

Bihar Floods of 2007: Some lessons for Everyone

There is good news from the relief front from Bihar this year and that is definitely a healthy sign for future. It is there because for many years in the past, the relief scene used to be chaotic and 2004 flood relief scandal was the logical end of the goings on in relief distribution. A slight change for the better is greeted with cheers from all quarters. Providing relief is a state subject and the Central Govt helps the states in some ways in managing relief to the flood victims. Twelfth Finance Commission has revised the standards set for relief under Calamity Relief Fund and recommended it to be effective from June 2007.

Damages Govt of Bihar (GoB) submitted a memorandum for assistance to the Central Govt on 28 August 2007. By that time 9939 villages in 225 blocks of 20 districts with a population of 20.4 million were hit by floods. GoB anticipated that by the time the floods are over, some 25 million people would be hit. Some 515 persons were killed in the floods (projected 600), 512,000 houses were destroyed (projected 6 lakhs) and standing crops over 16.4 lakh hectares was submerged till then. Besides, there was an extensive damage to National and State Highways, breaches in embankments, damage to health infrastructure, industries, fisheries, energy and cattle. GoB had put its losses at Rs 8000 Crores and requested the Government of India (GoI) for immediate help. Of the requested amount, over half the demand (Rs 4,130 Crores) was from the Disaster Management Department (DMD) of the state to cover the costs of food assistance (one quintal wheat/ rice for estimated 6 lakh families), house rebuilding grant, distribution of polythene sheets, emergency cooked food and deployment of helicopters etc.

By now the floods have hit 12,610 villages spread over 264 blocks in 22 districts affecting a population of 24.8 million. Standing crops over 16.63 lakh hectares has been hit by flood that has affected 16.13 lakh animals killing 1006 of them. Over 736,857 houses have been destroyed and 960 persons have lost their lives in this year's flood according to the information received so far. Obviously, the damage is much more than what was anticipated on the 28th August. The state was supposedly best prepared to meet the disaster this year and ended up in distributing maximum amount of relief material. What sort of disaster preparedness is this?

Relief Provisions Before analyzing the quantum of relief that has gone into the flood hit area of Bihar this year, let us glance through the provisions of CRF.

⇒ The general recommendations suggest that death due to floods would mean a compensation of Rs. one

lakh to the next of kin subject to certification by a competent authority.

⇒ Compensation packages for fully damaged pucca house- Rs 25,000/-,

⇒ Fully damaged kachcha house – Rs. 10,000/-,

⇒ Severely damaged pucca house Rs 5,000/-,

⇒ Severely damaged Kachcha house – Rs 2,500/-,

⇒ Partially damaged pucca and kachcha house – Rs 1,500/-, Hut- Rs 2,000/-

⇒ Compensation of Rs 35,000/- to any person injuring his eyes / limbs with damage between 40 to 75 %

⇒ Beyond that the compensation would be Rs 50,000/-

⇒ Compensation for grievous Injury with hospitalization up to one week - Rs 2,500/-

⇒ For hospitalization of over a week, Rs. 7,500/-

⇒ Lost clothing and utensils Rs 1,000/- per family.

⇒ Immediate sustenance – Rs. 20/- per adult per day and Rs. 15/ per child per day for 15 days. This can be extended to 30 days in case of extreme situation. Rs 2/- per day per infant for additional nutrition as per ICDS norms for a maximum period of 30 days.

⇒ De-silting of agricultural land with minimum sand casting depth of 3 inches - Rs. 6,000/- per ha for small & marginal farmers. Renovation of Fish Farm – Rs 6,000/-

⇒ Land lost due to changing course of rivers Rs. 15,000/- per ha subject to establishing the ownership.

An agricultural input subsidy of Rs. 2,000/- for small and marginal farmers in rain fed areas and Rs. 4,000/- per ha in assured irrigation areas. Rs. 6,000/- agriculture input subsidy for perennial crop. These benefits are also available to other farmers with a ceiling of one ha.

