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GOVERNMENT OF WEST BENGAL
IRRIGATION & WATERWAYS DIRECTORATE

ANNUAL FLOOD REPORT – 2004.

Executive Engineer
Chief Engineers' Drawing Office
Jalasampad Bhawan, Bidhannagar
Kolkata-700 091.

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PREFACE

The flood, a water related disaster in the state of West Bengal has been an annual feature. Some parts of the state are victims of onslaughts of flood each year resulting severe loss to standing crops, cattles and human properties. The state has all possible facets of flood, drainage, bank erosion, cyclonic storm ravages and associated problems. It has been noticed that the furies due to flood have increased during the last two decades. A severe inundation took place twice in the fifties i.e. 1956, 1959 once in the sixties namely 1968 twice in the seventies i.e. 1971, 1978 thrice in the eighties namely 1984, 1986, 1987 six times during the nineties i.e. 1991,1993,1995,1997, 1999 and 2000. Flood and allied problems thus being on the rise, due stress is to be meted out to both structural and non-structural measures for proper management of flood.

Due to its physical and geographical position, the state, apart from diverse characteristics like physical, topographical has climatological variations as well. The average rainfall in the state is 1750 mm of which more than75% occurs during the monsoon period while the hilly region at the foot hills receives the heaviest rainfall ranging from 2500 mm to 5000 mm, the southern districts in the plains receive average of 1125 mm to 1875 mm.

Many factors such as intensity and duration of rainfall, sedimentation in river bed, natural or manmade obstruction etc. play a role in the occurance of flood. Study of these factors and evaluation of flood hazards every year for a given basin/sub-basin are indispensible for evolution of various flood management measures. Accordingly Irrigation & Waterways Directorate, at the end of each flood season, prepare annual flood report comprising rainfall pattern in the basin/sub-basin, rainfall in the districts, reservoir condition and major flood events of the year.

1. INTRODUCTION.

The state West Bengal crowned by the mighty snow-white Himalayas in the North and frothy sea on the South is a combination of land varying from high regions to the plains. The state is beset with extensive network of rivers, their tributaries, rivulets, jhoras , canals, tanks beels and low lying pockets of water bodies. With the Tropic of Cancer running across it, the state is situated between 21°31' & 27°13'14" North Latitudes and 85°45'20" & 89°53' East Longitudes. The geographical area of the state is about 88,752 sq.km. with a population density of 767 per sq.km. according to 1991 census. River Teesta, Torsa, Raidak, Sankosh, Jaldhaka, Mahananda flow in the North and the river Bhagirathi-Hooghly emerging from the Ganges flows through the central part to the south of the state. The Mayurakshi, Ajoy, Damodar, Dwarakeswar, Rupnarayan, Kangsabati, Kaliaghai and the Subarnarekha are some of the major rivers from the Western part of the state. The river Ganga geographically divides the state into two regions. In the north-the districts are Coochbehar, Jalpaiguri, Darjeeling, Uttar Dinajpur, Dakshin Dinajpur and Malda and in the south – Murshidabad, Nadia, North 24-Parganas, South 24-Parganas, Purulia, Bankura, Birbhum, Burdwan, Hooghly, Howrah, Midnapore. The onset of the monsoon in the state spreads between middle of June to the middle of October.

Classification of areas.

1	Geographical Area	88,752 sq.km.
2.	Area under Forest	11,880 sq.km.
3.	Total Flood Prone Area	37,660 sq.km.
4.	Area already protected	22,005 sq.km.

1.1 RIVER BASINS.

The state can be demarcated into three distinct drainage basins coming under the Ganga, Brahmaputra and Subarnarekha system respectively. These three main river basins can in turn be divided into Sub-bains having individual catchment of their own. The area-wise distribution of the above main basins in the state are as under –

1.	Brahmaputra Basin	11,860 sq.km.
2.	Ganga Basin including Sundarban Area	74,732 sq.km.
3.	Subarnarekha Basin	2,160 sq.km.

1.2 RIVER SYSTEM

1.2.1 Brahmaputra Basin Drainage System.

The rainfall in the northern region of the state is generally high. The ground slope is steep enough particularly in the Sub-Himalayan regions of the northern districts. Except Darjeeling, all the areas belong to Brahmaputra Basin. This system consists of a total area of 11,860 sq.km. nearly 14% of the geographical area of the state. This basin area is interspersed with a large number of drainage channels which join the main drainage arteries of the regions like the rivers Teesta, Torsa, Raidak, Mansai, Jaldhaka etc. All these rivers originate from the Himalayas in Bhutan/Sikkim and flow across the Terai region and reach the plains of West Bengal and then flow to Bangladesh joining ultimately the Brahmaputra in Bangladesh. The rivers feeding the river Brahmaputra have number of tributaries as under –

Sl.No.	River Basin	Catchment area in sq.km.	Tributaries
1.	Sankosh	172	Chiklajhore
2.	Raidak	807	Raidak-I, Raidak-II, Turturi
3.	Torsa	3419	Kaljani,Sil-Torsa,Char-Torsa Dolong,Sanjai,Ghargharia,Garam, Diana,Pana,Jainti,Gabur-Basra
4.	Jaldhaka	3746	Mujnai,Murti,Diana,Sutanga, Dolong,Dharala,Ghatia,Kumlai, Gilandi,Duduya
5.	Teesta	3716	Great Rangeet,Ramam,Rangpoo, Mechi,Leesh,Ghish,Chel,Mal, Neora, Karala.

BRIEF DESCRIPTION OF RIVERS UNDER BRAHMAPUTRA BASIN

(A) SANKOSH

The river Sankosh with its origin in Bhutan is the eastern most river of Brahmaputra river basin. It serves as the boundary between the two states West Bengal and Assam. It joins with Raidak-II and finally falls into Brahmaputra in Bangladesh by name Gangadhar.

(B) RAIDAK.

It originates in Mt. Akungphu at an altitude of 6400 m. in Bhutan. The river Raidak then bifurcates into two channels namely Raidak-I and Raidak-II at Bhutanghat, close to Indo-Bangladesh border. Raidak-I joins the united stream of Torsa and Kaljani, while Raidak-II is joined by Sankosh and finally outfalls into Brahmaputra in Bangladesh by the name Gangadhar.

(C) TORSA

The river Torsa originates in Chumbi Valley of southern Tibet at an altitude of 7065 M. It flows through Tibet, Bhutan, West Bengal and Bangladesh. Below Hasimara bridge on NH-31, it bifurcates into two channels viz. Sil-Torsa and Char-Torsa. They reunite at Patla Khowa forest. The river passes by the Coochbehar town and is joined by river Kaljani and Raidak-I. The combined flow outfalls into Brahmaputra near Nageswari at Rangpur in Bangladesh.

(D) JALDHAKA

The river Jaldhaka has its origin at Bitang Lake in Sikkim at an altitude of 4400 M. It flows through Sikkim, Bhutan, West Bengal and Bangladesh. After the river is joined by a number of streams and tributaries both in mountainous and sub-mountainous regions, it finally flows into river Dharala and the combined system, by the name Dharala ultimately outfalls into Brahmaputra in Bangladesh.

(E) TEESTA

Teesta – the mighty river of North Bengal originates in the glaciers of North Sikkim at an altitude of 6400 M and is formed by the union of two streams viz. Lachen and Lachung at Chungthung in Sikkim. It enters West Bengal at Rangpoo and upto Mechi, it forms the boundary betwen West Bengal and Sikkim. Two of its tributaries- Great Rangit and Rammam also serve as the natural boundary between the two states. The river finally outfalls into Brahmaputra in Rangpur district of Bangladesh.

1.2.2 GANGA BASINS

The two holy rivers – Bhagirathi and Alakananda originating from the glaciers of the Himalayas at an altitude of 7000 M. join at Dev-Prayag lower down and this combined stream is known as the Ganga. It emerges into the plains at Rishikesh in Uttaranchal. After flowing exclusivelly through Uttaranchal and Uttar Pradesh it receives the flow of Yamuna, the largest tributary near Allahabad. The Ganga forms the boundary between Uttar Pradesh and Bihar for a length of about 110 km. and the river then enters Bihar and flows more or less through the middle of the state. After its confluence with the Kosi, the Ganga continues its eastward flows in Bihar for about 40 km. and then it enters West Bengal.

As it enters West Bengal, the river swings round the Rajmahal hill range and then starts flowing almost due south. The river then bifurcates into two arms about 40 km. below Farakka. The left arm called the Padma flows eastwards into Bangladesh while the right arm called Bhagirathi continues to flow south through West Bengal. The stretch of the river after Nabadwip is called Hooghly and ultimately outfalls into the Bay of Bengal near Sagar Island.

The Central, Southern and the South-Western parts of the State of West Bengal constitute the Ganga Basin. The Ganga, only a stretch of which is now flowing through the narrow Central West line of the present shape of the State had been an active Delta builder.

The total length of the river Ganga from its point of origin to the point where it falls into sea is about 2575 km. (measured along Bhagirathi and the Hooghly), of which 1450 km. lies in Uttaranchal and Uttar Pradesh, 110 km. along Uttar Pradesh and Bihar border, 445 km. in Bihar and 570 km. in West Bengal.

The Ganga system comprises a total area of 74,732 sq.km. within the state of West Bengal. The catchment areas of different rivers within this system in the state of West Bengal are as under –

Sl.No.	Name of River Sub-Basin	Catchment Area in Sq.km.
1	2	3
(a)	Mahananda	9,640
(b)	Punarbhaba	730
(c)	Atrai	910
(d)	Pagla-Bansloi	730
(e)	Dwaraka-Bhrahmani	2,500
(f)	Bhagirathi-Hooghly	1,170
(g)	Jalangi	5,344
(h)	Mayurakshi	2,720
(i)	Ajoy	2,490
(j)	Khari-Gangur-Ghea	4,460
(k)	Churni	800
(l)	Damodar	5,250
(m)	Dwarkeswar	4,430
(n)	24-Parganas(South & North) and Kolkata Port Drainage Basin	4,619
(o)	Kangsabati	8,369
(p)	Silabati	3,952
(q)	Rupnarayan	2,548
(r)	Pichabani	820
(s)	Rasulpur	1,130
(t)	Haldi	980
(u)	Tidal zone (Sundarban Area)	11,320

The different tributaries of these rivers are listed below –

Sl.No.	Name of River	Tributaries
1	2	3
1.	Mahananda	Mechi, Balason, Dauk, Nagar, Kulik, Gamari, Chiramati, Tangon, Kalindri
2.	Punarbhaba	Punarbhaba
3.	Atrai	Atrai
4.	Pagla	Pagla, Bansloi, Bagmari
5.	Brahmoni	Brahmoni, Dwarka
6.	Bhagirathi	Bhagirathi, Hooghly
7.	Jalangi	Jalangi, Silamari, Bhairab, Suti
8.	Mayurakshi	Mayurakshi, Babla, Noon Beel, Siddheswari, Kuiya, Kopai, Bakreswar, Sal, Monikornia, Daoki Kana, Mor, Gambhira.
9.	Ajoy	Ajoy, Hinglow, Kunoor, Pathro, Jayanti,
10.	Khari-Gangur-Ghea	Khari, Brahmoni, Banka, Bangour, Ghea, Behula, Kana
11.	Churni	Churni
12.	Damodar	Damodar, Barakar, Sali.
13.	Dwarkeswar	Ganddheswari, Dwarkeswar, Arkasha, Berai.
14.	Rupnarayan	Mundeswari, Dwarkeswar, Berai, Tarjuli, Sankari, Silabati, Joypanda, Kubai, Parag, Kanki, Ganddheswari, Damodar
15.	Haldi	Haldi, Banki, Kangsabati, Kumari, Bhairab, Tarafeni, Kaliaghai, Bagchai, Chandra, Kapaleswari.
16.	Rasulpur	Rasulpur, Pichabani.
17.	Tidal Rivers	Tolly's Nullah, Keorapukur, Ichamati, Raimongal, Kultigong, Jamuna, Kalindi, Haroa, Bhanga, Gosaba, Metia, Piali, Thakuran, Raidighi, Saptamukhi, Buriganga, Matla, Dansa, Kalagachi, Bidyadhari, etc.

BRIEF NOTES ON THE SUB-BASINS

1. MAHANANDA.

The river Mahananda originates from Paglajhora near Kurseong town in the district of Darjeeling. The Mahananda river system lies between latitude 25°15' N to 26°15' N and longitude 87°45' E to 88°15' E. It is bounded on the north by the Himalayas, in the east by the ridges seperating it from Teesta river system, the river Ganga on the South and the Kosi river system in the east. The river bifurcates into two channels at Barsoi in Bihar. Out of the two branches one flows through Bihar by the name Fulahar and the other flows through West Bengal as Mahananda. The river Mahananda carrying the flow of four tributaries namely, Nagar, Kalindri, Tangon and Punarbhaba, drains into the river Ganga from the North-Western side at Godogarighat just downstream of the point where Ganga leaves the boundary of West Bengal.

2. ATRAI-PUNARBHABA

Some rivers like Sahu, Neem, Talma, Chaoai, Panga originating from the high lands in districts of Jalpaiguri, meet together afterwards. This combined stream assumes the name Karotowa. It then enters Bangladesh by the name Atrai. The river Atrai then bifurcates into two channels namely Dheepa and Atrai. The Western Channel – Atrai re-enters West Bengal in South Dinajpur district covering a length of 40 km. in the state. It again enters into Bangladesh and ultimately outfalls into river Brahmaputra.

The Dheepa on the other hand taking a South – Westernly course enters Gangarampur P.S. in South Dinajpur district assuming the name Punarbhaba. Covering a length of about 40 km. in the district it touches the eastern boundary of Maldah district and finally enters Bangladesh. Further down, Punarbhaba meets the river Mahananda in Bangladesh.

3. NAGAR-KULICK, GAMARI-CHIRAMATI, TANGON, KALINDRI

All these rivers flow through the districts Maldah and North Dinajpur. In course of their flow, somewhere they form the boundary either between West Bengal and Bihar or between West Bengal and Bangladesh. These rivers ultimately outfall into the river Mahananda.

Nagar, originating in Bangladesh flows along the boundary of West Bengal and taking a Southeasternly course, receives a spill channel of Mahananda and is joined by Kullick, which has also its origin in Bangladesh. Gamari and Chiramati are two small rivers that flow through North-Dinajpur district before they are united. This combined stream finally outfalls into the river Mahananda.

Tangon is a tributary of river Mahananda. It rises in Bangladesh. It flows through the district of North-Dinajpur and Maldah and meets Mahananda on the boundary of Maldah and Bangladesh.

River Kalindri originating in North Bihar flows through the plain of Purnia district. It enters West Bengal in the Maldah district and outfalls into Mahananda.

4. PAGLA-BANSLOI-BRAHMANI.

These rivers originate from the Rajmahal hills in the district of Bihar. Flowing easternly across Birbhum district, they entered Murshidabad district as the tributaries of the river Bhagirathi.

5. JALANGI-BHAIRAB

The river Jalangi originates from the right bank of the river Padma in Murshidabad district, 165 km. downstream of Farakka. Jalangi is dead for all purposes except during the periods of rain, when it receives water from Padma. The river ends its journey by finally outfalling into the river Hooghly near Nabadwip town in Nadia district in West Bengal.

The river Bhairab starts its journey from the river Ganga in P.S. Lalbag of Murshidabad district. It is now almost a dead channel but during rainy season it receives water from Padma.

6. ICHAMATI-CHURNI

The river Mathabhanga originates from the mouth of the Jalangi of Padma. It is not an important river in this stage, as it flows mainly through Bangladesh. It flows only a few kilometers within the district of Nadia. At this stage, the river bifurcates into two streams – the eastern course runs a few kilometres through the districts in a south-east directions to meet Bhagirathi by the name Churni and the other course flows by the name Ichamati. Ichamati gets a little supply from Padma and thrives on wash out by tidal flows.

7. BHAGIRATHI-HOOGHLY

The Ganga Brahmaputra Meghna river system constitutes one of the largest river systems of the world in terms of its water resources. The river Ganga originating in the Himalayas in India, drains a vast area. Near its deltaic head at Farakka it divides into two channels, the Bhagirathi-Hooghly and the Padma. The Bhagirathi-Hooghly flows through West Bengal and outfalls in Bay of Bengal and the Padma crosses over into Bangladesh and joins the Brahmaputra at Goalundo.

The river Bhagirathi divides the Murshidabad district into two part. It receives three right bank tributories namely the Bagmari-Pagla, the Mayurakshi and the Ajoy. It receives the Jalangi just upstream of Nabadwip town from the left. After its confluence with the Jalangi, the Bhagirathi is known as the Hooghly.

The Bhagirathi-Hooghly is the main river in the state and is the main drainage artery for the southern districts draining almost the entire area. Before 12th century, the Ganga had its main course down Bhagirathi-Hooghly. Subsequently, the main flow was

pushed to the east through the present course of Padma. The flow of Bhagirathi increases downstream due to the run off and outflows receives from a number of eastern and western tributaries. It also form the boundary between 24-Parganas and Hooghly districts.

8. MAYURAKSHI-BABLA

Mayurakshi originates from the high lands of Santhal Parganas. It is the main river of Birbhum district. Several spill channels – the Manikornika, Kana Mor, Gambhira etc. take off from the Mayurakshi in its lower reaches. All these rivers flow into the lower pocket of Hijal Beel in the district of Murshidabad. From the Beel, the river Babla starts its journey finally draining into the river Bhagirathi. The drainage and flood level in the Hijal Beel is considerably influenced by the level rulling in the Bhagirathi.

9. AJOY

The river Ajoy originates from the hills near Deoghar in Jharkhand. The Principal tributaries of the river are - Hinghlow, Kunoor, Pathro and Jayanti. The floods of this river are flashy and of short duration. There are some pockets in the Ajoy-Kunoor catchment which suffer from frequent inundation. Large areas of Burdwan and Birbhum districts face inundation whenever floods of the Ajoy synchronize with that of the Mayurakshi, the Pagla, the Bansloi and the Bhagirathi.

10. DAMODAR

The river Damodar originating from Palamau hills in Jharkhand, bifurcates into two channels at Beguahana. The main flow passes through Mundeswari channel and discharges into Rupnarayan. The other one Amta channel carries discharge during high flood and outfalls into the Hooghly. The river causes floods in its lower reaches in the districts of Burdwan, Hooghly and Howrah, mainly on the right bank of the river below Beguahana.

11. DWARAKESWAR-SILABATI-RUPNARAYAN

Dwarakeswar originates from the high lands of Purulia district. River Ganddheswari rising from Bankura district meets Dwarakeswar near Bankura town receiving water from streams like Arkasha, Berai, enters Hooghly district and meets Silabati to form Rupnarayan.

Silabati also originates in Purulia district. It traverses through the district of Midnapore. The river receives water of Joypanda and meets with Dwarakeswar to form Rupnarayan.

Rupnarayan is a combination of number of streams. The tidal reach below confluence of Dwarakeswar and Silabati is known as Rupnarayan. It outfalls into Hooghly after receiving mainflow of Damodar through Mundeswari and branch of Kangsabati. The river is tidal through out its entire course.

12. KANGSABATI-KALIAGHAI-HALDI

The river Kangsabati originating from Purulia district is joined by Kumari in Bankura district. Further down, it is joined by the combined streams of Bhairab Banki and Tarafeni rivers and thereafter it flows through the Midnapore district. After a tortuous course, it bifurcates. The upper branch known as old Cossye or Palaspai Khal outfalls into the Rupnarayan and the other one is known as New Cossye.

