
# Rising Waters of Mahanadi

# Threatens 6 Coastal Districts

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## 18 lakh of around 4000 villages in 23 districts of Odisha affected by 2014 floods

With a 482km long coastline and a network of major rivers and their tributaries the state of Odisha has always been flood prone. As the three major rivers flowing through Odisha, the Mahanadi, Brahmani and Subarnarekha have their source outside the state, the misery increases as they often carry an additional load due to rains in upper areas to cause a deluge during their journey within the state to the sea. Rivers belonging to the state like the Budhabalanga, Baitarani, Salandi and Rushikulya also go into spate when heavy rainfall occurs in their catchment areas. Floods in Central and Coastal Odisha occur mainly due to heavy rainfall in the rainy season (July-August) either within the state or in Western and North Western Odisha, Madhya Pradesh and Chhattisgarh from where waters collect into the 83,400 Sq km catchment area of the Hirakud Dam built across the River Mahanadi which originates from Raipur.

### Increase in frequency and magnitude of floods

In recent years Odisha has seen an increase in both frequency and magnitude of floods. The floods of 2003, 2006, 2008, 2009 and 2011 have left in its wake large scale destruction of property, loss of crops, and livestock with human casualties that are inevitable. In the year 2013 Odisha faced an unprecedented situation when a very severe cyclonic storm Phailin hit the coastal areas of Ganjam, Puri, Nayagarh, Khorda, Jagatsinghpur and Kendrapara that turned into a severe depression upon landfall causing torrential rains leading to floods. That year the state had to face the double whammy of a very severe cyclone and major flooding (Cyclone Phailin aftermath: 2.5 lakh marooned due to floods in Odisha, Indiatoday.in, October 14, 2013).

### Factors behind floods in Odisha

Experts have blamed the increase in intensity of floods and their impact to several factors. Over the years the rivers and also the reservoir area of the Hirakud dam have developed huge sedimentation of silt that has limited their carrying capacity. Due to pressures of population the river banks, flood plain zones, basins as well as the deltas have been encroached upon with unplanned construction work impeding the free release of water as well as increasing the quantum of damage. During the rainy season when the major floods occur, the sea is turbulent and is unable to absorb the flow of water leading to floods in coastal areas. What is very interesting is that the Hirakud Dam which was set up in 1957 to

mitigate floods caused by the Mahanadi has itself been blamed for “man made” flooding in recent years due to alleged mismanagement of flood water.

The recent changes in rainfall patterns due to climate change has seen very heavy rains in short periods leading to flash floods that are difficult to predict and manage. Massive deforestation has also exacerbated the situation as the land is no longer able to absorb the rain water leading to increased flow offs.

**Flood situation in Coastal Odisha**

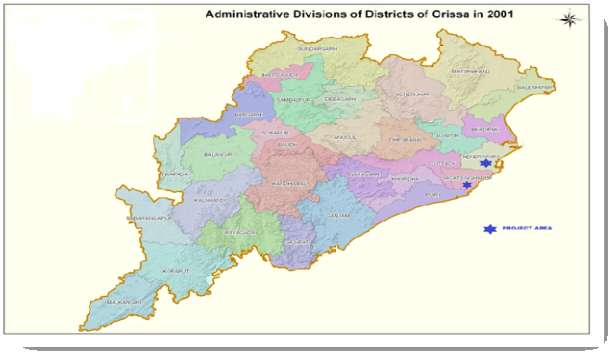
The current flood situation in Coastal Odisha, that ironically followed fears of drought due to the predicted El Nino effect, is also caused by a combination of the above factors. It started in the last week of July 2014 with increased rainfall in both the upper and lower regions of the River Mahanadi which led to opening of 23 gates of the Hirakud Dam on 24th July to release the flood waters. However on 1st August 24 gates were again opened to reduce the water level in the Dam from 620 ft (10 feet below the maximum water level) to 617 ft. At that time no one anticipated fresh rains. (Odisha authorities to open 20 sluice gates of Hirakud Dam by Friday, Orissadiary.com, July 31, 2014)