Subsidy for cattle lost

⇒ Milch Cattle like buffalo, cow and camel Rs 10,000/-

⇒ Draught Animal like Camel/ horse/ bullock Rs 10 000/

⇒ Calf/ Donkey and Pony – Rs. 5,000/- and

⇒ Sheep / Goats Rs. 1,000/-, Birds – Rs 30/ per bird.

Fishermen loosing their traditional craft, Partly – Rs 2,500/- +net; Fully Rs 7,500/- +Net.

Besides, there are various other provisions that a flood victim is entitled to.

Similar assistance is available for other artisans like weavers etc subject to certification from the competent authority.

Flood Relief in Bihar Let us glance through what has been done on the relief front in Bihar till date. 425039 Tons foodgrains have been distributed so far while the flood hit families would be around 50 lakhs. If the floods

hit the people in the month of July and it was expected from the Government that it would feed the flood victims for about a month, it is obvious that the grains did not reach all and also it never reached them in time. Many families must have been forced to arrange food for themselves. Despite this, one must appreciate the effort of the Government because reaching grains to so many people was, probably, never done in the past. It has asked Rs. 945 Crores from the Center under this head. GoB had further asked the Center a sum of Rs 60 Crore for ex-gratia payment to those families who had lost their family members (projected 600) in this flood. GoB has paid additional Rs 50,000/- to every such family from the Chief Minister's Relief Fund which is a welcome deviation from the past.

The Government suggests that it has distributed 3,77,707 numbers of polythene sheets to the flood victims till date and it had written to the Center for providing this material to 40 % of the flood hit families, which according to its own submission should have been around 2 million. Assuming that all the NGOs put together might have distributed another 75,000 sheets (it is an ambitious estimate), those given polythene sheets may not number more than 4.5 lakhs. This number is less than 10 per cent of the affected families and it implies that nearly 1.5 million families must have braved floods under open sky amidst heavy rains that continued almost till the middle of September.

For emergency expenses (Rs 20/- per adult and Rs 15/- per child) that a person is entitled for, GoB has so far paid Rs. 84.05 Crores against a demand of Rs. 1105 Crores made to the Center. This is just about 8 per cent of the requirement. Further, the GoB had asked for resources for rebuilding 4.8 lakh houses (assuming 80 per cent houses of the six lakh damaged houses are kachcha and belong to poor) but the number of damaged houses has gone up from an estimated number of 6 lakhs to over 7.3 lakhs.

GoB had proposed that the sum of Rs 10,000/- that was to be given to each family under this head be coupled with the provision of Rs 25,000/- available under Indira Awas Yojana (IAY) and rebuild better houses for Rs 35,000/- which would be better suited to bear floods in future. Unfortunately, the state has provisions for building only 60,000 houses under IAY. This would mean that nearly 5.84 lakh houses will be left uncared for. GoB proposes to tap resources from other departments to reduce the burden. Only time will tell how many houses are finally constructed. It must also be noted that all such houses cannot be built in North Bihar alone as the poor live in South Bihar too.

This year there were 7 breaches in the Bagmati embankments, 14 in the Kamla-Balan embankments, 5 in the Burhi Gandak, 3 in the Masan embankments and one each in the Bhutahi Balan, Khiroi and the Kosi (Badla-Nagarpara). Any lay person in Bihar can tell that the embankment loses its meaning downstream of the breach point.

As far as CRF is concerned, there are no unlimited funds available with it. In the past five years Bihar has received only Rs.123.66 Crores in 2000-01, Rs. 129.84 in 2001-02, Rs. 136.33 Crores in 2002-03, Rs. 143.15 Crores in 2003-04 and Rs. 150.30 Crores in 2004-05. GoB is supposed to add 25 per cent more to this sum to claim the Central assistance. One can well imagine the gap that exists between the available small funds to the tune of Rs. 150 Crores against a demand of Rs. 8,000 Crores. Some money may be available through the channels of National Calamity Contingencies Fund (NCCF) but that too is drop in the ocean. The rest will have to be borne by the state Government or by the affected family itself. GoB asserts that it has spent all the

money that it had with it (Rs. 850 Crores) to meet the flood disaster this year and it has further spent a sum of Rs. 250 Crores from other sources and has no money left to do any relief any more unless some help pours in from outside. The Chief Minister has requested the

Center to allocate funds for that but such requests have a history of getting ignored.