The river Kaliaghai trickles out from Jhargram, P.S. in Midnapore district. During the course of its journey, it is fed by the flow of its tributaries namely Kapaleswari, Baghai and Chandia. This combined flow meets the other arm of Kangsabati i.e. New Cossye to form Haldi.

The river Haldi formed by joining of New Cossye and the combined flow of Kaliaghai outfalls into the river Hooghly. The lower portion of the river Haldi is affected by over bank spills and drainage problem during the monsoon.

13. **RASULPUR**

The river Rasulpur is formed by three streams namely Bagda, Sarpai and Madhakhali. It is the main river of Contai Sub-Division of Midnapore district. It acts as the main drainage for Dwarakeswar, Silabati and large portion of the Kangsabati rivers. It causes flooding in two regions namely Dubda and Contai areas. The river ultimately falls into the river Hooghly.

14. **TIDAL RIVERS OF SOUTHERN WEST BENGAL.**

Aapart from the rivers described earlier within the Ganga and the Brahmaputra river systems, there is a group of rivers in Southern part of the State which falls in the deltaic zone. These rivers mostly lie in the deltaic zone to the east of the Hooghly river popularly known as Sundarbans and form an intricate network with a number of criss-cross inter connecting channels, thus dividing the land spill channels of Ganga, then upland supply running dry, during winter months. But gradually their off-takes from Ganga have deteriorated and in some cases being cut-off from the river. Now these rivers drain off whatsoever fresh discharge comes from country sides, thus ultimately draining into Bay of Bengal through one or other of the principal estuaries in the area which are, starting from Hooghly river successively the Bartala of Muriganga or channel creek, Saptamukhi, Matla, Gosaba, Hariabhanga, Raimongal etc.

The Tolly's Nullah or the Adi Ganga, as it is sometises called is a small but important tidal creek draining into the Hooghly from the left in the vicinity of the city of Kolkata.

1.2.3 SUBARNAREKHA BASIN

The river Subarnarekha though it has small catchment within this state, has got seperate entity as it directly falls into the Bay of Bengal. Originating in the Chotonagpur Range at an elevation of 609 M it traverses through three states – Bihar, West Bengal and Orissa. It drains a total area of 18,951 sq.km. of which 13,590 sq.km. in Bihar,

2,160 sq.km. in West Bengal and 3201 sq.km. in Orissa. The main tributaries of the river are Kanchi and Khakai above Chandil in Bihar, Kakhai in Bihar and Orissa and Dolong in West Bengal.

The maximum and minimum observed as well as the danger levels and highest flood levels at different gauge sites of various river systems during the flood season of 2004 are given in Annexure-IV(Sheet No. 1/20 to 20/20 & 1/18 to 18/18).

2. RAINFALL

The main rainfall season in this state is the South-West monsoon season during which the entire land (excepting the extreme north, the extreme north-east and extreme south) gets 75% of the annual rainfall. The gangetic plains of West Bengal gets 78% of its annual rainfall during the monsoon period. During last seventy five years, the date of onset of monsoon over West Bengal was spread between last week of May to last week of June with its withdrawal between last week of September to second week of October. This year the onset of monsoon over West Bengal spread between early second week of June to early second week of October.

2.1 RAINFALL PATTERN

The river Ganga divides the state into two parts, which are by and large homogeneous from the meteorological point of view. The northern half is designated as 'Sub-Himalayan West Bengal' and the southern half as 'Gangetic West Bengal'. Sub-Himalayan West Bengal is more susceptible to heavy rains both in respect of amount as well as in frequency of occurance. Very heavy rain is more frequent in first two months (June and July) than in subsequent, in the Sub-Himalayan West Bengal. In Gangetic West Bengal the frequency is maximum in August followed by June, July and September in that order.

On the basis of rainfall distribution, the state can be divided into two broad zones –

(i) The Himalayan and Sub-Himalayan Region,

(ii) The Gangetic Plains.

2.1.1 HIMALAYAN AND SUB-HIMALAYAN REGION.

The Himalayan and Sub-Himalayan Region comprising the districts-Darjeeling, Jalpaiguri, Coochbehar and Northern part of Islampur Sub-Division of Uttar Dinajpur district of high intensity of rainfall from 2000 mm. to over 4000 mm. about 80% of which is found to occur during monsoon season. On the average Darjeeling, Coochbehar and Jalpaiguri get 114, 112, 110 rainy days respectively in a year. The monsoon generally follows a northernly track to ultimately break up against Eastern Himalaya causing very heavy rainfall and thereafter trough of low pressure under break monsoon conditions. It then shifts northwards to the Himalayan foothills. It has been found that a precipitation to the tune of 200 to 300 mm. in two hours is not unusual while in more than forty occasions of rainfall of 250 mm. and above have been registered during 1891-1965.

2.1.2 GANGETIC PLAINS

The gangetic plains which constitute the major portion of the state, can be further sub-divided into the following three sectors on the basis of average rainfall –

Sector – I : Comprising districts – Bankura, Birbhum, Murshidabad and Burdwan which receive an average rainfall – between 1140 mm and 1400 mm.

Sector – II : Cimprising districts – Nadia, Hooghly, Western portion of North and South Dinajpur, Midnapore and North 24-Parganas having an average annual rainfall between 1400 mm and 1650 mm.

Sector – III : Comprising districts – Howrah, Eastern portion of North and South Dinajpur, South 24-Parganas and Midnapore having an average annual rainfall – between 1650 mm and 1900 mm.

Such regional variations in the precipitation pattern causes flood conditions from time to time.

This year in the gangetic West Bengal region three districts – viz. Bankura(+20%), South 24-Parganas(+11%), Birbhum(+20%), Hooghly(+21%), North 24-Parganas(+6%), Nadia(+5%) experienced rainfall above the normal during the monsoon period (June to October) while the districts – Howrah (-26%), Murshidabad (-16%), Midnapore(-1%), Purulia(-3%) and Burdwan(-10%) experienced less rainfall than the normal. The region as a whole had experienced excess (+1.9%) rainfall than the normal rainfall. In the Sub-Himalayan region the districts Coochbehar(-7%), North Dinajpur(-5%), South Dinajpur(-17%) and Darjeeling(-12%) experienced less rainfall than the normal during the monsoon period and the districts Maldah(+1%) and Jalpaiguri(+35%) had an excess rainfall over the normal. The region as a whole experienced (0.6%) excess rainfall. The state had experienced less rainfall than the average annual rainfall.

The rainfall data for the districts as collected from Indian Meteorological Department, Alipore, Kolkata is shown in Annexure-I (Sheet – 1/15 to 15/15).

During the monsoon period, this year, the Sub-basins within the state of West Bengal experienced an average rainfall ranging from 53% to 133% of annual average rainfall of the sub-basins.

The rainfall data of different rivers (Sub-basin wise) are shown in Annexure-V (Sheet no. 1/2 to 2/2).

3. REPORT ON FLOOD DURING – 2004 OF WEST BENGAL.

Flood is a recurring problem and is almost a regular feature in this state. The state has experienced flood almost every year excepting a very few instances. A major part of the state was created through delta building process by its river systems. Over the years vast area was reclaimed prematurely by constructing flood embankments. Those areas were not allowed to be properly built up by not allowing flood to deposit its silt load in those areas. 42.43% geographical area of the state is flood prone. The flood affected areas as presented below from 1960 to 2004 will depict a scenario of recurrence of high flood in the state.

Flood affected area (Sq.km.)	Years of occurance	Total No. of years.
Below 500	1985,89,92,94,97 & 2001	6
Between 500-2000	1962,63,64,65,66,72,75,96,2003 & 2004	10
Between 2000-5000	1960,61,67,69,70,74,76,80,81 & 82	10
Between 5000-10,000	1973,77,93,95 & 98	5
Between 10,000 – 15,000	1968,79,83,90 & 99	4
Between 15,000 – 20,000	1971,86,87 & 88	4
Above 20,000	1978,80,84 & 2000.	4

This year i.e. 2004 may be considered as a year of normal rainfall. There no much rainfall or adverse less rainfall in the river basin areas with respect to their normal average rainfall. It appears from the available data till the month of May i.e. during pre-monsoon period the state as a whole experienced less rainfall. And the rainfall over the state during the year is below the district wise normal average rainfall.

Most of the rivers of the state were running with flow of normal intensity. Among the North Bengal rivers – Raidak-I, Torsa, Kaljani, Jaldhaka, Mansai, Teesta, Tangon, Dauk, Mahananda, Fulahar, Punarbhaba, Ganga were running above danger level and the river Mahananda was running above extreme danger level on a few occasions. Among the South Bengal rivers Pagla, Brahmoni, Dwaraka, Mayurakshi, Ajoy, Damodar, Kaliaghai, Churni, Bhagirathi, Ichamati, Silabati, Kangsabati, Rupnarayan, Jamuna & Jallangi were also running above danger level but the rivers Brahmani Kangsabati, Jallangi, Jamuna, Dwaraka Damodar, Kaliaghai were running above extreme danger levels on a few occasions.

There were partial damages to the engineering structures, severe erosion of banks of North Bengal.

District wise damages, slips etc. are shown in Annexure-VI (sheet 1/7 to 7/7).

4. CONCLUSION

The West Bengal is basically receipent of run-off generated outside the state. The state has a typical basin characteristics. In the north the rainfall is high and the ground slope is steepmainly in the Sub-Himalayan region. The rivers in the Terai region are wide with shallow depth. Due to continuous denundation of forest cover, Dolomite mining in the hills, the river beds are being silted up day by day reducing the carrying capacity of the rivers causing the flood. In the South, heavy rainfalls run-off coming from upper catchment and in some cases associated drainage congestion are the cause of inundation.

Main structural measures of flood control in West Bengal are embankments measuring 10000 km. (approx.) spread over different river systems, constructed over the years from a very long past. There are dams across the Kangsabati, the Mayurakshi and the Damodar river system. But only in the Damodar river system the dams modify the peak of flood to some extent. The other structural measures like catchment area treatment and afforestation in upper catchment requires intervention at Government of India level as they are outside the state.

In North Bengal, an elaborate flood warning system maintained by the department warns the people about the trend of rise of the rivers and thus alarming them to take necessary safety measures. Besides, the department also tries to maintain contact with Indian Meteorological Department, Kolkata to get information on adverse weather condition during the monsoon period and to take possible measures. Central Water Commission also extends their co-operation in supplying the conditions and trends of important river conditions in addition to rainfall data at different rain gauge stations.

Besides the department has already opened its own website (www.wbiwd.com) to made a available daily rainfall data and river gauge levels with trend at different stations.

The flood management of the state is a vast problem. The problem cannot be tackled by the state government alone. It requires close liaison of different organisations. The flood awareness particularly understanding about the complexity of the causes of flood and vulnerability of West Bengal will require help of NGO's and Panchayet Raj Institutions. The flood is a problem to be admitted by the society and the people of an area are to formulate their own action plan in close liaison with different Government organisations.

MONTHLY DISTRICTWISE ACTUAL & NORMAL RAINFALL RECEIVED FROM I.M.D. ALIPORE, KOLKATA ALONG WITH PERCENT DEPARTURE FROM NORMAL FOR THE MONTH OF JANUARY-2004.

Period from 01.01.2004 to 31.01.2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	0.3	11.0	-97
2.	Birbhum	7.0	12.2	-42
3.	Burdwan	10.6	12.2	-13
4.	Hooghly	2.0	12.0	-83
5.	Howrah	0.0	12.7	-100
6.	Midnapore	0.0	13.1	-100
7.	Murshidabad	3.0	10.6	-72
8.	North 24-Parganas	0.6	10.3	-94
9.	Nadia	6.0	9.4	-36
10.	Purulia	**D.N.A.***	11.4	-
11.	South 24-Parganas	1.5	13.3	-88
Total :		31.0	116.8	
Average :		3.1	11.7	(-) 74
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	6.8	9.6	-30
13.	Darjeeling	19.5	40.1	-51
14.	Jalpaiguri	20.7	8.9	132
15.	Malda	28.5	11.8	142
16.	North Dinajpur	**D.N.A.***	6.9	-
17.	South Dinajpur	**D.N.A.***	6.9	-
Total :		75.5	84.2	
Average :		18.9	14.0	35

* Data not available.

MONTHLY DISTRICTWISE ACTUAL & NORMAL RAINFALL RECEIVED FROM I.M.D. ALIPORE, KOLKATA ALONG WITH PERCENT DEPARTURE FROM NORMAL FOR THE MONTH OF FEBRUARY-2004.

Period from 01.02.2004 to 28.02.2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	0.0	16.8	-100
2.	Birbhum	0.0	19.6	-100
3.	Burdwan	0.0	16.5	-100
4.	Hooghly	0.0	14.7	-100
5.	Howrah	1.0	20.0	-95
6.	Midnapore	2.1	20.9	-90
7.	Murshidabad	0.0	13.3	-100
8.	North 24-Parganas	0.1	19.8	-99
9.	Nadia	0.0	13.9	-100
10.	Purulia	**D.N.A.***	19.9	-
11.	South 24-Parganas	3.6	19.3	-81
Total :		6.8	174.8	
Average :		0.7	17.5	(-) 96
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	1.0	13.2	-92
13.	Darjeeling	17.1	28.5	-40
14.	Jalpaiguri	13.7	11.2	22
15.	Malda	0.0	11.5	-100
16.	North Dinajpur	**D.N.A.***	15.1	-
17.	South Dinajpur	0.0	15.1	-100
Total :		31.8	79.5	
Average :		6.4	15.9	(-) 60

*Data not available.

MONTHLY DISTRICTWISE ACTUAL & NORMAL RAINFALL RECEIVED FROM I.M.D. ALIPORE, KOLKATA ALONG WITH PERCENT DEPARTURE FROM NORMAL FOR THE MONTH OF MARCH-2004.

Period from 01.03.2004 to 31.03.2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	14.0	27.9	-50
2.	Birbhum	51.9	25.8	101
3.	Burdwan	24.3	20.3	20
4.	Hooghly	13.3	24.0	-45
5.	Howrah	2.0	30.2	-93
6.	Midnapore	9.7	34.1	-72
7.	Murshidabad	24.0	19.3	24
8.	North 24-Parganas	6.9	27.5	-75
9.	Nadia	1.0	27.8	-96
10.	Purulia	**D.N.A.***	23.6	-
11.	South 24-Parganas	16.5	32.0	-48
Total :		163.6	268.9	
Average :		16.4	26.9	(-) 39
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	5.1	36.1	-86
13.	Darjeeling	45.8	61.2	-25
14.	Jalpaiguri	40.3	32.8	23
15.	Malda	4.1	12.6	-67
16.	North Dinajpur	**D.N.A.***	23.0	-
17.	South Dinajpur	0.0	23.0	-100
Total :		95.3	165.7	
Average :		19.1	33.1	(-) 42

*Data not available.

MONTHLY DISTRICTWISE ACTUAL & NORMAL RAINFALL RECEIVED FROM I.M.D. ALIPORE, KOLKATA ALONG WITH PERCENT DEPARTURE FROM NORMAL FOR THE MONTH OF APRIL-2004.

Period from 01.04.2004 to 30.04.2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	58.7	40.0	47
2.	Birbhum	64.1	40.8	57
3.	Burdwan	58.0	38.3	52
4.	Hooghly	41.5	60.5	-31
5.	Howrah	63.0	62.0	2
6.	Midnapore	65.9	47.1	40
7.	Murshidabad	26.2	49.2	-47
8.	North 24-Parganas	69.7	54.5	28
9.	Nadia	76.0	62.8	21
10.	Purulia	**D.N.A.***	34.4	-
11.	South 24-Parganas	85.1	47.9	78
Total :		608.2	503.1	
Average :		60.8	50.31	21
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	195.0	142.8	37
13.	Darjeeling	139.2	138.8	0
14.	Jalpaiguri	149.6	123.1	22
15.	Malda	54.7	37.1	47
16.	North Dinajpur	**D.N.A.***	62.4	-
17.	South Dinajpur	0.0	62.4	-100
Total :		538.5	504.2	
Average :		107.7	100.8	7

*Data not available.

MONTHLY DISTRICTWISE ACTUAL & NORMAL RAINFALL RECEIVED FROM I.M.D. ALIPORE, KOLKATA ALONG WITH PERCENT DEPARTURE FROM NORMAL FOR THE MONTH OF MAY-2004.

Period from 01.05.2004 to 31.05.2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	47.4	71.6	-34
2.	Birbhum	88.1	93.6	-6
3.	Burdwan	48.3	73.5	-34
4.	Hooghly	58.4	84.9	-31
5.	Howrah	27.0	120.8	-78
6.	Midnapore	56.8	108.0	-47
7.	Murshidabad	12.0	111.3	-89
8.	North 24-Parganas	55.6	117.7	-53
9.	Nadia	35.3	108.6	-67
10.	Purulia	**D.N.A.***	54.8	-
11.	South 24-Parganas	29.0	96.4	-70
Total :		457.9	986.4	
Average :		45.8	98.6	(-) 54
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	245.8	408.7	-40
13.	Darjeeling	196.5	267.1	-26
14.	Jalpaiguri	377.9	303.8	24
15.	Malda	28.8	104.4	-72
16.	North Dinajpur	**D.N.A.***	163.8	-
17.	South Dinajpur	4.0	163.8	-98
Total :		853.0	1247.8	
Average :		170.6	249.6	(-) 32

*Data not available.

MONTHLY DISTRICTWISE ACTUAL & NORMAL RAINFALL RECEIVED FROM I.M.D. ALIPORE, KOLKATA ALONG WITH PERCENT DEPARTURE FROM NORMAL FOR THE MONTH OF JUNE-2004.

Period from 01.06.2004 to 30.06.2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	227.6	216.8	5
2.	Birbhum	225.2	228.1	-1
3.	Burdwan	227.4	228.8	-1
4.	Hooghly	251.6	205.6	22
5.	Howrah	223.9	269.5	-17
6.	Midnapore	315.2	245.4	28
7.	Murshidabad	223.4	220.2	-1
8.	North 24-Parganas	285.9	301.5	-5
9.	Nadia	208.7	240.9	-13
10.	Purulia	92.2	218.1	-58
11.	South 24-Parganas	303.5	289.9	5
Total :		2584.6	2664.8	
Average :		235.0	242.3	(-) 3
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	548.6	735.4	-25
13.	Darjeeling	592.5	592.5	0
14.	Jalpaiguri	688.7	634.7	9
15.	Malda	318.2	212.8	50
16.	North Dinajpur	44.5	298.4	-85
17.	South Dinajpur	168.6	298.4	-43
Total :		2361.1	2772.2	
Average :		393.5	462.0	(-) 15

*Data not available.

MONTHLY DISTRICTWISE ACTUAL & NORMAL RAINFALL RECEIVED FROM I.M.D. ALIPORE, KOLKATA ALONG WITH PERCENT DEPARTURE FROM NORMAL FOR THE MONTH OF JULY-2004.

