fertile and are capable of supporting large population.

Flood control and early embankments

In India the Kosi in Bihar was once embanked in the 12th century by the king Lakshman and these embankments in popularly know as ‘Bir Bandh’. The remains are still seen along with the eastern abank of the Kosi, south of Bhimnagar, in the supaul district. It was widely believed that this embankment was constructed to prevent the westward movement of the kosi and its construction was stopped abruptly. The person who constructed this bandh was rightly given the name ‘Bir (brave). The fury of flood of the river Kosi continued towards the east.

As a result, when the Ghaghra was proposed to be embankment to be the people in 1890, following the severe floods in that season. The Government did not concede the demand. This request was probed by two senior engineers, Buckly and Holding to ascertain. If partial flood protection could be given by constructing embankments along the river to the submerged tract and it was on their recommendations, the Lieutenant Governor decline the construction of the embankments through and official agency own cost and risk, if they wanted.

Illusion of flood control

After the present ministry took over the administration of the state in 1990, a major shift was observed in its flood policy. The minister of water resources of the state has been publicly decrying embankments and attributing much of trouble on the flood from to the embanking of the north Bihar rivers. In the months of August 1991, wester embankment of the Kosi, the maintenance of which is done
by Bihar engineers, got eroded near Bhardah in Nepal. The six beaches that took place in August/Sept. 1993, in the Bagmati embankments and the Sohra beach near Jhanjharpur, on the Kamla embankments examples. At Sohra the beach victims had to prove that beach had actually taken place in order to get some dole from the government. In 1995, the embankments on Gandak, The Kamla and the Adhwara got smashed at many places together with the bursting of the Chandan dam in the Banka district. This is not on the flood map of the state. During 1990-2000, a sum of about Rs. 245 crores has been spent on flood control, excluding the establishment cost looking into the breach records of the embankments in this period, this money is grossly insufficient even for the repairs.

**Foundation of flood controls schemes**

These apprehensions and many other related issues are not without foundation as we glance through the performance of some of the major irrigation and flood control schemes in North Bihar in the Following:-

1. Kosi Project: Hopes Belied
2. The Gandak project Water-logging Overtakes irrigation figure:
3. The Western Kosi Canal Project 21st century Scheme:
4. The Bagmati Project: Shadow of Emergency
5. The Kamla Irrigation and Flood Protection Scheme: Unprotected Areas Better Off
6. The Mahananda Flood Protection Scheme: Fair weather friend

**Conclusion**

We have earlier discussed in detail the irrigation and flood control schemes in North Bihar. After forming of Jharkhand, what remains in the rest of Bihar is a geographical cluster extending from the Kaimur range in the southwest to regions running parallel up to Assam and west Bengal bordering in the east. Most Important with almost 80 percent of the work force getting direct and indirect livelihood from agriculture. Given the background, it is important to control the severe floods and to meet the drought conditions, so that agriculture could be solid sector with states like Punjab & Haryana. Until the construction of various dams is completed, the flood controls and irrigation in the Bihar plains will suffer as the politicians and engineers will always point their fingers towards the gigantic projects that they have taken up for flood control, irrigation, power production and betterment and uplift of masses.

**References**