Unprecedented floods This year's flood in North Bihar broke many previous records. Continuous rains between 1st July to 2nd August in Bihar plains, Terai area of Nepal and the lower Himalayas brought life to a standstill for a very long time, the impact of which is felt still. It rained three to four times more than the average for weeks together and districts like Samastipur, West Champaran and Khagaria was virtually cut off from rest of the world for a considerable period. Elderly people of the area suggest that they had never seen so much of rain in their life nor had they experienced such a prolonged stagnation of rainwater.

Surprisingly, with so much of rains and rainy days and the accompanying losses due to floods, no major river of North Bihar touched the recorded highest flood level (HFL). The memorandum sent by the GoB to the Gol for seeking assistance for flood relief confirms this fact.

⇒ The HFL of the **Bagmati** at Sonakhan is recorded as 70.77 m but it could reach only 69.75 m this year.

⇒ **Burhi Gandak** remained stagnated above the danger level for weeks together this year, did not touch its record level of 46.35 meters at Rosera.

⇒ **Kamla-Balan** could touch 53.60 meters level at Jhanjharpur Rail Bridge against the HFL of 54.34 m.

⇒ **Bhutahi Balan** played havoc in and around Phulparas in the Madhubani district many times this year, did not touch the record level of 72.1 m at Ekamma siphon and flowed to a maximum level of 70.3 m.

⇒ **Lalbakeya** attained a level of 72.42 meters at Gowabari against the HFL of 72.84 meters.

- ⇒ **Ganga** has an HFL of 50.27 meters at Gandhighat but the observed maximum this year was 48.15 m.
- ⇒ **Punpun** flowed at 53.1 m at Sripalpur (HFL 53.91 m)
- ⇒ **Kosi**, at Basua, flowed at 48.01 m (HFL 48.76 m)
- ⇒ **Gandak** level below 95.8m at Khadda (HFL 96.85 m)

If the maximum level of all these rivers was much below the HFL, one would expect that the damages caused by the floods would be less but that was not to happen. The obvious explanation that comes to one's mind for this anomaly is that there were large number of breaches in the embankments, canals, roads and railway lines that led to moderation of flood levels in rivers and drainage congestion prevented the moderated floodwaters from escaping. The result was prolonged stagnation of water and nearly 25 million flood victims watched helplessly their dwellings and crops being washed away.

Embankments Water Resources Department (WRD) of GoB has constructed 3430 kilometers long embankments along Bihar rivers through which it intends to protect its 29 out of 69 lakh hectare of flood prone area. These structures, on which the GoB had so much faith as a barrier between the people and the river, breached at 32 places before a call of help was given to the Gol on the 28th August through the memorandum. There were 7 breaches in the Bagmati embankments, 14 in the Kamla-Balan embankments, 5 in the Burhi Gandak, 3 in the Masan embankments and one each in the Bhutahi Balan, Khiroi and the Kosi (Badla-Nagarpara). Any lay person in the flood hit area of Bihar can tell that the embankment loses its meaning downstream of the breach point. He can also tell that the bed level of the river within the embankments has risen quite high leading to its reduced water carrying capacity and waterlogging in the protected countryside. The people living within the embankments are always at the mercy of God as the Govt does not recognize their existence. Their number in Bihar is in lakhs.

What is left of the newly constructed embankments on the Bagmati between Runnisaidpur and Dharampur will be known only after the stock is taken once normalcy is restored but efforts are on to redo these embankments. This Rs 792 Crores project was started early this year to embank the hitherto untouched middle portion of the river. Some 10 km length of the same was constructed before the rains and whatever was constructed, got washed away in floods.