Period from 01.07.200 to 31.07.2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	270.6	309.3	-13
2.	Birbhum	207.8	305.5	-32
3.	Burdwan	181.6	323.3	-44
4.	Hooghly	194.7	273.9	-29
5.	Howrah	185.1	333.3	-44
6.	Midnapore	264.4	307.7	-14
7.	Murshidabad	165.5	322.4	-49
8.	North 24-Parganas	245.2	328.3	-25
9.	Nadia	146.5	282.3	-48
10.	Purulia	295.0	294.1	0
11.	South 24-Parganas	356.5	391.9	-9
Total :		2512.9	3472.0	
Average :		228.5	315.6	(-) 28
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	1099.8	799.3	38
13.	Darjeeling	799.7	811.7	-1
14.	Jalpaiguri	1251.0	841.7	49
15.	Malda	429.6	327.1	31
16.	North Dinajpur	634.1	378.0	68
17.	South Dinajpur	432.7	378.0	14
Total :		4646.9	3535.8	
Average :		774.5	589.3	31

MONTHLY DISTRICTWISE ACTUAL & NORMAL RAINFALL RECEIVED FROM I.M.D. ALIPORE, KOLKATA ALONG WITH PERCENT DEPARTURE FROM NORMAL FOR THE MONTH OF AUGUST-2004.

Period from 01.08.2004 to 31.08.2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	526.9	296.9	77
2.	Birbhum	366.7	293.0	25
3.	Burdwan	301.0	304.6	-1
4.	Hooghly	286.7	245.0	17
5.	Howrah	273.1	374.1	-27
6.	Midnapore	373.6	336.1	11
7.	Murshidabad	130.8	272.2	-52
8.	North 24-Parganas	334.4	325.5	3
9.	Nadia	219.3	241.9	-9
10.	Purulia	484.2	311.7	55
11.	South 24-Parganas	519.0	365.3	42
Total :		3815.7	3366.3	
Average :		346.9	306.0	13
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	253.3	569.6	-56
13.	Darjeeling	351.3	661.2	-47
14.	Jalpaiguri	475.3	649.1	-27
15.	Malda	216.0	264.1	-18
16.	North Dinajpur	238.9	242.8	-2
17.	South Dinajpur	101.5	242.8	-58
Total :		1636.3	2629.6	
Average :		272.7	438.3	(-) 38

MONTHLY DISTRICTWISE ACTUAL & NORMAL RAINFALL RECEIVED FROM I.M.D. ALIPORE, KOLKATA ALONG WITH PERCENT DEPARTURE FROM NORMAL FOR THE MONTH OF SEPTEMBER-2004.

Period from 01.9.2004 to 30.09.2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	234.6	246.9	-5
2.	Birbhum	387.3	258.3	50
3.	Burdwan	232.2	239.3	-3
4.	Hooghly	279.5	188.5	48
5.	Howrah	176.6	272.5	-35
6.	Midnapore	190.3	310.0	-39
7.	Murshidabad	254.9	238.0	7
8.	North 24-Parganas	354.7	296.5	20
9.	Nadia	409.9	192.2	113
10.	Purulia	175.0	254.3	-31
11.	South 24-Parganas	237.9	313.5	-24
Total :		2932.9	2810.0	
Average :		266.6	255.5	4
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	520.9	504.8	3
13.	Darjeeling	481.2	483.5	0
14.	Jalpaiguri	661.1	540.3	22
15.	Malda	126.2	237.4	-47
16.	North Dinajpur	258.3	269.1	-4
17.	South Dinajpur	1.2	269.1	-100
Total :		2048.9	2304.2	
Average :		341.5	384.0	(-) 11

MONTHLY DISTRICTWISE ACTUAL & NORMAL RAINFALL RECEIVED FROM I.M.D. ALIPORE, KOLKATA ALONG WITH PERCENT DEPARTURE FROM NORMAL FOR THE MONTH OF OCTOBER-2004.

Period from 01.10.2004 to 31.10.2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	149.3	106.7	40
2.	Birbhum	246.7	110.2	124
3.	Burdwan	142.3	108.3	31
4.	Hooghly	197.2	83.6	136
5.	Howrah	260.9	129.6	101
6.	Midnapore	200.9	160.7	25
7.	Murshidabad	219.4	134.9	63
8.	North 24-Parganas	234.1	126.2	85
9.	Nadia	141.3	118.6	19
10.	Purulia	98.2	85	16
11.	South 24-Parganas	305.1	187.6	63
Total :		2195.4	1351.4	
Average :		199.6	122.9	62
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	179.1	176.3	2
13.	Darjeeling	121.1	128.0	-5
14.	Jalpaiguri	173.0	161.0	7
15.	Malda	510.0	116.7	337
16.	North Dinajpur	80.5	132.3	-39
17.	South Dinajpur	397.3	132.3	200
Total :		1461.0	846.6	
Average :		243.5	141.1	73

MONTHLY DISTRICTWISE ACTUAL & NORMAL RAINFALL RECEIVED FROM I.M.D. ALIPORE, KOLKATA ALONG WITH PERCENT DEPARTURE FROM NORMAL FOR THE MONTH OF NOVEMBER-2004.

Period from 01.11.2004 to 30.11.2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	0	15.8	-100
2.	Birbhum	0	14.1	-100
3.	Burdwan	0	11.1	-100
4.	Hooghly	0	23.2	-100
5.	Howrah	0	30.9	-100
6.	Midnapore	0	33.0	-100
7.	Murshidabad	0	12.8	-100
8.	North 24-Parganas	0	23.2	-100
9.	Nadia	0	15.0	-100
10.	Purulia	0	13.2	-100
11.	South 24-Parganas	1.8	44.0	-96
Total :		1.8	236.3	
Average :		0.2	21.5	(-) 99
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	6.5	10.7	-39
13.	Darjeeling	9.0	16.0	-5
14.	Jalpaiguri	15.2	8.7	75
15.	Malda	0	11.6	-100
16.	North Dinajpur	0	12.4	-100
17.	South Dinajpur	0	12.4	-100
Total :		30.7	71.8	
Average :		5.1	12.0	(-) 58

MONTHLY DISTRICTWISE ACTUAL & NORMAL RAINFALL RECEIVED FROM I.M.D. ALIPORE, KOLKATA ALONG WITH PERCENT DEPARTURE FROM NORMAL FOR THE MONTH OF DECEMBER-2004.

Period from 01.12.2004 to 31.12.2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	0.2	6.1	-97
2.	Birbhum	2.8	5.8	-52
3.	Burdwan	2.7	2.9	-7
4.	Hooghly	0	0.2	-100
5.	Howrah	0	6.2	-100
6.	Midnapore	0.1	7.3	-99
7.	Murshidabad	0	4.2	-100
8.	North 24-Parganas	0	8.1	-100
9.	Nadia	10	5.2	92
10.	Purulia	0	5.4	-100
11.	South 24-Parganas	0	10.2	-100
Total :		15.8	61.6	
Average :		1.4	5.6	(-) 75
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	0	4.1	-100
13.	Darjeeling	1.6	7.4	-5
14.	Jalpaiguri	6.9	4.5	53
15.	Malda	0	4.3	-100
16.	North Dinajpur	0	4.9	-100
17.	South Dinajpur	0	4.9	-100
Total :		8.5	30.1	
Average :		1.4	5.0	(-) 72

DISTRICTWISE ACTUAL & NORMAL RAINFALL DURING MONSOON PERIOD ALONG WITH PERCENT DEPARTURE FROM NORMAL FOR THE YEAR-2004.

Period from June 2004 to October 2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	1409.0	1176.6	20
2.	Birbhum	1433.7	1195.1	20
3.	Burdwan	1084.5	1204.3	-10
4.	Hooghly	1209.7	996.6	21
5.	Howrah	1019.6	1379.0	-26
6.	Midnapore	1344.4	1359.9	-1
7.	Murshidabad	994.0	1187.7	-16
8.	North 24-Parganas	1454.3	1378.0	6
9.	Nadia	1125.7	1075.9	5
10.	Purulia	1144.6	1183.2	-3
11.	South 24-Parganas	1722.0	1548.2	11
Total :		13941.5	13684.5	
Average :		1267.4	1244.0	1.9
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	2601.7	2785.4	-7
13.	Darjeeling	2345.8	2676.9	-12
14.	Jalpaiguri	3249.1	2404.9	35
15.	Malda	1600.0	1580.0	1
16.	North Dinajpur	1256.3	1320.6	-5
17.	South Dinajpur	1101.3	1320.6	-17
Total :		12154.2	12088.4	
Average :		2025.7	2014.7	0.6

YEARLY DISTRICTWISE ACTUAL & NORMAL RAINFALL WITH PERCENT DEPARTURE FROM NORMAL FOR THE YEAR-2004.

Period from January 2004 to December 2004.

Sl.No.	Name of District	Actual (in mm)	Normal (in mm)	Departure (in %)
1	2	3	4	5
Sub-Division : Gangetic West Bengal				
1.	Bankura	1529.6	1365.8	12.0
2.	Birbhum	1647.6	1407.0	17.1
3.	Burdwan	1228.4	1379.1	-11.0
4.	Hooghly	1324.9	1216.1	9.0
5.	Howrah	1112.6	1661.1	-33.0
6.	Midnapore	1413.1	1657.5	-14.7
7.	Murshidabad	1059.2	1408.4	-25.0
8.	North 24-Parganas	1580.3	1639.1	-3.6
9.	Nadia	1254.0	1318.6	-5.0
10.	Purulia	-	1343.9	-
11.	South 24-Parganas	1859.5	1811.3	2.7
Total :		14009.2	14864.0	
Average :		1400.92	1486.4	(-) 5.8
Sub-Division :	Sub-Himalayan West Bengal			
12.	Coochbehar	3061.9	3410.6	-10.2
13.	Darjeeling	2774.5	3236.0	-14.3
14.	Jalpaiguri	3873.4	2897.9	33.7
15.	Malda	1716.1	1773.3	-3.2
16.	North Dinajpur	-	1609.1	-
17.	South Dinajpur	-	1609.1	-
Total :		11425.9	11317.8	
Average :		2856.0	2829.5	0.9

DISTRICTWISE MONSOON RAINFALL IN PERCENTAGE OF ANNUAL RAINFALL FOR THE YEAR -2004.

Sl.No.	Name of District	Actual Monsoon Rainfall (in mm)	Normal Annual Rainfall (in mm)	In percentage of Annual Normal Rainfall
1	2	3	4	5
	Sub-Division : Gangetic West Bengal			
1.	Bankura	1409.0	1365.8	103.2
2.	Birbhum	1433.7	1407.0	101.9
3.	Burdwan	1084.5	1379.1	78.6
4.	Hooghly	1209.7	1216.1	99.5
5.	Howrah	1019.6	1661.1	61.4
6.	Midnapore	1344.4	1657.5	81.1
7.	Murshidabad	994.0	1408.4	70.6
8.	North 24-Parganas	1454.3	1639.1	88.7
9.	Nadia	1125.7	1318.6	85.4
10.	Purulia	1144.6	1343.9	85.2
11.	South 24-Parganas	1722.0	1811.3	95.1
	Sub-Division : Sub-Himalayan West Bengal			
12.	Coochbehar	2601.7	3410.6	76.3
13.	Darjeeling	2345.8	3236.0	72.5
14.	Jalpaiguri	3249.1	2897.9	112.1
15.	Malda	1600.0	1773.3	90.2
16.	North Dinajpur	1256.3	1609.1	78.1
17.	South Dinajpur	1101.3	1609.1	68.4

IMPORTANT RESERVOIR LEVELS & OUTFLOW DATA DURING THE FLOOD SEASON OF 2004.

Name of Reservoir : Maithon
Conservation Level : 146.310 M (480.00 Ft.)
Dead Storage Level : 132.590 M (435.00 Ft.)

Date	Time (in hours)	Reservoir Level (in M)	Outflow (in Cumecs)	Remarks
1	2	3	4	5
10.6.04	06.00	142.10	0.0	
23.6.04	06.00	144.41	179.00	
24.6.04	06.00	144.47	179.00	
29.6.04	06.00	143.62	183.00	
1.7.04	06.00	143.22	62.00	* Maximum Reservoir Level
5.7.04	06.00	143.12	66.00	
12.7.04	06.00	143.62	130.00	** Maximum Outflow
15.7.04	06.00	143.53	120.00	
21.7.04	06.00	143.22	219.00	
22.7.04	06.00	143.00	219.00	
29.7.04	06.00	141.18	200.00	
1.8.04	06.00	140.44	226.00	
5.8.04	06.00	139.23	144.00	
6.8.04	06.00	139.03	148.00	
18.8.04	06.00	140.67	49.00	
25.8.04	06.00	144.66	259.00	
26.8.04	06.00	144.50	256.00	
28.8.04	06.00	144.10	259.00	
2.9.04	06.00	143.64	70.00	
8.9.04	06.00	143.35	89.00	
9.9.04	06.00	143.26	90.00	
15.9.04	06.00	143.03	115.00	
19.9.04	06.00	148.69	**460.00****	
28.9.04	06.00	147.51	60.00	
1.10.04	06.00	147.40	62.00	
6.10.04	06.00	147.49	N.A.	
8.10.04	06.00	**149.28***	237.00	
15.10.04	06.00	148.47	35.00	
19.10.04	06.00	148.56	N.A.	

IMPORTANT RESERVOIR LEVELS & OUTFLOW DATA DURING THE FLOOD SEASON OF 2004.

Name of Reservoir : Panchet
Conservation Level : 124.970 M (410.00 Ft.)
Dead Storage Level : 119.480 M (392.00 Ft.)

Date	Time (in hours)	Reservoir Level (in M)	Outflow (in Cumecs)	Remarks
1	2	3	4	5
16.6.04	06.00	121.99	0.00	
18.6.04	06.00	121.85	206.00	
24.6.04	06.00	121.28	106.00	
28.6.04	06.00	119.97	331.00	* Maximum Reservoir Level
1.7.04	06.00	119.69	67.00	
7.7.04	06.00	119.45	158.00	** Maximum Outflow
9.7.04	06.00	119.69	46.00	
11.7.04	06.00	119.54	260.00	
15.7.04	06.00	119.40	154.00	
21.7.04	06.00	119.51	40.00	
26.7.04	06.00	119.41	42.00	
27.7.04	06.00	119.39	102.00	
3.8.04	06.00	119.94	171.00	
10.8.04	06.00	120.69	111.00	
11.8.04	06.00	120.67	162.00	
15.8.04	06.00	123.78	185.00	
18.8.04	06.00	125.80	49.00	
23.8.04	06.00	**127.96***	306.00	
24.8.04	06.00	127.62	308.00	
26.8.04	06.00	126.76	204.00	
2.9.04	06.00	124.71	155.00	
8.9.04	06.00	123.28	302.00	
9.9.04	06.00	122.59	357.00	
20.9.04	06.00	124.60	**789.00****	
22.9.04	06.00	125.31	494.00	
23.9.04	06.00	125.14	363.00	
26.9.04	06.00	124.81	392.00	
30.9.04	06.00	124.60	385.00	
9.10.04	06.00	126.41	200.00	
10.10.04	06.00	126.29	202.00	
14.10.04	06.00	125.93	18.00	
15.10.04	06.00	125.80	123.00	

IMPORTANT RESERVOIR LEVELS & OUTFLOW DATA DURING THE FLOOD SEASON OF 2004.

Name of Reservoir : Tenughat
Conservation Level : 263.66 M (865.00 Ft.)
Dead Storage Level : 249.02 M (817.00 Ft.)

Date	Time (in hours)	Reservoir Level (in M)	Outflow (in Cumecs)	Remarks
1	2	3	4	5
16.6.04	06.00	258.61	1.94	
19.6.04	06.00	258.84	4.93	
23.6.04	06.00	258.68	69.08	
24.6.04	06.00	258.53	61.53	* Maximum Reservoir Level
1.7.04	06.00	257.75	11.89	
10.7.04	06.00	257.68	37.17	** Maximum Outflow
14.7.04	06.00	257.78	12.82	
21.7.04	06.00	258.56	1.94	
22.7.04	06.00	258.59	1.94	
28.7.04	06.00	258.70	1.69	
31.7.04	06.00	258.79	1.70	
4.8.04	06.00	258.97	1.53	
7.8.04	06.00	259.22	77.54	
10.8.04	06.00	259.45	1.55	
18.8.04	06.00	259.64	133.70	
19.8.04	06.00	259.84	144.21	
20.8.04	06.00	259.35	192.54	
26.8.04	06.00	259.25	82.60	
27.8.04	06.00	259.37	49.61	
8.9.04	06.00	259.42	1.63	
12.9.04	06.00	259.54	52.37	
19.9.04	06.00	**260.65***	**266.20****	
26.9.04	06.00	259.69	54.75	
28.9.04	06.00	259.48	150.89	
30.9.04	06.00	259.29	48.31	
8.10.04	06.00	259.60	156.12	
15.10.04	06.00	259.55	1.64	

IMPORTANT RESERVOIR LEVELS & OUTFLOW DATA DURING THE FLOOD SEASON OF 2004.

Name of Reservoir : Kangsabati
Conservation Level : 134.11 M (440.00 Ft.)
Dead Storage Level : 120.40 M (395.00 Ft.)

Date	Time (in hours)	Reservoir Level (in M)	Outflow (in Cumecs)	Remarks
1	2	3	4	5
16.6.04	06.00	123.67	0.00	
23.6.04	06.00	123.90	0.00	
30.6.04	06.00	123.95	0.00	
7.7.04	06.00	124.05	0.00	* Maximum Reservoir Level
14.7.04	06.00	124.22	0.00	
21.7.04	06.00	124.86	0.00	** Maximum Outflow
28.7.04	06.00	125.53	0.00	
4.8.04	06.00	126.25	0.00	
7.8.04	06.00	126.61	50.98	
11.8.04	06.00	128.62	0.00	
17.8.04	06.00	132.22	563.17	
20.8.04	06.00	132.21	**836.91****	
25.8.04	06.00	132.28	202.61	
27.8.04	06.00	132.10	204.30	
2.9.04	06.00	131.90	137.07	
7.9.04	06.00	132.02	42.85	
14.9.04	06.00	132.10	181.30	
15.9.04	06.00	132.08	181.67	
17.9.04	06.00	132.28	167.06	
18.9.04	06.00	132.24	349.30	
23.9.04	06.00	132.15	144.80	
6.10.04	06.00	132.13	85.380	
9.10.04	06.00	**132.51***	146.30	
13.10.04	06.00	132.15	186.82	
14.10.04	06.00	132.05	185.81	

IMPORTANT RESERVOIR LEVELS & OUTFLOW DATA DURING THE FLOOD SEASON OF 2004.

Name of Reservoir : Massanjore
Conservation Level : 121.34 M (398.00 Ft.)
Dead Storage Level : 106.37 M (349.00 Ft.)

Date	Time (in hours)	Reservoir Level (in M)	Outflow (in Cumecs)	Remarks
1	2	3	4	5
16.6.04	06.00	108.60	0.00	
23.6.04	06.00	116.434	0.00	
30.6.04	06.00	116.921	0.00	
7.7.04	06.00	117.15	0.00	* Maximum Reservoir Level
11.7.04	06.00	117.50	0.00	
15.7.04	06.00	117.348	0.00	** Maximum Outflow
22.7.04	06.00	116.83	0.00	
29.7.04	06.00	115.214	0.00	
5.8.04	06.00	113.508	0.00	
10.8.04	06.00	112.624	60.40	
18.8.04	06.00	113.187	0.00	
25.8.04	06.00	113.675	0.00	
1.9.04	06.00	114.163	0.00	
8.9.04	06.00	115.138	0.00	
15.9.04	06.00	115.443	0.00	
21.9.04	06.00	119.756	392.80	
22.9.04	06.00	119.847	N.A.	
26.9.04	06.00	120.305	N.A.	
6.10.04	06.00	120.701	N.A.	
7.10.04	06.00	120.762	**2445.00****	
13.10.04	06.00	121.02	N.A.	
15.10.04	06.00	**121.112***	N.A.	

IMPORTANT BARRAGE LEVELS & DISCHARGE DATA DURING THE FLOOD SEASON OF 2004.

