Flood Update II from *Water Initiatives Odisha*

11th September 2011

Dear co-sailors,

On 9th September we brought the first Flood Update for this year from the state of Odisha. This is the Second Update in the series and by the time we write this we are getting information that the Mega Flood of 2011 has already gripped 19 districts into its folder and conservative estimates put that at least a million people have been marooned by this. 60 thousand people have been evacuated from their places.

What we also see that despite being one of the first states to have a Disaster Management Agency place, the state of Orissa has virtually failed in both predicting and managing the floods.

In our first update we narrated how the Hirakud dam has once again failed, miserably, in managing floods in Mahanadi. Today, in our LEAD section we are throwing more light on such Big Dams and what experts say. ***Time the Govt. of Odisha takes these notes seriously and new management domains are put in place. Or else, each flood we will be caught unawares and the blame game will continue.***

As already informed, we are deliberately keeping the format of this update very simple and user friendly. In this update we have the following sections. After giving our *view point* in the LEAD Section, we take you back to the September 2008 floods in the LOOKING BACK section. Then we hand pick some NEWS from different sources with the objective of giving you a latest picture of the flood, its impact and relief-rehabilitation measures on way in the state, both by government and other agencies. We then provide you with small important statistics in our STATS section that are useful in assessing the current situation of reservoirs, rainfall, etc. Finally, in the MET SPEAKS section, we highlight some of the key weather forecasts that may affect the flood conditions and relief-rehabilitation oprerations.

Once again, we would like to inform you that, at the moment, it's occasional and we may come up with these updates as and when we can, given our limited manpower and resources. However, with your inputs and support, we are sure; we shall be able to ensure regular flow of this update.

We request you to send in your reports of activities, your views; and any other interesting and relevant article, books, photographs, and anything that you feel we should cover in this Update. It's YOU who is the most important FUEL of this effort.

Look forward to listen from you and your continued support.

Thanks and regards,

Ranjan Panda
Convenor, Water Initiatives Odisha

STOP PRESS: ***At 12.00 on 11.09.2011, Reservoir Level of Hirakud was 628.21 and 43 Sluice Gates were open. 6,67,955 cusecs was inflow and 7,95,013 cusecs was the outflow. At about 12.30, orders came to close two more gates.***

LEAD

How effective are big dams in managing floods?

As Odisha's flood condition worsens, role and effectiveness of Big Dams calls for a fresh debate. Each time a flood occurs we are reminded of the fact that these dams have not been a solution to floods. Still the government keeps on claiming that Big Dams are necessary. The floods of 2011 exposes how not only the Hirakud dam has failed miserably in managing the flood but also shows that we have no systems in place through which we can co-ordinate with Chhattisgarh and the Indian Meteorological Department. The obsolete 'rule curve', which has not been revised since 1988, needs an immediate overhaul with integration of latest 'flood forecasting projections' that incorporates effective climate change models. Our government which has been aggressively pushing water sector reforms through Integrated Water Resources Management (IWRM) needs also understand that Mahanadi is not our river alone. Chhattisgarh has to be taken on board and both the states need to enter into a legally enforceable treaty to develop and manage Mahanadi waters. And both these governments must understand that Mahanadi needs to flow unabated and a lot has to be done with flood plain management including that in the urban habitations. This requires a thorough basin planning on human settlements, forestry and soil conservation. ***Large dams have never been effective in flood control. Rather, they have always aggravated the impacts.***

Some important observation by scholars and experts on Big Dams:

"In many ways, India's colonial legacy reinforced the pursuit of hydraulic capitalism through the large dam. Historically, technologies for hydraulic manipulation in the Indian subcontinent have moved through three distinct, though overlapping, phases…. In the early nineteenth century, however, British colonialism initiated a radical break in both technique and hydraulic principle by introducing perennial canal irrigation in several parts of the South Asian subcontinent. For the first time, permanent headworks in the form of barrages and weirs were thrown across riverbeds, and their waters were diverted through intricate and extensive canal systems…. In effect, by flattening the river's variable flow regime at certain points along its course, irrigation was transformed from a seasonal to a perennial possibility. This phase, often referred to as the advent of the era of modern irrigation, witnessed the construction of several large canal irrigation schemes with permanent headworks such as the Ganges Canal (1854), the Godavery system (1852), and the Krishna system (1855). These big-engineering efforts, in several ways, had profound transformative impacts. The civil engineer and the bureaucratic control of water, in particular, soon caused the expropriation of the skills of the local irrigator and unsettled the "fluvial wisdom" of the community…

Changes in irrigation technologies were also followed by dramatic alterations to entire hydraulic environments. The case in point being that of the eastern deltas (contemporary Bengal, Bihar, and Orissa), which were transformed from being flood dependent agrarian regimes into flood vulnerable landscapes. In the quest for comprehensive flood control, the colonial dispensation undertook the systematic construction of flood control embankments to hem in rivers within their main channels….