The GoB is reported to have sanctioned a sum of Rs 78 Crores to raise and strengthen the Kamla-Balan embankments. Kamla-Balan embankments have a

history typical to embanking technology. The river was embanked between Jainagar to Jhanjharpur in Madhubani district during 1956-60. These were further extended up to Darjia in 1962 and since 1965 flood season, these embankments are faithfully breaching every year. At times, people cut these embankments to

drain the stagnated water outside the embankments. In the floods of 1966, there was turmoil in Bihar Vidhan Sabha over massive breaches in these embankments. Members snubbed the Government over the performance of the embankments and even suggested that either the embankments should be removed or the people

should be shot dead. Central Water Commission sent a senior engineer, Moti Ram, on a request made by GoB and he suggested, along with many other things, raising and strengthening of the Kamla embankments. This suggestion came just within three years of completion of the embankment. Nobody asked GoB or the CWC why weak and low height embankments were constructed in the first place? Since then a caravan of veteran engineers is passing over these embankments making similar suggestions and sometimes the embankments are raised. The river and the embankments, however, refuse to obey them. WRD of GoB has asked for Rs 522 Crores to repair such embankments in the state.

This is not a huge sum but it would have been better if WRD had done some introspection before making the demand. In 1998, the present Deputy Chief Minister of Bihar was staging a sit-in strike in Darbhanga and his grievance was that the embankments had breached at 125 points in the state causing immense hardship to the people. WRD of Bihar refuted these charges saying that the embankments had breached only at 7-8 places and an equal number have been cut by the anti-social elements and all other breaches are there in the Zamindari and Maharaji embankments for the maintenance of which the WRD is not responsible. The press release of the WRD also said that it was responsible only for the flood protected area of 29 lakh ha in the state and the remaining area over which no protection measures have been taken up, the department cannot be held responsible.

If the WRD admits that its embankments have breached at 32 points (as against 8 in 1998) and none of these breaches are Zamindari or Maharaji embankments, it is hoped that the Deputy CM would remind WRD of its obligations to the people.

It is obvious that when an embankment breaches, it surely was meant to protect some land out of those 29 lakh hectares. The GoB should also explain to the flood

Surprisingly, with so much of rains and rainy days and the accompanying losses due to floods, no major river of North Bihar touched the recorded highest flood level HFL. Thus, one would expect that the damages caused by the floods would be less but that was not to happen. The obvious explanation for this anomaly is that there were large number of breaches in the embankments, canals, roads and railway lines that led to moderation of flood levels in rivers.

victims what plans it has to protect the remaining 40 lakh hectares of flood prone land of Bihar?

Bihar govt's proposals do not make sense WRD

suggests in the memorandum that efforts should be made for the Indo-Nepal Cooperation over the flood issue. This is something that is being said for the past 70 years without any success and it is difficult to make out any meaning of such an assurance. Flood forecasting, afforestation, capacity building and establishment of a Flood

Management Institute at Patna has been proposed in the memorandum and a National Disaster Response Institute in Patna has also been proposed. A totally irrelevant proposal to desilt Bihar Rivers has been also made. It must be reminded here that the proposal to desilt heavily silt laden rivers like the one debauching into the Gangetic plains from Himalayas has been rejected to the extent of ridicule in the Report of the Rashtriya Barh Ayog (1980). That a proposal should come from Bihar is even more astonishing since it had desilted Eastern Kosi Main Canal a couple of years ago. There are hillocks of sand on either side of the canal and most of the slopes of the canal is eroding back into the canal with passage of time. The problem is not in desilting the river if one has the resources, the problem is where to dump the excavated material. The memorandum is curiously silent over the issue.

Similar is the situation with the Dept. of Road Construction. Some 782 kilometers length of roads in the state have almost collapsed with 54 breaches in them. The department has sought for a sum of Rs. 1586 Crores from the Center to bring back the roads in motor able shape. Breach in the road means that the rain water is looking for an opening at that point to pass through, which the department intends to plug. Condition of the rural road is even worse. A length of 3194 kilometers of such roads has been hit by floods with 829 breaches in them and its 1353 bridges and culverts need repairs / replacement. Such damages will never diminish if the state continues to ignore the drainage of water.