Name of Barrage : **Durgapur**

Date	Time (in hours)	Barrage Level (in M)	Discharge (in Cumecs)	Remarks
1	2	3	4	5
15.6.04	06.00	64.465	15.576	
19.6.04	06.00	64.312	278.952	
25.6.04	06.00	64.312	477.456	
1.7.04	06.00	64.312	281.064	
12.7.04	06.00	64.312	257.712	
17.7.04	06.00	64.312	325.68	
21.7.04	06.00	64.465	185.496	
23.7.04	06.00	64.465	294.528	* Maximum Discharge
29.7.04	06.00	64.465	261.96	
5.8.04	06.00	64.465	256.296	
15.8.04	06.00	64.465	450.288	
21.8.04	06.00	64.465	361.788	
24.8.04	06.00	64.160	1133.989	
26.8.04	06.00	64.160	1238.405	
27.8.04	06.00	64.312	952.260	
2.9.04	06.00	64.312	400.728	
8.9.04	06.00	64.465	227.976	
9.9.04	06.00	64.465	430.464	
16.9.04	06.00	64.465	234.304	
20.9.04	06.00	64.008	1932.84	
23.9.04	06.00	64.312	780.924	
30.9.04	06.00	64.312	652.776	
4.10.04	06.00	64.465	648.528	
8.10.04	06.00	64.251	**1422.372***	
12.10.04	06.00	64.465	589.056	
14.10.04	06.00	64.465	376.656	

IMPORTANT BARRAGE LEVELS & DISCHARGE DATA DURING THE FLOOD SEASON OF 2004.

Name of Barrage : Tilpara

Date	Time (in hours)	Barrage Level (in M)	Discharge (in Cumecs)	Remarks
1	2	3	4	5
10.6.04	06.00	60.445	0.0	
21.6.04	06.00	57.912	**0.0**	
27.6.04	06.00	57.912	0.0	
4.7.04	06.00	57.912	0.0	
13.7.04	06.00	62.423	0.0	
17.7.04	06.00	62.545	0.0	
24.7.04	06.00	62.606	0.0	*** Maximum Discharge**
1.8.04	06.00	62.728	0.0	
6.8.04	06.00	62.667	0.0	
16.8.04	06.00	62.484	14.90	
20.8.04	06.00	62.754	0.0	
24.8.04	06.00	62.484	N.A.	
29.8.04	06.00	62.606	N.A.	
7.9.04	06.00	62.179	0.0	
13.9.04	06.00	62.595	N.A.	
16.9.04	06.00	62.362	29.51	
20.9.04	06.00	61.874	193.26	
26.9.04	06.00	62.667	N.A.	
3.10.04	06.00	62.758	N.A.	
11.10.04	06.00	62.149	**254.71***	
12.10.04	06.00	62.545	0.0	
15.10.04	06.00	62.789	N.A.	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Sankosh	L.R.P.Crossing	15.6.04	45.90	10.00	
Warning Level		23.6.04	47.50	10.00	
E.D.L.	49.100	24.6.04	46.45	10.00	
D.L.	48.200	7.7.04	46.90	10.00	
		8.7.04	**48.20***	10.00	
		20.7.04	47.60	10.00	
		22.7.04	47.20	10.00	
		29.7.04	46.60	10.00	* At D.L. & this years's highest level.
		5.8.04	46.40	10.00	
		13.8.04	46.40	10.00	
		21.8.04	46.35	10.00	
		28.8.04	46.65	10.00	
		4.9.04	46.55	10.00	
		9.9.04	46.25	10.00	
		16.9.04	45.85	10.00	
		25.9.04	46.00	10.00	
		6.10.04	46.10	10.00	
		9.10.04	46.80	10.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Raidak-I	L.R.P.Crossing	11.6.04	44.24	10.00	
Warning Level		23.6.04	45.65	10.00	
E.D.L.	47.600	24.6.04	45.05	10.00	
D.L.	46.700	6.7.04	46.15	10.00	
		11.7.04	**47.55****	10.00	* Above D.L.
		20.7.04	45.70	10.00	
		22.7.04	44.95	10.00	** Above D.L. & this years's highest level.
		29.7.04	44.45	10.00	
		5.8.04	44.20	10.00	
		12.8.04	44.15	10.00	
		25.8.04	44.25	10.00	
		28.8.04	45.15	10.00	
		8.9.04	**46.80***	10.00	
		9.9.04	46.05	10.00	
		16.9.04	44.30	10.00	
		25.9.04	44.55	10.00	
		30.9.04	44.45	10.00	
		8.10.04	44.75	10.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Raidak-II	L.R.P.Crossing	16.6.04	46.11	10.00	
Warning Level		22.6.04	46.47	10.00	
E.D.L.	49.000	24.6.04	46.40	10.00	
D.L.	48.100	6.7.04	**46.50**	10.00	
		8.7.04	47.10*	10.00	
		20.7.04	47.00	10.00	
		22.7.04	46.65	10.00	
		29.7.04	46.40	10.00	* This years's highest level.
		6.8.04	46.20	10.00	
		12.8.04	46.05	10.00	
		22.8.04	46.05	10.00	
		28.8.04	46.25	10.00	
		8.9.04	46.70	10.00	
		9.9.04	46.20	10.00	
		20.9.04	45.90	10.00	
		23.9.04	46.00	10.00	
		6.10.04	46.15	10.00	
		8.10.04	46.70	10.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Torsa	Hasimara	13.6.04	114.22	10.00	
Warning Level		23.6.04	115.07	10.00	
E.D.L.	116.900	27.6.04	115.15	10.00	
D.L.	116.300	7.7.04	115.50	10.00	
		12.7.04	115.90	10.00	
		20.7.04	**116.30***	10.00	
		22.7.04	115.60	10.00	
		2.8.04	115.65	10.00	*Above D.L. & this years's highest level.
		5.8.04	115.45	10.00	
		12.8.04	115.40	10.00	
		21.8.04	115.45	10.00	
		28.8.04	115.55	10.00	
		3.9.04	114.95	10.00	
		10.9.04	114.65	10.00	
		19.9.04	114.70	10.00	
		24.9.04	114.55	10.00	
		1.10.04	115.40	10.00	
		8.10.04	115.50	10.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Kaljani	Alipurduar	23.6.04	44.25	10.00	
Warning Level		24.6.04	43.45	10.00	
E.D.L.	45.700	7.7.04	44.55	10.00	
D.L.	45.100	11.7.04	**45.25***	10.00	
		19.7.04	44.35	10.00	
		22.7.04	43.70	10.00	
		30.7.04	43.00	10.00	
		5.8.04	42.95	10.00	* Above D.L. & this years's highest level.
		12.8.04	42.85	10.00	
		25.8.04	42.90	10.00	
		28.8.04	44.00	10.00	
		8.9.04	44.95	10.00	
		9.9.04	44.50	10.00	
		19.9.04	43.45	10.00	
		25.9.04	43.40	10.00	
		6.10.04	43.50	10.00	
		8.10.04	43.55	10.00	
				10.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Jaldhaka	N.H.-31	13.6.04	79.37	10.00	
Warning Level		18.6.04	79.85	10.00	
E.D.L.	80.500	29.6.04	**80.03***	10.00	
D.L.	80.000	7.7.04	79.90	10.00	
		11.7.04	**80.12***	10.00	
		20.7.04	**80.20****	10.00	
		22.7.04	79.88	10.00	* Above D.L.
		4.8.04	79.68	10.00	**Above D.L. & this years's highest level.
		6.8.04	79.63	10.00	
		13.8.04	79.46	10.00	
		25.8.04	79.65	10.00	
		28.8.04	79.98	10.00	
		7.9.04	79.67	10.00	
		9.9.04	79.72	10.00	
		19.9.04	79.43	10.00	
		29.9.04	79.38	10.00	
		6.10.04	79.70	10.00	
		7.10.04	79.55	10.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Diana	Chengmari	21.6.04	198.35	10.00	
Warning Level		26.6.04	199.20	10.00	
E.D.L.	201.400	5.7.04	**198.75**	10.00	
D.L.	200.500	11.7.04	199.60*	10.00	
		19.7.04	198.85	10.00	
		22.7.04	198.60	10.00	
		29.7.04	198.50	10.00	
		5.8.04	198.45	10.00	* This years's highest level.
		12.8.04	198.25	10.00	
		25.8.04	198.35	10.00	
		28.8.04	198.65	10.00	
		5.9.04	198.60	10.00	
		9.9.04	198.50	10.00	
		16.9.04	198.25	10.00	
		20.9.04	198.40	10.00	
		24.9.04	198.60	10.00	
		5.10.04	198.55	10.00	
		7.10.04	198.65	10.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Mansai	Mathabhanga	11.6.04	46.68	10.00	
Warning Level		23.6.04	47.80	10.00	
E.D.L.	48.700	28.6.04	47.67	10.00	
D.L.	48.200	7.7.04	47.65	10.00	
		8.7.04	**48.60****	10.00	
		20.7.04	47.82	10.00	* Above D.L.
		22.7.04	47.40	10.00	
		30.7.04	46.50	10.00	**Above D.L. & this years's highest level.
		7.8.04	46.37	10.00	
		12.8.04	46.22	10.00	
		19.8.04	46.13	10.00	
		1.9.04	46.74	10.00	
		8.9.04	48.00	10.00	
		9.9.04	**48.57***	10.00	
		16.9.04	46.22	10.00	
		26.9.04	46.70	10.00	
		30.9.04	46.39	10.00	
		9.10.04	46.85	10.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Teesta	Corn.Bridge	16.6.04	145.85	10.00	
Warning Level		18.6.04	146.90	10.00	
E.D.L.	151.800	30.6.04	**146.65**	10.00	
D.L.	149.400	7.7.04	147.25	10.00	
		8.7.04	148.95*	10.00	
		19.7.04	147.90	10.00	
		28.7.04	147.15	10.00	
		4.8.04	147.00	10.00	* This years's highest level.
		8.8.04	146.95	10.00	
		12.8.04	146.75	10.00	
		20.8.04	146.90	10.00	
		30.8.04	147.10	10.00	
		2.9.04	147.00	10.00	
		11.9.04	146.35	10.00	
		19.9.04	145.75	10.00	
		25.9.04	146.60	10.00	
		4.10.04	146.45	10.00	
		9.10.04	146.20	10.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Teesta	Domohoni	11.6.04	85.11	10.00	
Warning Level		23.6.04	**85.68***	10.00	
E.D.L.	85.950	24.6.04	85.56	10.00	
D.L.	85.650	7.7.04	**85.68***	10.00	
		8.7.04	**85.90****	10.00	
		19.7.04	85.54	10.00	
		23.7.04	85.30	10.00	*Above D.L.
		30.7.04	85.16	10.00	
		8.8.04	85.32	10.00	**Above D.L. & this years's highest level
		13.8.04	85.14	10.00	
		21.8.04	85.16	10.00	
		29.8.04	85.48	10.00	
		2.9.04	85.44	10.00	
		9.9.04	85.45	10.00	
		20.9.04	84.94	10.00	
		29.9.04	85.23	10.00	
		6.10.04	85.37	10.00	
		8.10.04	85.32	10.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Mahananda	H.C.Road	11.6.04	113.575	10.00	
Warning Level		20.6.04	114.275	10.00	
E.D.L.	116.590	27.6.04	114.100	10.00	
D.L.	115.970	7.7.04	114.925	10.00	
		14.7.04	114.475	10.00	
		20.7.04	114.825	10.00	
		24.7.04	114.225	10.00	
		4.8.04	**115.95***	10.00	* This years's highest level.
		8.8.04	114.00	10.00	
		13.8.04	113.925	10.00	
		25.8.04	114.00	10.00	
		1.9.04	114.40	10.00	
		2.9.04	114.15	10.00	
		9.9.04	115.00	10.00	
		20.9.04	114.00	10.00	
		25.9.04	114.10	10.00	
		6.10.04	114.20	10.00	
		7.10.04	114.225	10.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Mahananda	Sonapurghat	1.7.04	73.95	06.00	
Warning Level		8.7.04	74.94	06.00	
E.D.L.	76.380	21.7.04	75.35	06.00	
D.L.	75.770	22.7.04	74.93	06.00	
		24.7.04	74.15	06.00	
		1.8.04	73.53	06.00	
		10.8.04	73.27	06.00	
		12.8.04	73.25	06.00	
		18.8.04	73.15	06.00	* This years's highest level.
		21.8.04	73.50	06.00	
		29.8.04	74.495	06.00	
		8.9.04	74.63	06.00	
		14.9.04	75.20	06.00	
		16.9.04	74.70	06.00	
		27.9.04	75.34	06.00	
		1.10.04	75.14	06.00	
		8.10.04	**75.63***	06.00	
		12.10.04	75.53	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Mahananda	Jhawa	16.6.04	27.76	06.00	
Warning Level		21.6.04	29.81	06.00	
E.D.L.	31.900	24.6.04	29.48	06.00	*Above D.L.
D.L.	31.400	2.7.04	29.70	06.00	
		13.7.04	**32.40*** **	06.00	**Above E.D.L.
		16.7.04	**31.96** **	06.00	
		18.7.04	**31.49***	06.00	
		22.7.04	**31.58***	06.00	
		29.7.04	30.40	06.00	***Above E.D.L. & this years's highest level.
		5.8.04	29.64	06.00	
		12.8.04	29.13	06.00	
		22.8.04	29.13	06.00	
		29.8.04	30.97	06.00	
		5.9.04	30.75	06.00	
		11.9.04	31.22	06.00	
		16.9.04	29.90	06.00	
		27.9.04	29.66	06.00	
		10.10.04	30.22	06.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Mahananda	Dangraghat	21.6.04	35.16	06.00	
Warning Level		24.6.04	34.42	06.00	
E.D.L.	36.150	7.7.04	35.55	06.00	
D.L.	35.650	12.7.04	**36.66** **	06.00	* Above D.L.
		16.7.04	**35.78***	06.00	
		18.7.04	**36.09***	06.00	
		22.7.04	**35.76***	06.00	** Above E.D.L. & this years's highest level.
		29.7.04	34.42	06.00	
		5.8.04	33.92	06.00	
		15.8.04	33.60	06.00	
		22.8.04	33.59	06.00	
		29.8.04	**35.71***	06.00	
		4.9.04	35.18	06.00	
		10.9.04	**35.86***	06.00	
		16.9.04	34.12	06.00	
		27.9.04	34.44	06.00	
		1.10.04	34.63	06.00	
		9.10.04	34.79	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Mahananda	Eng. Bazar	16.6.04	15.15	06.00	
Warning Level		23.6.04	16.22	06.00	
E.D.L.	23.500	28.6.04	17.76	06.00	
D.L.	22.750	7.7.04	17.61	06.00	
		14.7.04	19.85	06.00	
		21.7.04	21.22	06.00	* This years's highest level.
		26.7.04	**21.54***	06.00	
		29.7.04	21.36	06.00	
		5.8.04	19.92	06.00	
		12.8.04	18.57	06.00	
		25.8.04	18.97	06.00	
		1.9.04	19.25	06.00	
		3.9.04	19.40	06.00	
		15.9.04	19.00	06.00	
		16.9.04	18.87	06.00	
		23.9.04	18.00	06.00	
		4.10.04	18.41	06.00	
		10.10.04	21.29	06.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Sui	Katchua	1.7.04	22.60	06.00	
Warning Level		7.7.04	22.82	06.00	
E.D.L.	26.98	14.7.04	24.64	06.00	
D.L.	25.49	16.7.04	24.97	06.00	
		21.7.04	24.78	06.00	* This years's highest level.
		24.7.04	**25.09***	06.00	
		29.7.04	24.00	06.00	
		7.8.04	22.60	06.00	
		19.8.04	21.98	06.00	
		26.8.04	21.90	06.00	
		1.9.04	23.02	06.00	
		2.9.04	23.10	06.00	
		8.9.04	22.40	06.00	
		14.9.04	23.22	06.00	
		22.9.04	22.27	06.00	
		24.9.04	22.60	06.00	
		6.10.04	22.42	06.00	
		12.10.04	24.48	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Sui	Pazol	1.7.04	24.40	06.00	
Warning Level		7.7.04	24.78	06.00	
E.D.L.	28.00	14.7.04	26.30	06.00	
D.L.	27.43	21.7.04	26.95	06.00	* This years's highest level.
		24.7.04	**27.05***	06.00	
		29.7.04	26.60	06.00	
		7.8.04	25.30	06.00	
		12.8.04	25.10	06.00	
		19.8.04	24.95	06.00	
		26.8.04	24.75	06.00	
		1.9.04	25.60	06.00	
		3.9.04	26.02	06.00	
		7.9.04	25.55	06.00	
		14.9.04	25.72	06.00	
		17.9.04	25.50	06.00	
		23.9.04	25.22	06.00	
		5.10.04	25.20	06.00	
		11.10.04	25.80	06.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Tangon	Radhikapur	1.7.04	29.50	06.00	
Warning Level		7.7.04	30.00	06.00	* This years's highest level.
E.D.L.	34.050	14.7.04	**32.60***	06.00	
D.L.	33.450	15.7.04	32.30	06.00	
		23.7.04	32.30	06.00	
		29.7.04	29.20	06.00	
		7.8.04	28.80	06.00	
		12.8.04	28.70	06.00	
		20.8.04	28.80	06.00	
		26.8.04	28.85	06.00	
		1.9.04	29.10	06.00	
		5.9.04	30.30	06.00	
		13.9.04	30.65	06.00	
		16.9.04	30.40	06.00	
		23.9.04	29.95	06.00	
		30.9.04	29.90	06.00	
		6.10.04	30.10	06.00	
		10.10.04	31.85	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Tangon	Banshihari	1.7.04	22.80	06.00	
Warning Level		7.7.04	23.75	06.00	
E.D.L.	26.210	15.7.04	**26.09****	06.00	
D.L.	25.600	24.7.04	**26.03***	06.00	*Above D.L.
		29.7.04	23.25	06.00	
		6.8.04	22.50	06.00	** Above D.L. & this years's highest level.
		12.8.04	21.75	06.00	
		20.8.04	21.85	06.00	
		25.8.04	21.60	06.00	
		1.9.04	23.55	06.00	
		5.9.04	23.80	06.00	
		9.9.04	22.90	06.00	
		13.9.04	24.85	06.00	
		16.9.04	22.80	06.00	
		25.9.04	22.50	06.00	
		2.10.04	23.80	06.00	
		7.10.04	25.02	06.00	
		9.10.04	**25.92***	06.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Nagore	Makdampur	1.7.04	28.97	06.00	
Warning Level		7.7.04	29.27	06.00	* This years's highest level.
E.D.L.	31.860	12.7.04	**30.81***	06.00	
D.L.	31.540	15.7.04	30.70	06.00	
		19.7.04	30.07	06.00	
		23.7.04	30.60	06.00	
		29.7.04	29.78	06.00	
		7.8.04	28.67	06.00	
		12.8.04	28.40	06.00	
		21.8.04	28.25	06.00	
		26.8.04	28.08	06.00	
		1.9.04	28.30	06.00	
		6.9.04	28.63	06.00	
		14.9.04	28.67	06.00	
		16.9.04	30.10	06.00	
		23.9.04	28.70	06.00	
		1.10.04	28.60	06.00	
		11.10.04	30.01	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Kullick	Riv.Bridge	1.7.04	27.95	06.00	
Warning Level		8.7.04	28.65	06.00	* This years's highest level.
E.D.L.	32.690	14.7.04	**30.18***	06.00	
D.L.	31.200	20.7.04	29.55	06.00	
		24.7.04	30.00	06.00	
		29.7.04	28.10	06.00	
		7.8.04	27.00	06.00	
		12.8.04	26.75	06.00	
		21.8.04	26.55	06.00	
		1.9.04	27.85	06.00	
		5.9.04	27.90	06.00	
		13.9.04	28.80	06.00	
		16.9.04	28.10	06.00	
		24.9.04	27.15	06.00	
		27.9.04	27.40	06.00	
		1.10.04	27.62	06.00	
		6.10.04	27.40	06.00	
		11.10.04	29.55	06.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Dauk	Chopra	1.7.04	67.83	06.00	
Warning Level		7.7.04	68.75	06.00	
E.D.L.	70.070	14.7.04	69.38	06.00	* Above D.L. & this years's highest level.
D.L.	69.460	21.7.04	**69.78***	06.00	
		22.7.04	68.84	06.00	
		1.8.04	67.85	06.00	
		7.8.04	67.50	06.00	
		12.8.04	67.43	06.00	
		24.8.04	68.75	06.00	
		28.8.04	69.30	06.00	
		6.9.04	69.05	06.00	
		8.9.04	69.35	06.00	
		14.9.04	69.435	06.00	
		16.9.04	69.18	06.00	
		27.9.04	69.32	06.00	
		1.10.04	69.27	06.00	
		8.10.04	69.14	06.00	
		13.10.04	69.10	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Gamari	Itahar	1.7.04	24.32	06.00	
Warning Level		7.7.04	24.44	06.00	
E.D.L.	27.410	12.7.04	26.05	06.00	* This years's highest level.
D.L.	26.820	21.7.04	**26.44***	06.00	
		22.7.04	26.18	06.00	
		29.7.04	25.60	06.00	
		9.8.04	24.98	06.00	
		12.8.04	24.92	06.00	
		21.8.04	24.96	06.00	
		26.8.04	24.88	06.00	
		6.9.04	24.46	06.00	
		10.9.04	24.46	06.00	
		17.9.04	24.45	06.00	
		23.9.04	24.34	06.00	
		30.9.04	24.35	06.00	
		6.10.04	24.43	06.00	
		10.10.04	25.18	06.00	
		15.10.04	25.00	06.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Fulhar	Teljana (u/s)	8.7.04	26.70	06.00	
Warning Level		13.7.04	**28.08****	06.00	
E..D.L.	28.350	15.7.04	**27.62***	06.00	
D.L.	27.430	22.7.04	**27.50***	06.00	* Above D.L.
		29.7.04	26.46	06.00	** Above D.L. & this years's highest level.
		30.8.04	27.12	06.00	
		1.9.04	27.05	06.00	
		7.9.04	26.39	06.00	
		11.9.04	26.91	06.00	
		15.9.04	25.90	06.00	
		16.9.04	25.69	06.00	
		21.9.04	24.60	06.00	
		11.10.04	26.05	06.00	
		13.10.04	25.80	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Fulhar	Teljana (d/s)	8.7.04	27.10*	06.00	
Warning Level					
E.D.L.	27.130				
D.L.	26.510				
					*Above D.L. & this years's highest level.