Due to the formation of a low pressure area over the North Bay of Bengal heavy rains on 3rd and 4th August lashed Western Odisha affecting the towns of Sambalpur, where 200.7mm rainfall in 24 hours led to an urban flooding, Bargarh, Subarnapur and Boudh (Heavy rains continue to lash Odisha, The Hindu, August 4, 2014). There was also heavy rainfall in other parts of Chhattisgarh, Central and Coastal Odisha due to another low pressure that continued till 6th August. Water flowed into the reservoir area of the Hirakud Dam at over 3 lakh cusec per second, increasing up to 7.6 lakh cusec on 6th August, causing the Dam to open at first 24 and then 50 gates on 6th August to release 8 lakh cusecs per second so as to relieve the pressure on the Dam which had almost reached the full capacity (Full Reservoir Level) of 630 ft (OTV news 6th August 2014).

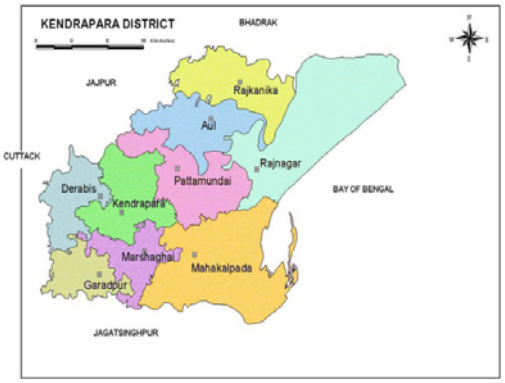
The release of waters on 6th August 2014 has caused a flow of 12 lakhs cusec of water into the Mahanadi system that is ordinarily capable of handling 10 lakh cusecs (OTV interview of retired Chief Engineer, August 6, 2014). With the gates remaining open more water is being

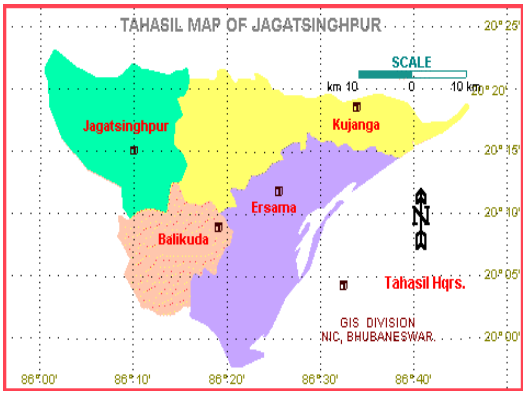
released into the system hoping that the waters will smoothly flow into the sea. As per a report in the Dharitri newspaper of 7th August, the fact that the sea is on high tide due to the impending full moon on 10th August may not allow that to happen. Thus as on 7th August 2014 Odisha is keeping its fingers crossed as waters from the Dam have started to enter the coastal districts of Nayagarh, Khorda, Puri, Jagatsinghpur and Kendrapara.

## Paribartan Project in two coastal districts of Odisha




The Regional Centre of Development Cooperation (RCDC) is implementing a multi-country CCA-DRR project named "Paribartan" in the two coastal districts of Jagatsinghpur and Kendrapara. This project, facilitated by Concern Worldwide and funded by the European Union, started in the year 2011 involving 84 villages of 8 GP's in two blocks of Rajnagar and Balikuda. Into its 4th year, the project has targeted 54,148 people directly by helping them become climate resilient and alleviate poverty by adopting climate smart livelihood options, facilitating local mitigation efforts, training community members in DRR activities and organizing them into Task Forces. Community members have been empowered to conduct Community Risk Vulnerability Assessment (CRVA) exercises and prepare village based Community Contingency Plans based upon the findings and are linking those plans with Panchayat Plans for better implementation. They are also linking various Government schemes and programmes, and advocating for removing deficiencies in local administration led CCA-DRR efforts in their region.




All this is facilitated and monitored by community based institutions formed at hamlet, village and Panchayat levels.