However, this year's flood has opened the flood gates of placing additional demands. Vital departments of the state from which people had expectations to protect them against floods are themselves queuing up for relief. One is reminded of the Mughal Emperor Jehangir whom anybody could access for alimony.

A villager went to meet him for help and found the emperor praying to the almighty for help. The villager came back without meeting the emperor saying that he

should not be expecting anything from a person who himself was begging. Sooner the people of Bihar realize this, the better it is.

In 1966 CWC sent a senior engineer on a request made by GoB and he suggested, raising and strengthening of the Kamla embankments. This was just within three years of completion of the embankment. Nobody asked GoB or the CWC why weak and low height embankments were constructed in the first place? Since then a caravan of veteran engineers is passing over these embankments making similar suggestions and sometimes the embankments are raised. The river and the embankments refuse to obey them.

Central Water Commission

CWC is an apex body of India to look after the irrigation and flood control in the country. Any trivial matter regarding these two issues cannot move any further without the nod of this institution. Ask CWC which year Bihar was hit by the worst floods in the history, the answer would be 2004.

This is because, according to CWC, 2004 was the year

when 4.99 million hectares (MH) of land in Bihar was inundated. This information must have been given to CWC by GoB. In fact, 2004 flood of Bihar was limited to 20 districts of North Bihar (Siwan and Saran faced no floods in 2004). Area of North Bihar is around 5.4 MH and the combined area of Siwan and Saran is 0.486 MH. Subtract this area from the area of North Bihar to get a figure of 4.914 MH implying that the flooded area of North Bihar was more than the actual area of the region. When this anomaly was reported in the press, the flood hit area of the state slumped down overnight to 2.772 MH in the reports prepared by Disaster Management Department of State. GoB, however, took precaution in retaining the flood affected area as 4.99 MH when it submitted a memorandum to the Prime Minister for assistance to combat the losses that year. Even Prime Minister's Office did not notice the fallacy in reporting and so did Ministry of Water Resources and the CWC. One wonders that in future if a relationship is drawn between the rainfall, highest flood levels of the rivers and the area affected due to floods in Bihar, will it not lead to erroneous conclusions? That is the seriousness with which data are handled by these august institutions.

GoB took another precaution. It has ceased to disclose the district wise flood affected area ever since to avoid any criticism. Even this year, the flood affected population of Sitamarhi district is indicated as 27.86 lakhs whereas the population of the district according to 2001 census is only 26.83 lakhs although the official website of GoB suggests a population figure of only 20.14 lakh. One should not be surprised if the GoB stops giving the flood affected population now onwards. However, accepting the credibility of whatever data and information is available, let us take a look at various devastating floods in the State in past.

1954 Floods Talk to any elderly person in North Bihar and he would tell you something about the devastation caused in the floods of 1954. This flood was limited to North Bihar only with an affected area of 2.46 MH and a population of 7.61 million (out of 18.393 million). This

flood affected 8119 villages (out of 21,107 villages) of North Bihar leading to the loss of standing crops over 15.96 lakh hectares. Some 1,79,451 houses were destroyed and 63 persons lost their lives in this flood. 1944 cattle had also perished in the floods this year. The flood loss was valued at Rs 50 Crores.

This was the year when the first Flood Policy of the country came into being and the proposal to dam the Kosi at Barahkshetra in Nepal was dropped in favour of embankments along the river citing the reason that the proposed dam would be a safety hazard for the people living in downstream areas. After this all the major rivers of Bihar were embanked and the process continues still. The flood prone area of Bihar in 1954 was 2.5 MH and the state had only 160 kms of embankments.