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Punarbhaba	Gangarampur	25.6.04	23.80	06.00	
Warning Level		1.7.04	22.75	06.00	
E.D.L.	26.420	7.7.04	23.55	06.00	
D.L.	25.820	14.7.04	**26.31****	06.00	
		15.7.04	25.75	06.00	
		22.7.04	**25.92***	06.00	
		3.8.04	24.35	06.00	*Above D.L.
		5.8.04	22.30	06.00	
		18.8.04	22.25	06.00	** Above D.L. & this years's highest level.
		30.8.04	22.90	06.00	
		1.9.04	23.60	06.00	
		3.9.04	24.01	06.00	
		8.9.04	23.00	06.00	
		12.9.04	25.75	06.00	
		16.9.04	22.75	06.00	
		27.9.04	22.90	06.00	
		30.9.04	22.85	06.00	
		9.10.04	25.45	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Atrai	Balurghat	25.6.04	19.98	06.00	
Warning Level		1.7.04	19.10	06.00	
E.D.L.	23.750	7.7.04	20.40	06.00	* This years's highest level.
D.L.	23.150	13.7.04	**23.13***	06.00	
		21.7.04	22.45	06.00	
		23.7.04	22.86	06.00	
		29.7.04	19.06	06.00	
		4.8.04	18.62	06.00	
		31.8.04	20.16	06.00	
		2.9.04	22.12	06.00	
		12.9.04	21.93	06.00	
		16.9.04	18.78	06.00	
		29.9.04	19.38	06.00	
		30.9.04	19.22	06.00	
		8.10.04	22.58	06.00	
		13.10.04	19.66	06.00	
		14.10.04	19.32	06.00	
		17.10.04	18.78	06.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ganga	Allahabad	17.6.04	71.40	06.00	
Warning Level		23.6.04	73.95	06.00	
E.D.L.	87.980	24.6.04	73.84	06.00	
D.L.	84.730	1.7.04	72.40	06.00	
		14.7.04	72.37	06.00	
		19.7.04	73.27	06.00	* This years's highest level.
		28.7.04	73.04	06.00	
		4.8.04	73.24	06.00	
		11.8.04	75.52	06.00	
		18.8.04	78.17	06.00	
		21.8.04	80.13	06.00	
		28.8.04	**81.16***	06.00	
		2.9.04	78.01	06.00	
		9.9.04	75.24	06.00	
		22.9.04	74.46	06.00	
		24.9.04	76.18	06.00	
		2.10.04	74.45	06.00	
		7.10.04	73.44	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ganga	Banaras	17.6.04	59.05	06.00	
Warning Level		21.6.04	68.86	06.00	
E.D.L.	73.900	25.6.04	61.76	06.00	
D.L.	71.260	1.7.04	60.58	06.00	
		11.7.04	60.10	06.00	
		21.7.04	60.93	06.00	
		22.7.04	60.93	06.00	
		3.8.04	60.81	06.00	
		11.8.04	63.38	06.00	* This years's highest level.
		18.8.04	66.34	06.00	
		21.8.04	68.59	06.00	
		29.8.04	**69.29***	06.00	
		2.9.04	66.54	06.00	
		9.9.04	63.78	06.00	
		22.9.04	62.45	06.00	
		26.9.04	64.35	06.00	
		30.9.04	63.15	06.00	
		7.10.04	62.15	06.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ganga	Patna	23.6.04	43.23	06.00	
Warning Level		25.6.04	44.04	06.00	
E.D.L.	49.200	6.7.04	43.41	06.00	
D.L.	48.600	14.7.04	45.87	06.00	
		15.7.04	45.89	06.00	* This years's highest level.
		23.7.04	45.96	06.00	
		4.8.04	46.08	06.00	
		5.8.04	46.14	06.00	
		18.8.04	47.13	06.00	
		23.8.04	**48.35***	06.00	
		30.8.04	48.13	06.00	
		2.9.04	47.46	06.00	
		9.9.04	46.09	06.00	
		17.9.04	45.55	06.00	
		25.9.04	45.45	06.00	
		30.9.04	45.80	06.00	
		7.10.04	45.18	06.00	
		15.10.04	44.36	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ganga	Hatidah	23.6.04	35.33	06.00	
Warning Level		26.6.04	36.39	06.00	
E.D.L.	42.360	1.7.04	35.85	06.00	
D.L.	41.760	14.7.04	38.20	06.00	
		21.7.04	38.60	06.00	
		24.7.04	38.60	06.00	
		4.8.04	38.55	06.00	* This years's highest level.
		5.8.04	38.68	06.00	
		18.8.04	39.66	06.00	
		24.8.04	**41.07***	06.00	
		31.8.04	40.99	06.00	
		2.9.04	40.51	06.00	
		9.9.04	38.96	06.00	
		18.9.04	38.38	06.00	
		28.9.04	39.26	06.00	
		1.10.04	38.61	06.00	
		8.10.04	38.22	06.00	
		14.10.04	37.60	06.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ganga	Mungher	23.6.04	31.42	06.00	
Warning Level		27.6.04	32.39	06.00	
E.D.L.	39.930	1.7.04	31.81	06.00	
D.L.	39.330	14.7.04	34.49	06.00	
		16.7.04	35.06	06.00	
		24.7.04	35.17	06.00	
		4.8.04	34.94	06.00	
		6.8.04	35.07	06.00	
		18.8.04	36.07	06.00	* This years's highest level.
		22.8.04	36.79	06.00	
		31.8.04	**37.23***	06.00	
		2.9.04	36.95	06.00	
		9.9.04	35.36	06.00	
		18.9.04	34.65	06.00	
		29.9.04	35.56	06.00	
		30.9.04	35.28	06.00	
		7.10.04	34.38	06.00	
		15.10.04	33.48	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ganga	Bhagalpur	23.6.04	27.06	06.00	
Warning Level		27.6.04	28.13	06.00	
E.D.L.	34.180	1.7.04	27.65	06.00	
D.L.	33.680	14.7.04	30.08	06.00	
		17.7.04	30.95	06.00	
		25.7.04	31.14	06.00	
		4.8.04	30.71	06.00	* This years's highest level.
		6.8.04	30.90	06.00	
		18.8.04	31.62	06.00	
		25.8.04	**32.90***	06.00	
		26.8.04	32.84	06.00	
		2.9.04	32.47	06.00	
		9.9.04	30.88	06.00	
		19.9.04	30.01	06.00	
		29.9.04	30.79	06.00	
		30.9.04	30.68	06.00	
		9.10.04	29.88	06.00	
		15.10.04	29.04	06.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ganga	Kalagaon	23.6.04	26.60	06.00	
Warning Level		27.6.04	27.52	06.00	
E.D.L.	31.690	1.7.04	27.09	06.00	
D.L.	31.090	14.7.04	29.32	06.00	
		18.7.04	30.19	06.00	* Above D.L.
		24.7.04	30.35	06.00	
		29.7.04	29.79	06.00	** Above D.L. & this years's highest level.
		6.8.04	29.65	06.00	
		18.8.04	30.18	06.00	
		25.8.04	**31.46****	06.00	
		26.8.04	**31.40***	06.00	
		2.9.04	**31.17***	06.00	
		9.9.04	29.52	06.00	
		19.9.04	28.76	06.00	
		29.9.04	29.29	06.00	
		30.9.04	29.21	06.00	
		9.10.04	28.86	06.00	
		15.10.04	27.92	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ganga	Manikchakghat	10.6.04	21.90	06.00	
Warning Level		23.6.04	21.90	06.00	
E.D.L.	25.540	28.6.04	21.95	06.00	
D.L.	24.690	7.7.04	22.08	06.00	
		14.7.04	23.32	06.00	*This years's highest level.
		19.7.04	24.07	06.00	
		23.7.04	24.12	06.00	
		29.7.04	23.52	06.00	
		6.8.04	23.38	06.00	
		17.8.04	23.46	06.00	
		25.8.04	24.46	06.00	
		26.8.04	**24.60***	06.00	
		2.9.04	24.48	06.00	
		9.9.04	23.36	06.00	
		16.9.04	23.12	06.00	
		29.9.04	23.22	06.00	
		30.9.04	23.24	06.00	
		10.10.04	23.50	06.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ganga	Farakka	23.6.04	18.31	06.00	
Warning Level		28.6.04	19.27	06.00	
E.D.L.	23.770	1.7.04	19.03	06.00	
D.L.	22.250	14.7.04	21.37	06.00	
		18.7.04	**22.29***	06.00	* Above D.L.
		22.7.04	**22.32***	06.00	
		29.7.04	21.79	06.00	** Above D.L. & this years's highest level.
		5.8.04	21.43	06.00	
		18.8.04	21.61	06.00	
		25.8.04	**22.66***	06.00	
		26.8.04	**22.71***	06.00	
		2.9.04	**22.73****	06.00	
		9.9.04	21.38	06.00	
		16.9.04	20.70	06.00	
		29.9.04	20.90	06.00	
		30.9.04	21.01	06.00	
		8.10.04	21.19	06.00	
		15.10.04	20.12	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ganga	Nurpur	10.6.04	15.43	06.00	
Warning Level		23.6.04	15.50	06.00	
E.D.L.	21.650	28.6.04	16.49	06.00	
D.L.	21.030	7.7.04	16.34	06.00	
		14.7.04	18.97	06.00	
		21.7.04	20.25	06.00	
		22.7.04	20.25	06.00	* This years's highest level.
		29.7.04	19.74	06.00	
		7.8.04	19.49	06.00	
		18.8.04	19.73	06.00	
		25.8.04	20.77	06.00	
		26.8.04	**20.87***	06.00	
		2.9.04	20.86	06.00	
		9.9.04	19.53	06.00	
		16.9.04	19.00	06.00	
		28.9.04	18.75	06.00	
		30.9.04	19.30	06.00	
		8.10.04	19.55	06.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ganga	Geria	10.6.04	14.77	06.00	
Warning Level		23.6.04	14.55	06.00	
E.D.L.	21.550	28.6.04	16.32	06.00	
D.L.	20.940	7.7.04	16.13	06.00	
		14.7.04	18.67	06.00	*At D.L. & this years's highest level.
		20.7.04	**20.94***	06.00	
		22.7.04	19.80	06.00	
		29.7.04	19.15	06.00	
		6.8.04	18.77	06.00	
		18.8.04	19.10	06.00	
		25.8.04	20.10	06.00	
		26.8.04	20.22	06.00	
		2.9.04	20.21	06.00	
		9.9.04	18.72	06.00	
		16.9.04	18.20	06.00	
		23.9.04	17.80	06.00	
		1.10.04	18.44	06.00	
		9.10.04	18.76	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

North Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ganga	Chakghat	10.6.04	14.35	06.00	
Warning Level		23.6.04	14.12	06.00	
E.D.L.	21.490	28.6.04	15.82	06.00	
D.L.	20.880	7.7.04	15.64	06.00	
		14.7.04	18.19	06.00	
		20.7.04	**20.88***	06.00	*At D.L. & this years's highest level.
		22.7.04	19.32	06.00	
		29.7.04	18.67	06.00	
		6.8.04	18.29	06.00	
		18.8.04	18.61	06.00	
		25.8.04	19.61	06.00	
		26.8.04	19.73	06.00	
		4.9.04	19.85	06.00	
		9.9.04	18.26	06.00	
		16.9.04	17.72	06.00	
		29.9.04	17.72	06.00	
		1.10.04	17.91	06.00	
		8.10.04	18.30	06.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Pagla	Bansloi	10.6.04	28.00	6.00	
Warning Level		22.6.04	**32.46****	6.00	
E.D.L.	32.76	24.6.04	28.05	6.00	
D.L.	31.85	7.7.04	27.58	6.00	
		10.7.04	27.81	6.00	**Above DL & this year's highest level.
		17.7.04	28.35	6.00	
		22.7.04	27.73	6.00	
		29.7.04	27.35	6.00	*Above D.L.
		31.7.04	27.74	6.00	
		11.8.04	27.74	6.00	
		20.8.04	27.43	6.00	
		31.8.04	28.05	6.00	
		6.9.04	27.74	6.00	
		15.9.04	28.50	6.00	
		17.9.04	**32.40***	6.00	
		24.9.04	28.20	6.00	
		30.9.04	28.20	6.00	
		8.10.04	30.32	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Brahmoni	A.D.B. Road	15.6.04	27.55	6.00	
Warning Level		22.6.04	30.00	6.00	
E.D.L.	33.40	24.6.04	28.60	6.00	
D.L.	33.00	7.7.04	27.38	6.00	
		10.7.04	28.30	6.00	**Above EDL & this year's highest level
		18.7.04	27.85	6.00	
		22.7.04	27.46	6.00	*At EDL
		1.8.04	27.23	6.00	
		10.8.04	27.46	6.00	
		15.8.04	27.54	6.00	
		19.8.04	27.23	6.00	
		30.8.04	27.46	6.00	
		8.9.04	27.38	6.00	
		17.9.04	**33.40***	6.00	
		19.9.04	**33.50****	6.00	
		29.9.04	29.70	6.00	
		6.10.04	29.10	6.00	
		8.10.04	31.50	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Dwarka	Sankoghat	17.6.04	16.67	6.00	
Warning Level		24.6.04	**20.59***	6.00	
E.D.L.	21.30	1.7.04	16.88	6.00	***Above EDL & this year's highest level
D.L.	20.42	8.7.04	16.96	6.00	
		18.7.04	17.72	6.00	
		22.7.04	16.80	6.00	**Above EDL
		1.8.04	16.65	6.00	*Above D.L.
		11.8.04	17.65	6.00	
		16.8.04	18.04	6.00	
		24.8.04	16.47	6.00	
		30.8.04	17.68	6.00	
		2.9.04	16.96	6.00	
		15.9.04	17.20	6.00	
		18.9.04	**22.30*****	6.00	
		19.9.04	**21.78****	6.00	
		30.9.04	18.99	6.00	
		8.10.04	**21.99****	6.00	
		15.10.04	19.42	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Mayurakshi	Narayanpur	17.6.04	24.205	6.00	
Warning Level		24.6.04	24.275	6.00	
E.D.L.	28.58	7.7.04	23.545	6.00	
D.L.	27.98	11.7.04	23.92	6.00	
		15.7.04	23.965	6.00	
		26.7.04	23.465	6.00	
		3.8.04	23.495	6.00	**Above D.L. & this year's highest level.
		11.8.04	23.705	6.00	
		15.8.04	24.335	6.00	*Above D.L.
		19.8.04	23.445	6.00	
		26.8.04	23.405	6.00	
		2.9.04	23.295	6.00	
		15.9.04	23.575	6.00	
		18.9.04	**28.425****	6.00	
		27.9.04	24.575	6.00	
		3.10.04	24.075	6.00	
		8.10.04	**28.155***	6.00	
		15.10.04	24.055	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ajoy	Sikatia	10.6.04	162.25	6.00	
Warning Level		20.6.04	162.95	6.00	
E.D.L.	166.24	24.6.04	162.76	6.00	
D.L.	165.64	12.7.04	162.58	6.00	
		19.7.04	163.00	6.00	
		24.7.04	162.76	6.00	* This year's highest level.
		1.8.04	162.76	6.00	
		9.8.04	162.88	6.00	
		16.8.04	163.10	6.00	
		19.8.04	163.60	6.00	
		28.8.04	162.87	6.00	
		5.9.04	163.17	6.00	
		15.9.04	162.74	6.00	
		18.9.04	164.69	6.00	
		29.9.04	162.97	6.00	
		2.10.04	164.15	6.00	
		7.10.04	**164.96***	6.00	
		15.10.04	162.94	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ajoy	Katwa	16.6.04	9.30	6.00	
Warning Level		22.6.04	12.80	6.00	
E.D.L.	15.09	2.7.04	10.75	6.00	
D.L.	14.48	13.7.04	11.00	6.00	
		21.7.04	11.18	6.00	
		22.7.04	11.28	6.00	* This year's highest level
		3.8.04	11.35	6.00	
		11.8.04	11.45	6.00	
		17.8.04	12.50	6.00	
		19.8.04	12.05	6.00	
		31.8.04	11.70	6.00	
		2.9.04	11.72	6.00	
		15.9.04	11.15	6.00	
		20.9.04	13.94	6.00	
		23.9.04	13.48	6.00	
		4.10.04	12.50	6.00	
		10.10.04	**14.18***	6.00	
		15.10.04	13.45	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ajoy	Gheropara	16.6.04	35.78	6.00	
Warning Level		22.6.04	38.28	6.00	
E.D.L.	40.46	24.6.04	37.11	6.00	
D.L.	39.41	5.7.04	36.17	6.00	
		21.7.04	36.46	6.00	
		22.7.04	36.37	6.00	*Above D.L. & This year's highest level.
		2.8.04	36.70	6.00	
		11.8.04	36.62	6.00	
		16.8.04	36.93	6.00	
		21.8.04	36.92	6.00	
		31.8.04	36.51	6.00	
		7.9.04	36.73	6.00	
		11.9.04	36.97	6.00	
		18.9.04	**39.45***	6.00	
		23.9.04	36.74	6.00	
		3.10.04	37.70	6.00	
		8.10.04	38.82	6.00	
		15.10.04	36.43	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ajoy	Bhudra	16.6.04	35.85	6.00	
Warning Level		22.6.04	38.56	6.00	
E.D.L.	40.10	24.6.04	37.19	6.00	
D.L.	39.49	8.7.04	36.19	6.00	
		12.7.04	36.49	6.00	
		21.7.04	36.61	6.00	*Above D.L. & This year's highest level
		22.7.04	36.43	6.00	
		2.8.04	36.88	6.00	
		11.8.04	36.79	6.00	
		15.8.04	36.97	6.00	
		21.8.04	36.97	6.00	
		31.8.04	36.58	6.00	
		7.9.04	36.88	6.00	
		15.9.04	36.30	6.00	
		18.9.04	**39.54***	6.00	
		23.9.04	36.86	6.00	
		4.10.04	37.19	6.00	
		8.10.04	38.93	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Damodar	Rondia	16.6.04	48.524	6.00	
Warning Level		23.6.04	49.657	6.00	
E.D.L.	53.49	29.6.04	49.987	6.00	
D.L.	52.88	5.7.04	49.194	6.00	
		12.7.04	49.53	6.00	
		15.7.04	49.926	6.00	*This year's highest level.
		23.7.04	50.048	6.00	
		3.8.04	49.987	6.00	
		5.8.04	50.048	6.00	
		12.8.04	50.046	6.00	
		24.8.04	50.292	6.00	
		26.8.04	50.292	6.00	
		8.9.04	49.987	6.00	
		10.9.04	50.078	6.00	
		21.9.04	**50.747***	6.00	
		23.9.04	50.231	6.00	
		1.10.04	50.109	6.00	
		8.10.04	50.535	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Damodar	Edilpur	14.6.04	28.93	6.00	
Warning Level		21.6.04	29.03	6.00	
E.D.L.	32.94	28.6.04	29.43	6.00	
D.L.	32.79	1.7.04	29.16	6.00	
		14.7.04	29.22	6.00	*This year's highest level
		16.7.04	29.34	6.00	
		24.7.04	28.95	6.00	
		29.7.04	28.85	6.00	
		5.8.04	28.64	6.00	
		16.8.04	29.74	6.00	
		25.8.04	29.61	6.00	
		27.8.04	29.89	6.00	
		2.9.04	29.43	6.00	
		15.9.04	29.22	6.00	
		22.9.04	30.49	6.00	
		23.9.04	30.40	6.00	
		5.10.04	29.73	6.00	
		10.10.04	30.62*	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Damodar	Jamalpur	14.6.04	16.68	6.00	
Warning Level		23.6.04	17.52	6.00	
E.D.L.	23.53	26.6.04	18.18	6.00	
D.L.	23.23	1.7.04	17.76	6.00	
		14.7.04	17.28	6.00	
		16.7.04	17.73	6.00	
		22.7.04	16.98	6.00	* This year's highest level
		2.8.04	16.68	6.00	
		9.8.04	16.68	6.00	
		16.8.04	18.52	6.00	
		25.8.04	19.05	6.00	
		26.8.04	18.99	6.00	
		2.9.04	17.97	6.00	
		9.9.04	16.83	6.00	
		21.9.04	**20.46***	6.00	
		23.9.04	19.62	6.00	
		30.9.04	17.88	6.00	
		9.10.04	20.25	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Damodar	Amta	28.8.04	5.53	6.00	
Warning Level		2.9.04	4.30	6.00	
E.D.L.	6.24	9.9.04	2.90	6.00	
D.L.	5.64	22.9.04	**6.55***	6.00	
		23.9.04	**6.39***	6.00	**Above EDL & this year's highest level .
		1.10.04	4.15	6.00	
		10.10.04	**6.63****	6.00	*Above E.D.L.
		14.10.04	4.50	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Damodar	Champadanga	11.6.04	8.93	6.00	
Warning Level		23.6.04	9.54	6.00	
E.D.L.	13.49	26.6.04	10.00	6.00	
D.L.	12.89	1.7.04	9.76	6.00	
		14.7.04	9.40	6.00	
		19.7.04	9.55	6.00	
		22.7.04	9.10	6.00	* This year's highest level.
		1.8.04	8.78	6.00	
		8.8.04	8.78	6.00	
		16.8.04	10.37	6.00	
		25.8.04	10.18	6.00	
		27.8.04	10.99	6.00	
		2.9.04	9.97	6.00	
		11.9.04	9.08	6.00	
		21.9.04	**11.94***	6.00	
		23.9.04	11.30	6.00	
		1.10.04	9.76	6.00	
		10.10.04	11.86	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Mundeswari	Harinkhola	11.6.04	6.80	6.00	
Warning Level		23.6.04	7.56	6.00	
E.D.L.	12.80	26.6.04	8.42	6.00	
D.L.	12.19	1.7.04	8.06	6.00	
		14.7.04	7.49	6.00	
		19.7.04	7.88	6.00	
		22.7.04	7.22	6.00	*This year's highest level.
		31.7.04	6.55	6.00	
		7.8.04	6.58	6.00	
		16.8.04	9.24	6.00	
		25.8.04	9.00	6.00	
		27.8.04	10.04	6.00	
		2.9.04	8.76	6.00	
		11.9.04	7.36	6.00	
		21.9.04	**11.36***	6.00	
		23.9.04	10.61	6.00	
		1.10.04	8.50	6.00	
		10.10.04	11.05	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Dwarakeswar	Arambag	11.6.04	11.43	6.00	
Warning Level		17.6.04	11.43	6.00	
E.D.L.	17.83	24.6.04	11.43	6.00	
D.L.	17.22	7.7.04	11.43	6.00	
		14.7.04	11.43	6.00	
		20.7.04	11.43	6.00	
		26.7.04	11.58	6.00	*This year's highest level.
		3.8.04	11.58	6.00	
		11.8.04	11.79	6.00	
		14.8.04	**15.39***	6.00	
		21.8.04	11.85	6.00	
		31.8.04	11.89	6.00	
		2.9.04	11.82	6.00	
		15.9.04	11.82	6.00	
		20.9.04	12.78	6.00	
		23.9.04	11.73	6.00	
		1.10.04	11.78	6.00	
		8.10.04	14.75	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Silabati	Gadghat	19.6.04	4.20	6.00	
Warning Level		25.6.04	2.73	6.00	
E.D.L.	9.60	7.7.04	3.08	6.00	
D.L.	9.00	14.7.04	3.81	6.00	
		19.7.04	4.23	6.00	
		24.7.04	4.17	6.00	
		1.8.04	3.68	6.00	*This year's highest level.
		9.8.04	5.94	6.00	
		18.8.04	7.53	6.00	
		19.8.04	7.48	6.00	
		26.8.04	7.10	6.00	
		2.9.04	6.78	6.00	
		15.9.04	5.12	6.00	
		21.9.04	7.18	6.00	
		23.9.04	6.97	6.00	
		1.10.04	5.21	6.00	
		10.10.04	**7.69***	6.00	
		14.10.04	6.63	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Silabati	Banka	19.6.04	11.89	6.00	
Warning Level		25.6.04	11.62	6.00	
E.D.L.	15.68	5.7.04	11.80	6.00	
D.L.	15.08	14.7.04	12.53	6.00	
		15.7.04	12.02	6.00	
		23.7.04	12.14	6.00	**Above D.L. & this year's highest level.
		30.7.04	11.74	6.00	
		11.8.04	12.63	6.00	
		15.8.04	**15.64****	6.00	*Above D.L.
		24.8.04	13.05	6.00	
		31.8.04	14.27	6.00	
		2.9.04	12.99	6.00	
		15.9.04	12.93	6.00	
		16.9.04	13.84	6.00	
		23.9.04	12.60	6.00	
		6.10.04	12.90	6.00	
		8.10.04	**15.52***	6.00	
		15.10.04	12.41		

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Kangsabati	Mohanpur	16.6.04	24.02	6.00	
Warning Level		18.6.04	24.06	6.00	
E.D.L.	25.72	24.6.04	22.70	6.00	
D.L.	24.72	5.7.04	22.64	6.00	* Above D.L.
		14.7.04	23.26	6.00	
		18.7.04	23.52	6.00	** Above D.L. & this year's highest level.
		25.7.04	24.60	6.00	
		31.7.04	24.36	6.00	
		9.8.04	24.60	6.00	
		18.8.04	**25.24****	6.00	
		19.8.04	**24.96***	6.00	
		31.8.04	24.56	6.00	
		8.9.04	24.40	6.00	
		12.9.04	24.70	6.00	
		21.9.04	**24.88***	6.00	
		25.9.04	**24.72***	6.00	
		6.10.04	**24.78***	6.00	
		7.10.04	**24.94***	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Kangsabati	Kalmijore	21.6.04	7.50	6.00	
Warning Level		24.6.04	6.95	6.00	
E.D.L.	9.90	5.7.04	5.09	6.00	
D.L.	9.30	13.7.04	5.12	6.00	
		20.7.04	5.73	6.00	
		26.7.04	5.94	6.00	**Above EDL & this year's highest level.
		29.7.04	5.48	6.00	
		8.8.04	7.80	6.00	
		9.8.04	8.08	6.00	* Above D.L.
		18.8.04	**9.36***	6.00	
		21.8.04	**10.12****	6.00	
		26.8.04	7.47	6.00	
		2.9.04	7.10	6.00	
		14.9.04	6.40	6.00	
		22.9.04	7.92	6.00	
		23.9.04	6.89	6.00	
		1.10.04	6.03	6.00	
		9.10.04	7.98	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Kangsabati	Panskura	16.8.04	7.30	6.00	
Warning Level		19.8.04	9.05	6.00	
E.D.L.	9.90	20.8.04	7.88	6.00	
D.L.	9.30	21.8.04	9.62*	6.00	* Above D.L. & this year's highest level.
		24.8.04	8.20	6.00	
		25.8.04	7.40	6.00	
		20.9.04	6.55	6.00	
		21.9.04	6.60	6.00	
		22.9.04	6.80	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Kaliaghai	Amgachia	21.6.04	4.32	6.00	
Warning Level		29.6.04	4.11	6.00	
E.D.L.	6.40	6.7.04	4.29	6.00	
D.L.	5.79	16.7.04	4.45	6.00	
		28.7.04	5.41	6.00	**Above EDL & this year's highest level.
		3.8.04	4.60	6.00	
		9.8.04	**5.88***	6.00	
		10.8.04	**5.91***	6.00	* Above D.L.
		11.8.04	**5.79***	6.00	
		18.8.04	**5.88***	6.00	
		26.8.04	5.54	6.00	
		2.9.04	5.15	6.00	
		15.9.04	4.93	6.00	
		20.9.04	5.39	6.00	
		23.9.04	5.24	6.00	
		6.10.04	5.05	6.00	
		9.10.04	**6.79****	6.00	
		15.10.04	5.48	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Jalangi	Swarupganj	23.6.04	6.91	6.00	
Warning Level		24.6.04	7.11	6.00	
E.D.L.	9.05	1.7.04	6.43	6.00	
D.L.	8.44	14.7.04	6.39	6.00	
		21.7.04	6.95	6.00	***Above EDL & this year's highest level.
		23.7.04	7.01	6.00	
		4.8.04	6.98	6.00	
		11.8.04	7.05	6.00	**Above EDL
		18.8.04	7.86	6.00	
		19.8.04	7.87	6.00	*Above D.L.
		1.9.04	7.75	6.00	
		3.9.04	7.83	6.00	
		9.9.04	7.09	6.00	
		22.9.04	**9.22****	6.00	
		23.9.04	**9.19****	6.00	
		30.9.04	8.25	6.00	
		13.10.04	**9.42*****	6.00	
		19.10.04	8.80*	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Churni	Hanskhali	16.6.04	3.90	6.00	
Warning Level		23.6.04	3.97	6.00	
E.D.L.	8.14	24.6.04	4.12	6.00	
D.L.	7.53	5.7.04	4.58	6.00	
		14.7.04	4.09	6.00	**Above D.L. & this year's highest level.
		21.7.04	5.52	6.00	
		27.7.04	5.68	6.00	*Above D.L.
		30.7.04	5.69	6.00	
		5.8.04	5.45	6.00	
		18.8.04	5.17	6.00	
		19.8.04	5.27	6.00	
		1.9.04	5.70	6.00	
		2.9.04	5.72	6.00	
		15.9.04	5.90	6.00	
		19.9.04	**8.09****	6.00	
		23.9.04	**7.98***	6.00	
		30.9.04	7.42	6.00	
		13.10.04	7.41		

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Bhagirathi	Jangipur	15.6.04	18.47	6.00	
Warning Level		23.6.04	18.99	6.00	
E.D.L.	20.88	25.6.04	19.13	6.00	
D.L.	20.27	7.7.04	18.59	6.00	**Above D.L.this year's highest level.
		10.7.04	18.78	6.00	
		21.7.04	**20.27***	6.00	*At D.L.
		22.7.04	18.85	6.00	
		4.8.04	18.78	6.00	
		11.8.04	18.75	6.00	
		16.8.04	18.92	6.00	
		19.8.04	18.90	6.00	
		1.9.04	19.70	6.00	
		9.9.04	18.99	6.00	
		20.9.04	19.18	6.00	
		23.9.04	18.87	6.00	
		6.10.04	18.78	6.00	
		9.10.04	**20.66****	6.00	
		19.10.04	18.35	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Bhagirathi	Berhampur	16.6.04	14.91	6.00	
Warning Level		23.6.04	15.33	6.00	
E.D.L.	17.83	25.6.04	15.68	6.00	
D.L.	17.22	2.7.04	15.01	6.00	
		11.7.04	15.15	6.00	
		21.7.04	15.23	6.00	
		30.7.04	15.00	6.00	*Above D.L & this year's highest level.
		6.8.04	14.95	6.00	
		17.8.04	15.16	6.00	
		19.8.04	15.08	6.00	
		1.9.04	15.20	6.00	
		2.9.04	15.20	6.00	
		10.9.04	15.15	6.00	
		21.9.04	16.12	6.00	
		23.9.04	15.98	6.00	
		30.9.04	15.10	6.00	
		10.10.04	**17.25***	6.00	
		15.10.04	16.15	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Bhagirathi	Katwa	16.6.04	9.98	6.00	
Warning Level		23.6.04	11.55	6.00	
E.D.L.	14.32	1.7.04	10.85	6.00	
D.L.	13.71	13.7.04	10.55	6.00	
		21.7.04	10.62	6.00	
		22.7.04	10.62	6.00	
		3.8.04	10.55	6.00	*Above D.L. & this year's highest level.
		11.8.04	10.78	6.00	
		17.8.04	11.64	6.00	
		19.8.04	11.48	6.00	
		31.8.04	11.12	6.00	
		2.9.04	11.20	6.00	
		15.9.04	10.77	6.00	
		21.9.04	13.29	6.00	
		23.9.04	13.08	6.00	
		30.9.04	11.69	6.00	
		10.10.04	**13.77***	6.00	
		15.10.04	11.20	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Bhagirathi	Kalna	23.6.04	4.86	6.00	
Warning Level		24.6.04	5.09	6.00	
E.D.L.	8.24	2.7.04	4.555	6.00	
D.L.	7.63	14.7.04	4.34	6.00	
		21.7.04	4.935	6.00	
		23.7.04	4.975	6.00	*This year's highest level.
		4.8.04	5.13	6.00	
		5.8.04	5.135	6.00	
		18.8.04	5.945	6.00	
		19.8.04	5.95	6.00	
		31.8.04	5.79	6.00	
		2.9.04	5.945	6.00	
		15.9.04	5.43	6.00	
		22.9.04	7.18	6.00	
		23.9.04	7.135	6.00	
		30.9.04	6.35	6.00	
		13.10.04	**7.40***	6.00	
		15.10.04	7.36	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Rupnarayan	Bandar	19.6.04	2.98	6.00	
Warning Level		25.6.04	2.13	6.00	
E.D.L.	7.45	5.7.04	2.65	6.00	
D.L.	6.85	8.7.04	2.50	6.00	
		19.7.04	3.01	6.00	
		26.7.04	3.04	6.00	*This year's highest level.
		4.8.04	2.89	6.00	
		9.8.04	3.71	6.00	
		18.8.04	6.09	6.00	
		26.8.04	5.41	6.00	
		2.9.04	5.00	6.00	
		15.9.04	3.65	6.00	
		21.9.04	6.06	6.00	
		23.9.04	5.68	6.00	
		30.9.04	3.81	6.00	
		10.10.04	**6.55***	6.00	
		14.10.04	5.24	6.00	
		18.10.04	3.43	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Rupnarayan	Gopiganj	22.6.04	1.88	6.00	
Warning Level		26.6.04	1.89	6.00	
E.D.L.	5.63	5.7.04	1.86	6.00	
D.L.	5.03	8.7.04	2.07	6.00	
		19.7.04	2.04	6.00	
		25.7.04	3.37	6.00	* This year's highest level.
		4.8.04	2.13	6.00	
		9.8.04	2.40	6.00	
		18.8.04	3.50	6.00	
		19.8.04	3.47	6.00	
		26.8.04	3.26	6.00	
		2.9.04	3.08	6.00	
		15.9.04	2.19	6.00	
		21.9.04	3.93	6.00	
		23.9.04	3.75	6.00	
		30.9.04	2.50	6.00	
		13.10.04	**4.10***	6.00	
		15.10.04	2.89	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Rupnarayan	Ranichak	19.6.04	2.80	6.00	
Warning Level		24.6.04	2.50	6.00	
E.D.L.	5.94	5.7.04	2.80	6.00	
D.L.	5.34	8.7.04	2.83	6.00	
		19.7.04	3.04	6.00	
		26.7.04	3.29	6.00	**Above D.L.& this year's highest level.
		4.8.04	3.04	6.00	
		9.8.04	3.41	6.00	
		18.8.04	5.33	6.00	
		26.8.04	4.87	6.00	*Above D.L.
		2.9.04	4.60	6.00	
		15.9.04	3.41	6.00	
		22.9.04	**5.52***	6.00	
		23.9.04	5.27	6.00	
		4.10.04	5.11	6.00	
		10.10.04	**5.82****	6.00	
		15.10.04	4.38	6.00	
		18.10.04	3.50	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Subarnarekha	Sonakonia	19.6.04	9.41	6.00	
Warning Level		24.6.04	8.30	6.00	
E.D.L.	16.75	4.7.04	8.20	6.00	
D.L.	16.15	14.7.04	8.40	6.00	
		21.7.04	9.56	6.00	*This year's highest level.
		24.7.04	9.70	6.00	
		31.7.04	9.75	6.00	
		9.8.04	13.24	6.00	
		16.8.04	13.70	6.00	
		22.8.04	**13.80***	6.00	
		26.8.04	11.84	6.00	
		2.9.04	10.80	6.00	
		15.9.04	10.51	6.00	
		21.9.04	11.24	6.00	
		23.9.04	10.64	6.00	
		6.10.04	10.25	6.00	
		9.10.04	13.11	6.00	
		15.10.04	10.12	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ichamati	Bongaon	17.6.04	2.03	6.00	
Warning Level		10.7.04	2.45	6.00	
E..D.L.	7.675	21.7.04	2.51	6.00	
D.L.	5.075	29.7.04	2.47	6.00	
		7.8.04	2.46	6.00	
		13.8.04	2.74	6.00	
		19.8.04	2.95	6.00	**Above D.L. & this year's highest level.
		1.9.04	3.03	6.00	
		3.9.04	3.14	6.00	
		15.9.04	3.95	6.00	*Above D.L.
		20.9.04	**5.23***	6.00	
		23.9.04	**5.19***	6.00	
		30.9.04	**5.14***	6.00	
		8.10.04	**5.25****	6.00	
		12.10.04	**5.15***	6.00	
		15.10.04	**5.09***	6.00	
		17.10.04	5.04	6.00	
		18.10.04	5.01	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Jamuna	Gaighata	22.6.04	2.70	6.00	
Warning Level		24.6.04	2.50	6.00	
E.D.L.	4.50	6.7.04	2.36	6.00	
D.L.	3.90	14.7.04	2.81	6.00	
		21.7.04	2.92	6.00	
		24.7.04	2.97	6.00	
		30.7.04	2.81	6.00	***Above EDL & this year's highest level
		11.8.04	2.91	6.00	
		16.8.04	3.71	6.00	**Above EDL
		22.8.04	3.71	6.00	
		1.9.04	3.63	6.00	*Above D.L.
		3.9.04	3.72	6.00	
		15.9.04	**3.97***	6.00	
		16.9.04	**5.23*****	6.00	
		24.9.04	**4.73****	6.00	
		6.10.04	**4.72****	6.00	
		9.10.04	**5.03****	6.00	
		15.10.04	**4.92****	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Jamuna	Gobardanga	21.6.04	2.64	6.00	
Warning Level		24.6.04	2.48	6.00	
E.D.L.	4.37	6.7.04	2.43	6.00	
D.L.	3.77	14.7.04	2.83	6.00	
		21.7.04	2.88	6.00	
		22.7.04	2.97	6.00	***Above EDL & this year's highest level
		30.7.04	2.79	6.00	
		11.8.04	2.87	6.00	
		16.8.04	3.65	6.00	**Above EDL
		19.8.04	3.61	6.00	
		1.9.04	3.53	6.00	*Above D.L.
		3.9.04	3.63	6.00	
		15.9.04	**3.86***	6.00	
		21.9.04	**4.50****	6.00	
		27.9.04	**4.54****	6.00	
		6.10.04	**4.60****	6.00	
		11.10.04	**4.80*****	6.00	
		15.10.04	**4.73****	6.00	

GAUGE LEVELS OF IMPORTANT RIVERS DURING FLOOD SEASON OF 2004.