Today, globally, according to a recent count, over 45,000 large dams currently sit astride innumerable river valleys, gorges, and "gun-shot" sites.10 Formerly wild cascading flows are now put to work—running turbines, marching as orderly cusecs in irrigation canals, providing the measured electric hum for industrial machines, and winding their way diligently through drinking water pipes or simply contained as silent volumes in immense reservoirs. The river has been put on tap."

- ***ROHAN D'SOUZA***

"High releases from some major hydrodams due to their operating regime can both increase the damage caused during the normal flood season and cause unprecedented out-of-season inundation…. Numerous cases have been recorded of floods which have been made worse because dam operators held back water while the reservoir was

filling, and then, when the rains kept on coming, had to op en their spillway s to maximum capacity to prevent their dam from being overtopped. India's Hirakud Dam was first justified in the name of flood control, yet extreme floods in the Mahanadi Delta between 1960 and 1980 were three times more frequent than before Hirakud was built. In September 1980, hundreds of people were killed after releases from Hirakud breached downstream embankments. Orissa's Chief Minister admitted that panic releases of water from Hirakud were responsible for much of the devastation but argued that if the water had not been discharged as quickly as possible, the dam could have failed."

- **PATRICK McCULLY**

India's monsoons are legendary. Very heavy rains can come in concentrated periods, making the runoff particularly hard to manage with traditional engineered solutions. This has not prevented the Indian government from trying to use big dams, embankments, floodwalls and the like to control floodwaters. When these efforts fail, they can fail catastrophically. This is a story of one of those failures.

- **HIMANSHU THAKKAR**

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LOOKING BACK

2008 Flood and Hirakud

Orissa flood control policy needs review: experts

Bhubaneswar, Sep 29 (IANS) The recent floods in the Mahanadi river that killed about 70 people and affected four million in Orissa have sparked debate and experts Monday said the state must review its flood control policy and take measures to avoid such large scale devastation in the future. Two floods of massive magnitude - in the Kosi River in Bihar and the Mahanadi river in Orissa have hit the nation in quick succession.

"The time has come to go to the root of the problem. We need a proper study and review of our flood control policy to prevent further devastation," Ranjan K. Panda, convenor, Water Initiatives Orissa, told IANS.

"Over the last five decades, people were told that engineering solutions were the only answer to control floods," said Biswajit Mohanty, secretary of the Wild Life Society of Orissa.

"However, the experiences of massive floods in 1955, 1982, 2001 and 2008 in the state have demonstrated the inadequacy and ineffectiveness of such solutions," Mohanty said.

"A lobby of engineers, politicians and contractors has been successful in mobilizing large amounts of public funds to construct yet more bunds and embankments. All these measures proved futile," Mohanty alleged.

Over 200,000 people have lost their homes in the recent floods, the worst-affected districts being Kendrapada, Cuttack, Jagatgsinghpur and Puri where 240 embankment breaches were reported…..

…"The government created a flood situation to divert the public attention from the communal riots that has killed many people and made thousands homeless in the state's Kandhamal district," J.B. Patnaik alleged.

Source: IANS, Sept 29, 2008

Controversy over Hirakud issue deepens

- *Senior IPS officer demands serious action against those responsible for bungling*
- *Central Water Commission unaware of this flood cushion capacity, he says*

- *Hirakud dam operators forced to release over 4.62 lakh cusecs*

BHUBANESWAR: Controversies erupted over “faulty” management of water in Hirakud reservoir continue to be getting thickened with a senior IPS officer demanding criminal cases be registered against those responsible for the mess.

Arun Kumar Upadhyay, now Deputy Inspector General of police at Biju Patnaik State Police Academy dashed a letter to Water Resource Secretary Arabinda Behera.

“A minimum margin of 5 feet below danger level of 630 feet has to be kept (maximum allowed level is 625 feet). But authorities waited till voting that started on September 19 for municipal elections and allowed the level to reach 629.80 feet. Democracy does not mean that life of people loses its value after casting their votes,” Mr. Upadhyay said in his letter.