**Flood threat to Paribartan project area**

The current floods, caused by release of water from the Hirakud Dam, are expected to affect the two districts of Jagatsinghpur and Kendrapara where the Project "Paribartan" is being implemented. As soon as the flood situation in the Mahanadi system was predicted on 4th August 2014, SMSes were sent to all field staff at both the blocks of Rajnagar and Balikuda warning them about the situation and asking them to activate the Task Forces in all 84 target villages. The Task Forces have visited each household and ensured their preparedness to evacuate along with dry food, important documents, assets and livestock. The Paribartan Team members are in the field discussing the situation with Sarpanch's, leaders of the community based institutions and the district administration to prepare in case of any flooding. Day and night vigil is being maintained at vulnerable areas so that the communities are not caught unawares. The Team Members are ready to ask the Task Forces to evacuate people to shelters and high areas in case of emergencies. Staff at Head Office level are monitoring the situation by keeping in touch with the IMD department and Officials of the Odisha State Disaster Mitigation Authority (OSDMA). The moment information about impending flooding in the target area is received, the field level staff will be asked to start the evacuation process.

As per the latest report flood waters have entered the Balikuda block but outside the target area (Swelling Rivers Maroon Jagatsinghpur Villages, The New Indian Express, July 7, 2014). The rivers Baitarani, Patasala, Debi and Bari flow through the Project Paribartan target areas in Rajnagar and Balikuda blocks. There is also threat from the sea as the villages are very close to the sea. Two villages in the target area of Balikuda block and belonging to the Baramundali GP are vulnerable and special vigil has been ensured. At Rajnagar the Brahmansahi, Rangani and Talchua GP's are vulnerable in case the surging sea waters, inflated by the rivers pouring into them, enter these areas. Here too the Paribartan Team and community members are keeping a close watch. The entire programme area is surrounded by flood waters that have entered nearby Panchayats and blocks.

**The crisis continues**

Considering the amount of water that is pouring into the Mahanadi system, the bunds weakened by heavy rains for a long period that are likely to be breeched, the state of the sea which is already in spate due to the monsoon and the expected full moon tide, and the vulnerability of the population residing in low lying areas; the build up of an emergency situation cannot be ruled out. The flood situation has been officially declared to last at least three days and there is another low pressure formation expected to trigger rains from the 8th of July. These factors will only aggravate the situation. In case there is flooding, the project will have to ensure safe stay, clean water and safe cooked and dry food to the evacuated populations and will also have to help the affected community members tide over damage to houses, loss of assets, livestock and inundation of agricultural fields. The community will also have to be fed in the critical period when they struggle to return to normalcy. The crisis is yet to tide over and the target community tensely awaits the outcome.

THE TIMES OF INDIA
Dt. 08/08/2014

# Floods worsen, full moon may hit water discharge

## 18L Affected In 23 Dists, No Relief Soon

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**Bhubaneswar:** Flood water engulfed vast areas of Mahanadi delta region affecting over 18 lakh people in 23 districts of Odisha on Thursday. Many parts of Cuttack, Jagatsinghpur, Kendrapara, Khurda and Puri districts were hit by flood in the Mahanadi river system, while flood in Baitarani made the situation in Jajpur and Bhadrak districts grim due to submergence of vast areas. There was little hope of immediate relief from the calamity as the water will take another three days to recede, official sources said.

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People leave their village en mass in Cuttack on Thursday

"In view of the amount of water being released from the Hirakud, an estimated 10 lakh to 10.5 lakh cusec will continue to pass through near Cuttack till August 9. Thereafter the water level will start falling," said principal secretary, water resources, Suresh Mohapatra.

The state government claimed that the possibility of a high flood had been averted. "We had expected over 12 lakh cusec water to pass through Cuttack, but only 11 lakh cusec passed in the river system without having any devastating effect," said special relief commissioner P K Mohapatra.

Making an aerial survey of the flood situation, chief minister Naveen Patnaik announced relief for the victims for the next seven days. The death toll due to heavy rain and flood in the state this monsoon climbed to 35, including 19 during the current phase. The state government has evacuated around 1,11,820 people. A total 240 free kitchens were opened for flood victims at different places.

At present flood water is being released through 47 gates of Hirakud dam. The government has identified breaches on Mahanadi embankment and work is on to repair those.

The Met office predicted more rain in northern Odisha on Friday and Saturday, but said it would not affect the victims as more precipitation is not expected in and around Mahanadi delta. "August 10 being a full moon day, release of flood water to the sea could be adversely affected because of the high tide," an officer said.

▶More reports on P 4