South Bengal Rivers

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ichamati	Tentulia				
Warning Level					
5.10 max. in 2000					
		26.9.04	3.84	6.00	
		28.9.04	3.94	6.00	*This year's highest level.
		29.9.04	3.93	6.00	
		30.9.04	**4.01***	6.00	
		1.10.04	3.96	6.00	
		5.10.04	3.62	6.00	
		6.10.04	3.38	6.00	
		7.10.04	3.16	6.00	
		8.10.04	3.28	6.00	
		11.10.04	3.53	6.00	
		12.10.04	3.70	6.00	
		13.10.04	3.65	6.00	
		14.10.04	3.95	6.00	
		19.10.04	3.72	6.00	

River	Gauge at	Date	Level (in M)	Time (in hours)	Remarks
1	2	3	4	5	6
Ichamati	Majdia	23.9.04	**8.78****	6.00	
Warning Level		24.9.04	**8.81*****	6.00	
E.D.L.	8.410	26.9.04	**8.69****	6.00	
D.L.	7.824	29.9.04	**8.39***	6.00	
		2.10.04	**8.18***	6.00	***Above EDL & this year's highest level
		3.10.04	**8.04***	6.00	
		6.10.04	7.65	6.00	**Above EDL
		7.10.04	7.75	6.00	
		8.10.04	**8.02***	6.00	*Above D.L.
		9.10.04	**8.18***	6.00	
		10.10.04	**8.26***	6.00	
		11.10.04	**8.27***	6.00	
		12.10.04	**8.27***	6.00	
		13.10.04	**8.25***	6.00	
		14.10.04	**8.22***	6.00	
		15.10.04	**8.18***	6.00	
		18.10.04	7.86*	6.00	

STATEMENT OF RAINFALL DATA OF DIFFERENT RIVERS (SUB-BASIN WISE) WITHIN WEST BENGAL DURING MONSOON PERIOD OF 2004.

(As per available data)

Sl. No.	Name of the River Sub-Basin including the name of gauge station	Rainfall upto 15.06.04 (mm)	Rainfall upto 15.10.04 (mm)	Rainfall during monsoon period (mm)	Sub-basin wise average rainfall during monsoon period (mm)	Yearly average rainfall (mm)	Sub-basin wise yearly average rainfall (mm)	Sub-basin wise monsoon rainfall in percentage of yearly average rainfall
1	2	3	4	5	6	7	8	9
1.	**SANKOSH**							
a)	Not yet installed	Rain Gauge to be installed						
2.	**KALJANI**							
a)	Alipurduar	1071.40	4626.40	3555.00	3555.00	3797.00	3797.00	94
3.	**RAIDAK**							
a)	Tufangunj	779.60	3117.80	2338.20	2338.20	3492.00	3492.00	67
4.	**TORSA**							
a)	Coochbehar	592.60	3507.30	2914.70	3046.80	3580.00	3543.00	86
b)	Hasimara	855.50	4034.40	3178.90		**3505.00****		
5.	**DIANA**							
a)	Banarhat	792.50	3638.75	2846.25	2846.25	**3590.00****	3590.00	79
6.	**JALDHAKA**							
a)	Mathabhanga	773.40	3240.90	2467.50	2467.50	3120.00	3120.00	79
7.	**TEESTA**							
a)	Jalpaiguri	839.00	3276.60	2437.60	3053.90	3290.00	3615.00	84
b)	Malbazar	878.90	4549.10	3670.20		3940.00		
8.	**MAHANANDA**							
a)	Siliguri	647.00	3324.40	2677.40		3620.00		
b)	Raigunj	273.30	1055.00	781.70	-	1577.00	2199.00	-
c)	Malda	N.A.	1481.60	--		1400.00		
9.	**PUNARBHAVA**							
a)	Gangarampur	395.00	1606.00	1211.00	1211.00	1591.00	1591.00	76
10.	**ATRAI**							
a)	Balurghat	740.00	1727.00	987.00	987.00	1430.00	1430.00	69
11.	**PAGLA-BANSLOI**							
a)	Paikar	269.10	1552.60	1283.50	1283.50	1402.00	1402.00	92
12.	**BRAHMONI-DWARKA**							
a)	Rampurhat	284.50	1393.30	1108.80	1264.65	1437.00	1232.00	103
b)	Nalhati	334.50	1754.90	1420.50		1026.00		
13.	**MAYURAKSHI**							
a)	Maharo	272.40	2233.00	1960.60		1480.00		
b)	Massanjore	411.80	1796.20	1384.40	1397.38	1460.00	1437.00	97
c)	Tilpara Barrage	336.20	1739.00	1402.80		1400.00		
d)	Kandi	380.60	1222.30	841.70		1408.00		

** average annual rainfall calculated on the basis of annual rainfall from 1987 to1995 for Banarhat & from 1996 to 2001 for Hasimara.

1	2	3	4	5	6	7	8	9
14.	**AJOY**							
a)	Sikatia	189.50	N.A.	--		1377.00		
b)	Bolepur	N.A.	1495.70	N.A.	-	1220.00	1311.00	-
c)	Gheropara	362.00	1650.60	1288.60		1282.00		
d)	Katwa	N.A.	N.A.	--		1365.00		
15.	**DAMODAR**							
a)	Tilaiya	165.40	1321.00	1155.60		1118.00		
b)	Tenughat	232.40	1077.40	845.00		1321.00		
c)	Maithon	221.90	1113.00	891.10		1113.00		
d)	Panchet Dam	262.60	1262.40	999.80	-	1146.00	1311.00	-
e)	Durgapur	209.80	N.A.	--		1210.00		
f)	Harinkhola	302.80	1428.20	1125.40		1444.00		
g)	Amta	449.80	1718.90	1269.10		1668.00		
h)	Champadanga	292.00	1232.75	940.75		1468.00		
16.	**DWARAKESWAR**							
a)	Simulia	342.80	1638.29	1295.50	1054.13	1270.00	1357.00	78
b)	Arambag	298.50	1111.25	812.75		1444.00		
17.	**SILABATI**							
a)	Ghatal	411.80	1883.90	1472.10	1472.10	1455.00	1455.00	101
18.	**KANGSABATI**							
a)	Tusuma	332.40	1677.60	1345.20		1355.00		
b)	Kangsabati Dam	248.20	1622.00	1373.80	1340.58	1300.00	1432.00	94
c)	Mohanpur	408.60	1590.40	1181.80		1556.00		
d)	Panskura	253.50	1715.00	1461.50		1516.00		
19.	**KALIAGHAI**							
a)	Amgachia	478.30	2483.93	2005.63	2005.63	1508.00	1508.00	133
20.	**JALANGI**							
a)	Swarupganj	346.80	1545.00	1198.20	1198.20	1440.00	1440.00	83
21.	**CHURNI**							
a)	Ranaghat	Rain Gauge to be installed				1348.00	1348.00	-
22.	**BHAGIRATHI-HOOGHLY**							
a)	Berhampore	231.40	1652.90	1421.50	1393.25	1390.00	1500.00	93
b)	Kolkata	299.00	1664.00	1365.00		1610.00		
23.	**RUPNARAYAN**							
a)	Tamluk	1148.00	2195.00	1047.00	1047.00	1608.00	1608.00	65
24.	**SUBARNAREKHA**							
a)	Digha	446.75	1293.25	846.50	846.50	1610.00	1610.00	53
25.	**24-PGS & KOLKATA**							
A)	Tentulia	N.A.	2013.00	--	-	1623.00	1566.00	-
b)	Barasat	387.50	N.A.	--		1508.00		
26.	**PICHABONI**							
a)	Ramnagar	Rain Gauge to be installed				1641.00	1641.00	-
27.	**RASULPUR**							
a)	Contai	361.90	1627.15	1265.25	1265.25	1700.00	1700.00	74
28.	**HALDI**							
a)	Haldia	Rain Gauge to be installed				1737.00	1737.00	-

Statement of damages to Embankments/Structures in different districts of West Bengal during the Flood – 2004.

Sl. No	Districts	River	Damaged Site/ Police Station/ Block	Nature & extent of damages					Inundatd Area (Sq.km.)
				Breach No./km	Severely/ partially damaged (km)	Damages to protective works (km)	Slip/ Bank Erosion (km)	Sluice (No.)	
1	2	3	4	5	6	7	8	9	10
1.	Jalpaiguri	Torsa	Left Bank Old Dalsinghpara embankment, champasari Boulder sausage embankment, Kotwali spurs No.-I, Dhowaguri embankment, Subhasini embankment, New Dalsinghpara embankment	Breach	-	-	Erosion	-	
		Garam	Left bank Gahara embankment, Alipurduar spur No.-I, Arampur embankment	-	Damages of round sausages-	-	Severe Erosion	-	
		Leesh	Odlabari, P.S. Mal, Bagrakote embankment	-	-	-	Severe Erosion	-	
		Dudua	Left bank Balasunder embankment, P.S. Falakata	-	-	-	Severe Erosion	-	
		Mujnai	Left bank, Paschim Jalbentai & Paschim Jhora area embankment, Beltali, Dangrapara, Barodoba area P.S. Falakata.	-	Damage of protective works	-	-	-	
		Buri Torsa	Left bank, College para, P.S. Falakata	-	Damage of protective works	-	-	-	
		Nonai	Kamalapally embankment, Alipurduar	-	Severely damaged	-	-	-	

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Sl. No	Districts	River	Damaged Site/ Police Station/ Block	Nature & extent of damages					Inundatd Area (Sq.km.)
				Breach No./km	Severely/ partially damaged (km)	Damages to protective works (km)	Slip/ Bank Erosion (km)	Sluice (No.)	
1	2	3	4	5	6	7	8	9	10
	Jalpaiguri	Teesta	Right bank, Spur No. 2 of Segregating embankment, Jubilee park, P.S. Jalpaiguri, Spur No. 4, rangdhamali, spur No. I of segregating embankment, KTE spur including deflector, Spur No. 4, Mondal Ghat-Bibiganj embankment Sadar block P.S. Left bank, Chengmari-Premganj embankment P.S. Mal, Burnesh-Domohani embankment, Maynaguri.	-	Partial damage to structures	-	-	-	
		Chel	Right bank, Turi Bari embankment, Syleejote area, P.S. Mal, Left bank, Kumali, Rajadanga anchal P.S. Mal.	-	Damage	-	Erosion	-	
		Mal	Right bank, Mal T.P. embankment, P.S. Mal, Salbari embankment, P>S. Mateli.	-	Damage	-	-	-	
		Neora	Bidhan Nagar & Salbari,G.P., P.S.Mateli.	-	Damage	-	-	-	
		Jaldhaka	Left Bank, Gaddirkuthi embankment, Spur No. 4 & 3A, P.S. Dhupguri. Right Bank, Ramsai embankment, Jharua Para, Sutanga embankment, P.S. Maynaguri.	-	Damage	-	-	-	

Statement of damages to Embankments/Structures in different districts of West Bengal during the Flood – 2004.

Sl. No	Districts	River	Damaged Site/ Police Station/ Block	Nature & extent of damages					Inundatd Area (Sq.km.)
				Breach No./km	Severely/ partially damaged (km)	Damages to protective works (km)	Slip/ Bank Erosion (km)	Sluice (No.)	
1	2	3	4	5	6	7	8	9	10
	Jalpaiguri	Sui	Right Bank, South Berubari Anchal, G.P.-South Berubari	-	Damage	-	-	-	
		Thaljhora	Right Bank, Kranti G.P., P.S. Mal.	-	Damage	-	-	-	
		Dharala	Left Bank, Moulani Anchol, P.S. Mal.	-	Damage	-	-	-	
		Gheesh	Left Bank, Manabari, P.S. Mal	-	Damage	-	-	-	
2.	Coochbehar	Kaljani	Bakshirkuthi Spur No.1, Deocharai, Deocharai embankment, Chilakhana Bandar embankment, Jaigir Chilakhana B.P. Work, Dhopguri Ukilerchara embankment, Balabhut embankment, Arampur spur No.-1, Balarampur, P.S. Tufanganj.	Breached Structures damaged	-	-	-	-	
		Gadadhar	Santoshpur Tagging embankment, Kathalgurichara embankment, Gadadhar embankment	Damaged	-	-	-	-	
		Raidak-I	Langalgram Begarkhata embankment, P.S. Boxirhat Dhalpal embankment, Guriarpar bank protection work, Dhalpur, Andaran Fulbari embankment, Tufanganj College embankment, Tufanganj town protective embankment, P.S. Tufanganj.	Damaged	-	-	-	-	
		Torsa	Haskhowa embankment, Rajarhat Ghierhari embankment, Malarjhar embankment, Takagach embankment, Kalpani B.P. Work, Sour No.3, Ichamari Champaguri village area, Champaguri B.P. Work, Dawaguri Spur No.1, Ghughumari embankment, extension work at Panisola, Jhinaidanga embankment, P.S. Kotwali.	Damaged	-	-	-	-	

Statement of damages to Embankments/Structures in different districts of West Bengal during the Flood – 2004.

Sl. No	Districts	River	Damaged Site/ Police Station/Block	Nature & extent of damages					Inundatd Area (Sq.km.)
				Breach No./km	Severely/ partially damaged (km)	Damages to protective works (km)	Slip/ Bank Erosion (km)	Sluice (No.)	
1	2	3	4	5	6	7	8	9	10
	Coochbehar	Mansai	Sagardighi Spur No., Adabari embankment P.S. Sitai, Bhogdabri B.P.Work, P.S. Sitalkutchi, Kodaldhowa B.P. Work, Tikomi embankment, Mathabhanga T.P. embankment, P.S. Mathabhanga.	Damaged	-	-	-	-	
		Sutunga	Nagar Mathabhanga B.P. Work, Trinath Colony B.P. Work, Shaktinagar B.P. Work, P>S. Mathabhanga.	Damaged	-	-	-	-	
		Jaldhaka	Uttar Diabhangi embankment, B.P.Work, Giladanga embankment Spur No. 2,3,4,5, P.S. Mathabhanga Rangapani Balasi, Fulbari Daribosh embankment Singijani B.P>Work P.S. Ghoksadanga.	Damaged	-	-	-	-	
3.	South Dinajpur	Fulahar	Kalitolaghat, Manikchak	-	-	-	Erosion	-	

Statement of damages to Embankments/Structures in different districts of West Bengal during the Flood – 2004.

Sl. No	Districts	River	Damaged Site/ Police Station/ Block	Nature & extent of damages					Inundatd Area (Sq.km.)
				Breach No./km	Severely/ partially damaged (km)	Damages to protective works (km)	Slip/ Bank Erosion (km)	Sluice (No.)	
1	2	3	4	5	6	7	8	9	10
4.	Malda	Ganga	Left Bank Sakurullahpur	-	-	1500 M. Length engulfed	-	-	
			Sultantola	-	-	-	Severe Erosion Area engulfed 7 Hectare	-	
			Pagla Closure				Erosion	-	
			Panchanandapur, Jatakasturi.	-	-	-	Severe Erosion area engulfed 10 Hectares	-	
		Pagli	Pagli embankment	Breached	-	-	-	-	
5.	Murshidabad	Bhagirathi	Left Bank, Basantapur, Mirpur, Nashipur, P.S. Jiaganj, Banamalipur, Majhyampur, P.S. Baldanga & Maganpara, Safed Masjid & Hazarduari, P.S. Murshidabad. Right Bank, Gadiri, P.S. Sagardighi, Alampur, Jahalinagar, Kasaidanga, Nasirpur, Basantapur, Bahadurpur, Banamalipur, Magupara, Majhyampur, Gardwri, Safed Masjid, Kashiadanga P.S. Raghunathganj.	-	-	-	Erosion	-	

Statement of damages to Embankments/Structures in different districts of West Bengal during the Flood – 2004.