The senior IPS officer stated facts in the letter on the basis of his experience as Assistant Superintendent of Police at Hirakud in 1980 and his thesis on land-water management as Indian Forest Service (Punjab-1974) officer and had done management of Punjab-shelterwood system and Jamanwala-Cho in Hoshiarpur district in 1976.

He said Central Water Commission was unaware about this flood cushion capacity as siltation had reduced storage capacity from 5.818 to 4.647 BCM (Billion cubic meters. He suggested periodical short bursts of water to clear siltation in reservoir-as per Russian model.

Earlier South Asia Network on Dams, Rivers and People charged wrong operation of Hirakud Dam was responsible for the current flood disaster in Mahanadi basin in the State .

“The Hirakud dam operators have kept the water level way above the rule curve recommended for the dam in 1988, ever since August 1, 2008, when the rule curve for current year comes into operation.

Had the dam operated in a way to keep the level below the recommended level, the current flood disaster could have been avoided,” Himanshu Thakkar of the network said.

“The Hirakud dam operators are forced to release over 4.62 lakh cusecs, because the water level at the dam has already reached the full reservoir level of 630 feet on September 18 which should have been reached that level 12 days later on September 30,” he said.

On the other hand, Sambalpur-based Water Initiatives Orissa (WIO), a non-government organisation, said other factors worked for the chaos at reservoir end.

“While there is some truth in that, the fact is that factors like climate change and underlining shift in priorities of the reservoir has grossly limited the scope of the reservoir in mitigating high flood, especially during the later parts of the monsoon. And the ‘Rule curve’ that is being followed since 1988 has become obsolete and dangerous in the present day context,” WIO convener Ranjan Panda said.

Mr. Panda said analysis should be done as to how emerging issues like climate change and industrial tilt in water allocation had made dams causing floods rather than provide protections from the flood.

Source: The Hindu, September 25 2008

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NEWS

Floods hit over 10 lakh in Orissa

60,000 evacuated from low-lying areas to safer places

More than 10 lakh people in 19 districts of Orissa were affected by floods on Saturday.

The coastal districts of Cuttack, Kendrapara and Jagatsinghpur will get a huge volume of floodwater with 14.05 lakh cusecs flowing through the Mahanadi at Baramul, less than 100 km from Cuttack.

Flood managers and relief administrators are keeping their fingers crossed over the possible devastation. “The administration is prepared to meet any eventuality,” Praditpa Mohapatra, Special Relief Commissioner, told a press conference here.

According to the State government, 2,550 villages and 13 towns have been affected by the floods. At least 8 persons have lost their lives. Besides, there is a report of 3 persons being swept away in Nayagarh district.

The floods have damaged 10,565 houses in Bargarh, Boudh, Deogarh, Jajpur, Nuapada and Sambalpur districts. About 60,000 people have been evacuated from low-lying areas to safer places and provided with food. As many as 152 relief camps and free kitchen centres have been opened in marooned villages.

The State government has put the Navy on alert to carry out rescue operations. A ship carrying relief material has been sent by the Navy from Visakhapatnam. A helicopter procured for anti-Naxalite operations would be used for dropping food materials in marooned villages. School and colleges in flood-hit districts have been closed down.

Source: The Hindu, 11th September 2011

Administration gears up for relief and rescue

With more than 133 villages in four blocks caught in the grip of severe flood as of now, Cuttack district waits with fear and anxiety for the passage of the peak water flow through the Mahanadi and the Kathjodi rivers by Saturday morning.

More than 13 lakh cusecs of water is expected to flow through the rivers aggravating the flood situation in the district on Saturday even as the administrative machinery is being mobilised in all the blocks and the vulnerable zones to be ready for relief and rescue operations.

Over 500 people from the Ranibhauni village under Narsinghpur block were evacuated to safer places on Friday as the swelling rivers caused widespread inundation and submergence in the low-lying areas.

Around 300 families from the slum pockets that have come up on the outer slopes of the Mahanadi and the Kathjodi rivers in Cuttack city were also shifted to the upper reaches of the embankments.

Vast areas of Banki and Athgarh subdivisions were cut off from the mainland due to water ingress from the Mahanadi river.

Three villages of Brajrajpur, Basudevpur, Mulabasantpur under Mahanga block and several villages under Banki and Athgarh blocks were reported to have been marooned.