1974 Floods The impact of this year's flood was felt south of the Ganga also in the districts of Munger and Santhal Parganas and had a spread area of 3.182 MH. It had hit a population of 16.39 million and crops over 1.751 MH were lost. 5,16,353 houses were destroyed in this flood that killed 80 persons and 288 cattle. The total losses were put at Rs. 354.59 Crores.

Following the floods, the GoB appointed a committee to look into the flood damages and suggest means to combat floods under the Chairmanship of Kanwar Sain, former Chairman of CWC. This committee reiterated the idea of construction the Barahkshetra Dam on the Kosi and said that the embankments could only be a temporary solution to the flood problem of the state. Till 1974, there were 2192 kilometers long embankments within the state and it was claimed that they were providing protection to 1.5 MH. The flood prone area of the state, however, had shot up to 4.3 MH by this time.

1987 Floods This was the worst recorded flood of the 20th Century, the records set by that flood have not been broken so far (2007 included). This flood had not only mauled North Bihar, its impact was felt in South Bihar as well as Jharkhand (it was a part of Bihar those days) also. An area of 4.668 million area of present day Bihar and a population of 282.38 lakhs was hit by this year's flood that had engulfed 23,852 villages and destroyed crops over an area of 2.51MH. It further destroyed 16,82,059 houses killing 1373 persons. The state had deployed 58 army boats, 14,304 boats in N Bihar, 1366 boats in S Bihar and pressed in services 13 helicopters for rescue & relief operations. The rains that started on the 11th August continued almost non-stop till 19th August and no food packets could be dropped in

Madhubani, Darbhanga, Samastipur and Khagaria for about 3 weeks. Blocks like Alauli and Beldaur remained marooned till the end of October. The floods came again five times in days to come and Jhanjharpur (Madhubani) was inundated even after Diwali.

As per CWC Bihar was hit by the worst floods in the history in 2004 when 4.99 MH of land in Bihar was inundated. This information was supposedly given to CWC by GoB. In reality, 2004 flood of Bihar was limited to 20 districts of North Bihar whose total area is 4.914 MH implying that the flooded area of North Bihar was more than the actual area of the region. When this anomaly was reported, the flood hit area of the state slumped down overnight to 2.772 MH in the GoB reports. But CWC & Ministry of Water Resources continue to use the figure of 4.99 MH.

There were 3,321 kilometers long embankments in the state by 1987 that were expected to protect 2.873 MH of land against flooding. There were 104 breaches in these embankments and the flood prone area of the state had gone up to 6.461 MH. A committee under the Chairmanship of Naresh Chandra was appointed to look into the causes and remedy of floods in the state. The Report is

gathering dust somewhere in the CWC.

2004 Floods This year's flood was spread over 20 districts of North Bihar with an area over 2.772 MH (4.99 mh according to CWC) and a flood-hit population of 2.13 Crores. This flood had engulfed 9346 villages, destroyed crops over an area of 1.399 MH and swept away 929 773 houses killing 885 persons. Desperate attempts were made to paint 2004 flood as the worst ever flood in living memory; duping the PM was a collateral damage.

By this time the undivided Bihar had an embankment length of 3465 kilometers. 24 kilometers went to Jharkhand and another 11 kilometers was swept away. Remaining 3430 kilometers long embankments are still there with Bihar while the flood prone area of the state has gone up to 6.88 MH. Government of India had appointed another Task Force to look into the flood problem of the state and suggest remedy. This report, too, says that the flood affected area of Bihar in 2004 was 4.99 MH. One should not be expecting anything worthwhile from the report which is based on wrong footings. Constituting committees and Task Forces etc is just an extension of floods that provides post retirement employment to administrators and technocrats.

2007 Floods Much has been written earlier and it is not intended to repeat it here but it must be said here that whenever a phrase 'worst ever flood' is used, caution must be exercised. It suits all concerned, except the victims, if the worst ever flood strikes an area. Should miseries be marketed? Marketing managers could muster a statement from United Nations that Bihar was hit by worst ever flood this year which, it was constrained to modify later saying it meant South East Asia and not Bihar.

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