The passage of the huge volume of water released from Hirakud reservoir by Saturday morning is poised to cause more widespread devastation in the district.

Water level at the Bellevue gauge point hovered around 21.50 ft on Friday evening. It would cross the danger mark by night, sources said.

Revenue Minister Surya Narayan Patro on Friday visited Cuttack and reviewed the situation with Collector Girish SN and other administration officials.

The Collector said village-level teams have been formed at all the blocks to respond to the emergency situation at the earliest.

They have been provided with emergency relief materials like polythene, dry food products, kerosene and medicines to deal with the situation till additional assistance reached the marooned and cut-off pockets.

ODRAF teams have been stationed at Banki, Tigiria, Sadar and Nischintkoili blocks to undertake immediate operations.

Around 44 identified vulnerable points in the embankments in the district were provided with special personnel to undertake 24-hour vigil and carry out necessary containment exercises during the eventualities.

The New Indian Express, 11th September 2011

Orissa flood victims slam government's apathy

Flood victims in Kendrapada district, Orissa, on Saturday criticised the state government for not being able to provide medical and relief aid.

Huts and houses were submerged in the flood water and people were forced to move out with their belongings.

Hundreds of people sat on boats and tractors, as knee-length water made it difficult for them to walk.

"We were guarding the village and at midnight the embankment had breeched and flood waters reached the village. We are facing a lot of problem due to the flood. We are not getting drinking water and without boats we are unable to move out from the village. The government should understand our problem. We have not received any relief yet," said Sasmita Samal, a resident.

Temples and other small sheds were completely submerged in floodwater and only the roof visible.

While on the other hand, the district collector Pradipta Kumar Patnaik said that the administration had taken precautionary measures and is equipped to face any calamity.

"Wherever there is a possibility of breech of embankment, we have arranged the rescue team ahead of any disaster. We have also asked the BDO (block development officer) to stock food. Those blocks that are most prone to be affected by the flood, we have already given them extra ration to distribute it to locals. Our health team is also there to handle the situation," said Patnaik.

Heavy rains led to the overflowing of rivers and breach in embankments in the state.

More than 52 villages in the district have been affected due to flood.

Floodwaters have affected the transportation services in the area.

As on September 9, the state chief Naveen Patnaik said that the district officials were alerted and they were asked to provide relief to people as soon as possible.

"We are closely monitoring the situation. The district administrations are fully geared up to face any eventuality. The control rooms are functioning around the clock. Food materials have been stocked in all vulnerable places. Patrolling of the embankments is being done continuously. Additional manpower has been mobilised for all the sensitive districts," said Naveen Patnaik.

According to media reports, high alert has been sounded in about 11 other districts.

News reports also said the government has asked the state Disaster Rapid Action Force (ODRAF) to be fully prepared for the flood rescue and relief operations. (ANI)

Source: webindia123.com, 10th September 2011

Flood affected to take shelter on National Highway

With coastal Orissa facing a severe flood, Paradip Port Trust (PPT) has cleared the National Highway-5(A) off traffic in order to provide shelter to the affected people, official sources said today.Over 5000 iron-ore laden trucks carrying minerals to Paradip port have been unloaded on war-footing by yesterday.The entire 80-km stretch Paradip-Chandikhol Express Highway was cleared off all traffic so that affected people can take shelter on the highway as the remaining low-lying areas remain inundated."Our fool-proof emergency services are on standby at vintage places," PPT chairman D Jagannath Rao said.Besides, the PPT authorities had requested the concerned officials not to allow any iron-ore laden truck on the route till the situation became normal.Meanwhile, Rao had visited vulnerable places near Singitali, Chaumuhani and Taladanda canal areas on the banks of turbulent Devi river, a branch of the Mahanadi, to supervise emergency preparedness.Mega industries including Essar and IFCO are located in the area.The state government had asked the PPT authorities to take stock of the situation ahead of imminent floods on the Mahanadi river system criss-crossing undivided Cuttack district."This is a routine process during floods. The state government issues instructions to all concerned to remain alert", official sources said.The port's security agency along with boats and other machinery had been deployed in those areas with adequate relief materials including parched rice, gur, candles, halogen tables, water packets, Rao said adding officials and employees were asked to remain alert to face any situation.

Source: ibnlive.in.com, 10th September

INS Airavat in Orissa to tackle flood situation

The Eastern Naval Command based here has dispatched a Landing Ship Tank (Large) for relief operations along Mahanadi river on the request of Orissa government.

The ship INS Airavat, with a Chetak helicopter on its board, is also carrying three diving teams along with rescue equipment and medical supplies to tackle the situation, a defence release said today.

The ship will be joined further by divers and two more boats from the Naval officer-in-charge-Orissa, it said.

According to the release, INS Airavat is scheduled to reach Paradip tomorrow morning and will coordinate with the Disaster Management Authority of Orissa in the relief operations in the seven districts affected by floods following incessant rains and discharge from Hirakund reservoir.

Source: http://worldofdefense.blogspot.com, 11 September 2011

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STATS

Live Storage Filling of Major Reservoirs as on 10-Sep-2011

HIRAKUD	RENGALI	BALIMELA	UPPER KOLAB	INDRAVATI	SALANDI
97.0%	97.8%	17.2%	25.6%	27.0%	50.7%
Time:1200 hrs	Time:1200 hrs	Time:0800 hrs	Time:0800 hrs	Time:0800 hrs	Time:0600 hrs

Reservoir Level & position wrt. Full Reservoir Level

RL: 629.27ft	RL: 123.38m	RL: 1459.9ft	RL: 849.24m	RL: 630.8m	RL: 73.22m
(-) 0.73ft	(-) 0.12m	(-) 56.10ft	(-) 8.76m	(-) 11.20m	(-) 9.08m

Reservoir Inflow & Outflow

I:994151Cusecs	I:6578.19Cumecs	I:177.54Cumecs	I:105.1Cumecs	I:175.11Cumecs	I:108.26Cumecs
O:981446Cusecs	O:3842.37Cumecs	O:89.06Cumecs	O:28.88Cumecs	O:79.85Cumecs	O:1.2Cumecs

Live Storage capacity & Live Storage available

Cap:482155 Ham	Cap:341371 Ham	Cap:267600 Ham	Cap:93500 Ham	Cap:148550 Ham	Cap:55650 Ham
LS:467728 Ham	LS:333827 Ham	LS:46086.55 Ham	LS:23958 Ham	LS:40034.55 Ham	LS:28239 Ham

The **RED** line corresponds to **Full Reservoir Capacity**

Source: http://www.dowrorissa.gov.in/Flood/ReservoirGraph.htm

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Met Speaks

Satellite Observations:

♦ Kalpana-1 cloud imagery at 1730 hours IST shows convective clouds over parts of Uttar Pradesh, south Rajasthan, Madhya Pradesh, south Chhattisgarh, Jharkhand, Orissa, Kerala, Tamilnadu, north & south central Bay of Bengal, Andaman Sea and northeast & southeast Arabian Sea. Low/medium clouds are seen over remaining parts of the country.

Major features of weather forecast (upto 1730 hours IST of 13-Sep-2011).

♦ Fairly widespread rain/thundershowers would occur over Chhattisgarh, west Madhya Pradesh and Vidarbha during next 24 hours and over west Madhya Pradesh, south Rajasthan and Gujarat during next 48 hours and decrease thereafter.

♦ Fairly widespread rain/thundershowers would occur along west coast and over northeastern states.

♦ Scattered rain/thundershowers would occur over east Uttar Pradesh, Bihar, West Bengal & Sikkim and Orissa.

♦ Isolated rain/thundershowers would occur over remaining parts of the countr

Warning

♦ Isolated heavy rainfall would occur over east Madhya Pradesh during next 24 hours, over west Madhya Pradesh during next 48 hours and over east Rajasthan on tomorrow.

Weather Outlook (upto 1730 hours IST of 15-Sep-2011)

♦ Fairly widespread rainfall would occur along west coast and over Orissa, Andhra Pradesh and northeastern states.

Legends:

Probability of occurrence	Terminology	Probability of occurrence	Terminology
<25%	Could Occur	51-75%	Would Occur
26-50%	May Occur	76-100%	Will Occur

Sourece: IMD

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Water Initiatives Odisha: ***Fighting water woes, combating climate change...*** **more than two decades now!**

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Please join our group 'Save Rivers Save Civilizations' at http://www.facebook.com/groups/220598744649462

Kiss the rain when you can, because water and abundance are falling apart...(Ranjan Panda)

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Water Initiatives Odisha (WIO) is a state level coalition of civil society organisations, farmers, academia, media and other concerned, which has been working on water, environment and climate change issues in the state for more than two decades now.