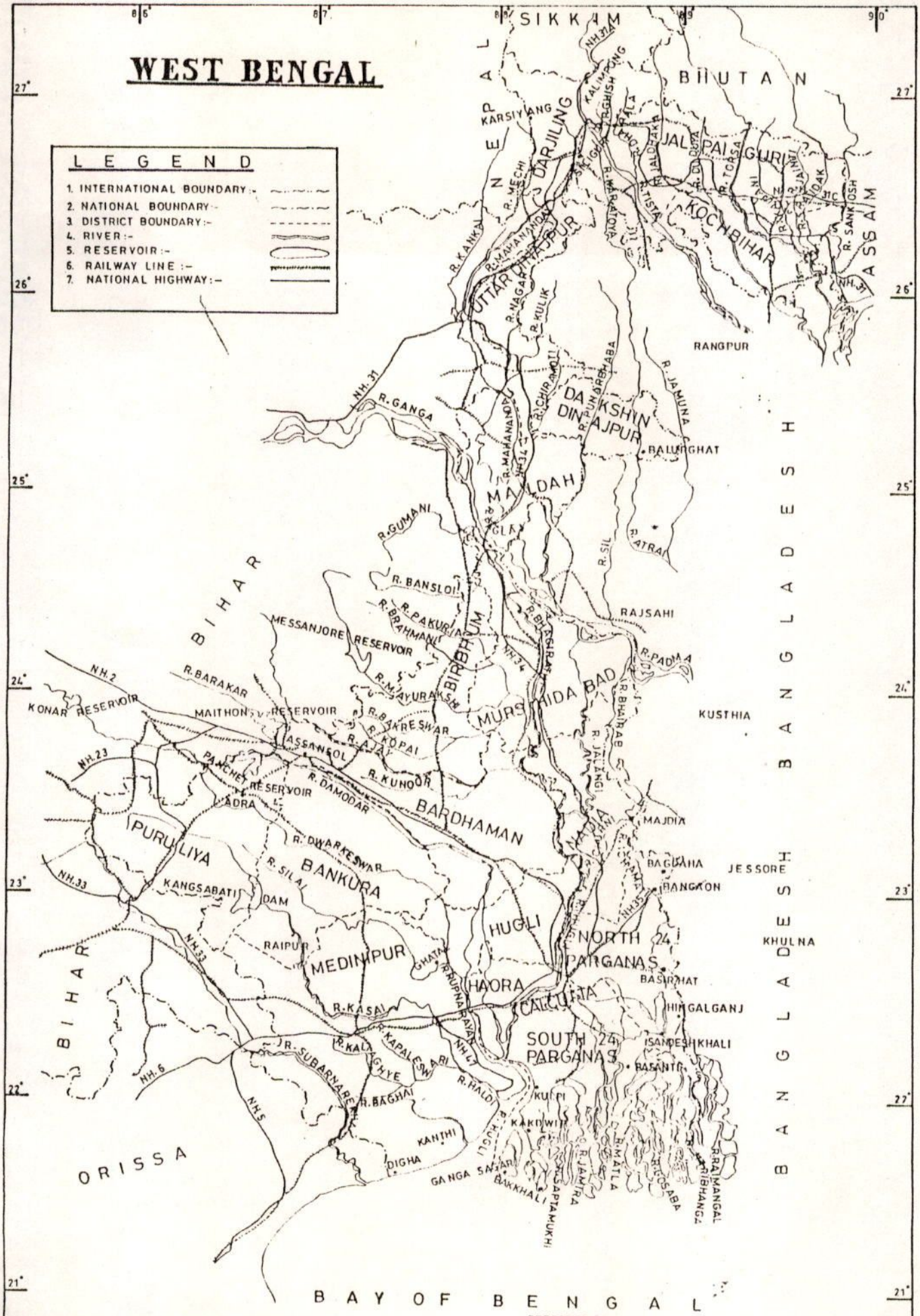
Sl. No	Districts	River	Damaged Site/ Police Station/ Block	Nature & extent of damages					Inundatd Area (Sq.km.)
				Breach No./km	Severely/ partially damaged (km)	Damages to protective works (km)	Slip/ Bank Erosion (km)	Sluice (No.)	
1	2	3	4	5	6	7	8	9	10
	Murshidabad	Ganga-Padma	Right Bank, Dipchandpur, Arjunpur, Mukshinagar, Lalpur, Sansergon, Chintamonipur, P.S. Lalgola, Pagla closure at Panchanandapur, Sahidpur, Labanchua, Garia, P.S. Sruti & Raghunathganj, Parashpur in P.S. & Block Jalangi, Dist.- Murshidabad, Sakurullahpur, Jota Kasturi Simanitola Manikchakghat.	1.425	16/36.4	1.25	Severe Erosion 3.5 Engulfed 4.45 Hectare	20	558
6.	Birbhum.	Dwaraka	Sujapur-Kandi Indradanga para embankment, Hindubat Khanda on Kandi Indradanga embankment, Kasaidanga, Gobarhati, Kutirpahar embankment, Jhulanpur Bahadura on titidanga Jhurankandi embankment	Breached damaged	-	-	-	-	10
		Brahmoni	Titidanga-Jhurankandi embankment, Ratanpur, Shyamnagar Paschimpara	Breached	-	-	-	-	
		Kana	Kana Mayuraksh-Kandi Kendrapara embankment, Mouratola.	-	-	-	-	-	

Statement of damages to Embankments/Structures in different districts of West Bengal during the Flood – 2004.

Sl. No	Districts	River	Damaged Site/ Police Station/ Block	Nature & extent of damages					Inundatd Area (Sq.km.)
				Breach No./km	Severely/ partially damaged (km)	Damages to protective works (km)	Slip/ Bank Erosion (km)	Sluice (No.)	
1	2	3	4	5	6	7	8	9	10
7.	Nadia	Bhagirathi	Right bank- Phansitalaghat to Manipurghat , Prachin Mayapur, Left bank Matapur, P.S. Nabadwip, Left Bank Jagatkhali embankment P.S. Kaliganj and Nakashipara	-	-	21.71	Severe Erosion Engulfed 8.00 Hectare	-	18
8.	North 24-Parganas	Ichamati	Bagda,Bonga,Gaidhata, Baduria, Swarupnagar etc.	-	-	Severe erosion			117.61

STATEMENT OF DISTRICT-WISE INUNDATED AREA IN THE YEAR 2004 DUE TO FLOOD

Sl.No.	Name of District	Geographical Area (Sq.km.)	Area in un-dated in (Sq.km.)	Percentage	Remarks
1	2	3	4	5	6
1.	Bankura	6881.00	Nil	-	-
2.	Birbhum	4545.00	10	0.2%	-
3.	Burdwan	7024.43	Nil	-	-
4.	Hooghly	3149.00	Nil	-	-
5.	Howrah	1466.62	Nil	-	-
6.	Midnapore	14081.00	Nil	-	-
7.	Murshidabad	5324.00	558	10.5%	-
8.	Nadia	3927.45	18	0.5%	-
9.	North 24-Parganas	4094.00	117.61	2.87%	-
10.	South 24-Parganas	9960.00	Nil	-	-
11.	Purulia	6258.72	Nil	-	-
12.	Coochbehar	3387.00	400	12%	-
13.	Darjeeling	3149.00	Nil	-	-
14.	Jalpaiguri	6227.00	41	1%	-
15.	Maldah	3732.00	Nil	-	-
16.	North Dinajpur	3139.80	Nil	-	-
17.	South Dinajpur	2218.65	Nil	-	-
18.	Calcutta	187.33	Nil	-	-
	Total	**88,752.00**	**703.61**		



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DRG NO :- C.E./1/1/2001

PREPARED BY :-

T. K. MANDAL
DRAUGHTSMAN
C.E.S. DRAWING OFFICE
I. & W. DIRECTORATE

22/01/2001

A. BHATTACHARJEE
EXECUTIVE ENGINEER
C.E.S. DRAWING OFFICE
I. & W. DIRECTORATE

Government of West Bengal
Irrigation & Waterways Directorate
Jalasampad Bhawan, Bidhannagar
Kolkata-700 091.

Memo No..... Dated:.....

From: The Chief Engineer – I,
Irrigation & Waterways Directorate,
Government of West Bengal,
Jalasampad Bhawan, Bidhannagar,
Kolkata-700 091.

To: The Secretary to the Govt. of West Bengal,
Irrigation & Waterways Department,
Jalasampad Bhawan, Bidhannagar, Kolkata-91.

Sub: **ANNUAL FLOOD REPORT – 2004 OF WEST BENGAL.**

Sir,

Enclosed please find herewith one copy of the Annual Flood Report-2004 of West Bengal for favour of your kind information.

Enclo: As stated.

Yours faithfully,

For **Chief Engineer – I,**
I & W. Directorate.
Govt.of West Bengal.

Memo No. ..... Dated:.....

Copy forwarded for information to :-

1. The Minister-in-Charge,
I & W. Department,Govt.of West Bengal,Jalasampad Bhawan, Bidhannagar,Kolkata-91.
2. The Minister-of-State,
I & W. Department,Govt. of West Bengal,Jalasampad Bhawan,Bidhannagar,Kolkata-91.
3. The Chief Secretary, Govt.of West Bengal, Writers' Buildings, Kolkata-700 001.
4. The Secretary,
Ministry of Water Resources(Deptt. of Irrigation),Govt. of India, Shram Sakti Bhawan, Rafi Marg, New Delhi – 110 003.
5. The Secretary, Relief Department, Govt. of West Bengal, Writers' Buildings, Kolkata-1.
6. The Special Secretary,
Development & Planning Deptt. Govt. of West Bengal, Writers' Buildings, Kolkata-1.

Contd.....P/2.

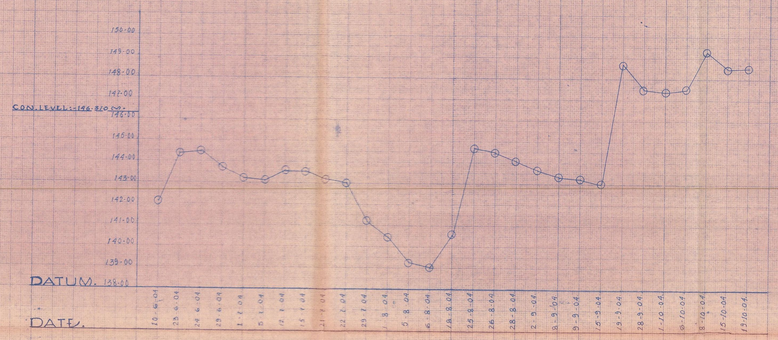
7. The Chief Engineer – II,
I & W. Directorate, Jalasampad Bhawan, Bidhannagar, Kolkata-91.
8. The Chief Engineer(D & R),
I & W. Directorate, Jalasampad Bhawan, Bidhannagar, Kolkata-91.
9. The Chief Engineer (Teesta Barrage Project).
I & W. Directorate, Jalasampad Bhawan, Bidhannagar, Kolkata-91.
10. The Chief Engineer, (Subarnarekha Barrage Project),
I & W. Directorate, Jalasampad Bhawan, Bidhannagar, Kolkata-91.
11. The Director of Personnel & Ex-Officio Chief Engineer,
I & W. Directorate, Jalasampad Bhawan, Bidhannagar, Kolkata-91.
12. The Chairman,
North Bengal Flood Control Commission, Club Road, Jalpaiguri-735 101.
13. The Chairman,
Ganga Flood Control Commission, Sinchai Bhawan(3rd floor), Patna-800 015.
14. The Director of General of Meteorology,
Regional Meteorological Center, 4, Duel Avenue, Alipore, Kolkata-700 027.
15. The Director (S.R.),
Department of Agriculgture, Government of India, Krishi Bhawan, Control Room No. 222, New Delhi – 110 001.
16. The Director, Lower Ganga Circle, C.P.C., Maithon Dam, Dhanbad-828 207.
17. The Director(MP-I), Ministry of Water Resources, Government of India,
Ganga Flood Control Commission, Patna – 800 013.
18. The Director(MP-II), Ganga Flood Control Commission,
Sinchai Bhawan(3rd floor), Patna- 800 015.
19. The Director, R.M.C.D., Central Water Commission, R.K.Puram, New Delhi – 110 066.
20. The Director, Central Design Office, Jalasampad Bhawan, Bidhannagar,Kolkata-91.
21. The Director, Advance Planning Project, Jalasampad Bhawan,Bidhannagar,Kolkata-91.
22. The Director, Agriculture Deptt.,Govt.of West Bengal, Writers' Buildings, Kolkata-1.
23. The Director of Information, Writers' Buildings, Kolkata-700 001.
24. The Director (Monitoring), Central Water Commission,
Jalasampad Bhawan, Bidhannagar, Kolkata-91.
25. The Director, River Research Institute, 11A, Free School Street, Kolkata-700 087.
26. The Superintending Engineer,
Investigation & Planning Circle-I, Jalasampad Bhawan, Bidhannagar, Kolkata-700 091.
27. The Superintending Engineer,
Investigation & Planning Circle-II, Jalasampad Bhawan, Bidhannagar,Kolkata-700 091.
28. The Commissioner(ER), Ministry of Water Resources, Government of India,
C.G.O. Complex(8th floor), Lodhi Road, New Delhi-110 003.
29. The Member (RM), Central Water Commission, Room No. 811,
Sewa Bhawan, R.K.Puram, New Delhi – 110 086.
30. The General Manager,
Farakka Barrage Project, Government of India, Farakka, Murshidabad.
31. The Executive Engineer, Damodar Division, Central Water Commission,
Apear Garden, G.T.Road(West), Behind Ranjit Petrolpump, Asansol-713 304.

Enclo: As stated.

10/3/05

For **Chief Engineer – I,**
I & W. Directorate,
Govt.of West Bengal.

IMPORTANT BARRAGE LEVELS & DISCHARGE DATA DURING THE FLOOD SEASON OF 2004



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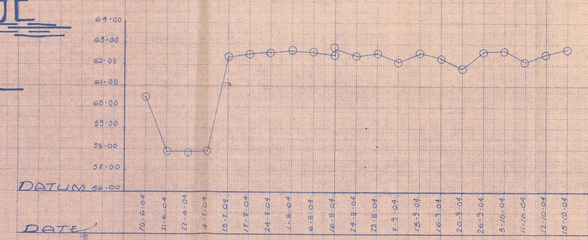
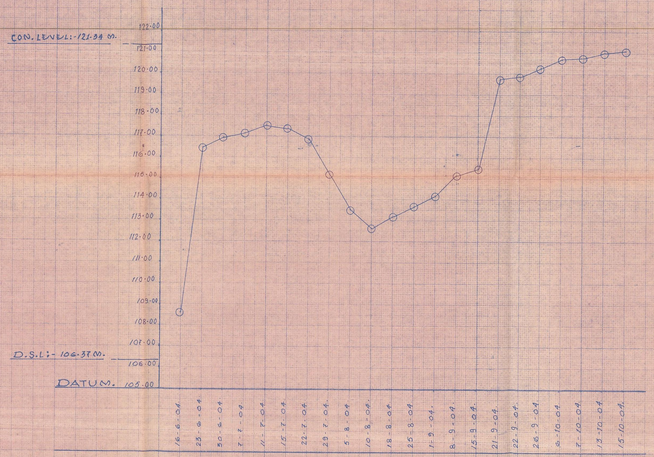


BARRAGE :- TILPARA



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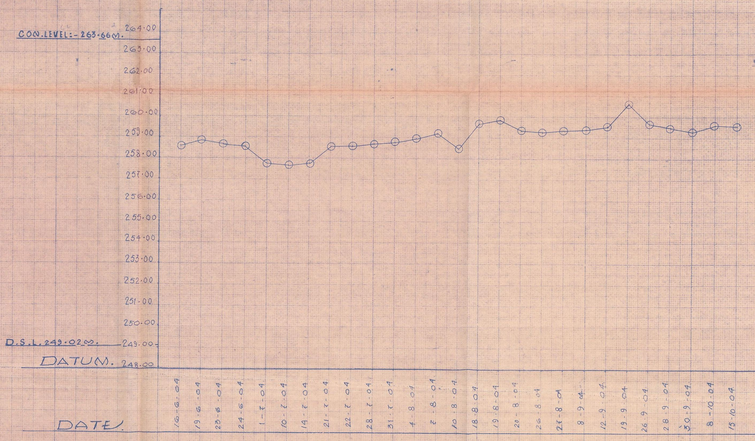

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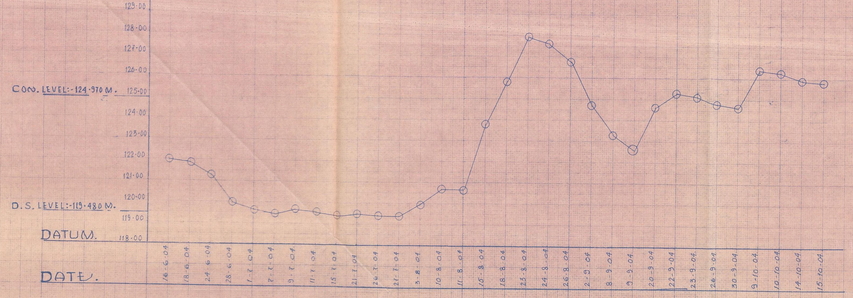
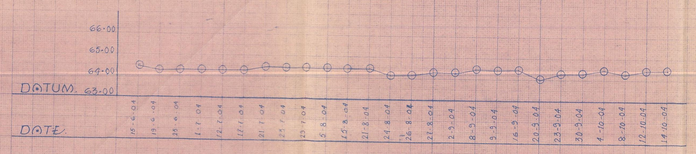
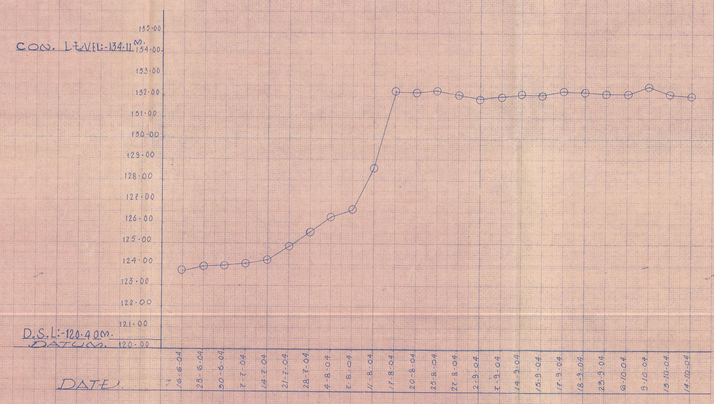


RESERVOIR :- PANCHET.



DURGAPUR BARRAGE.

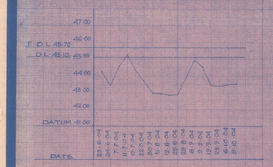


KANGSABATI RESERVOIR

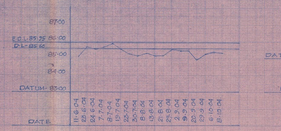
B Chatterjee 01/05

DRAWN BY:-
BISWAJIT CHATTERJEE.
DRAUGHTSMAN.
C.E.S. DRG. OFFICE.

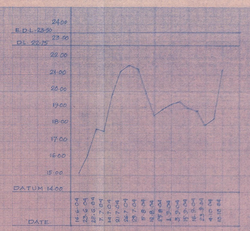
P. L. BANDOPADHYAY
EXECUTIVE ENGINEER.
C.E.S. DRG. OFFICE.



ALIPURDUAR
RIVER KALJANI



DOMOHANI
RIVER TEESTA



ENGLISH BAZAR
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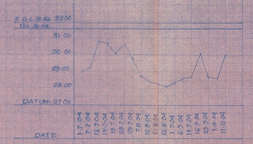
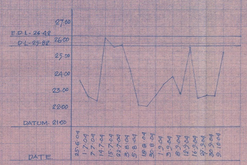
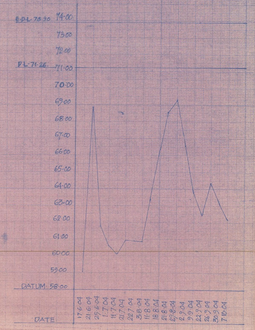


MAKDAMPUR
RIVER NAGORE



GANGARAMPUR
RIVER PUNARBHABA



BANARAS
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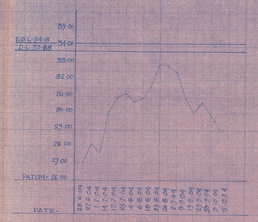
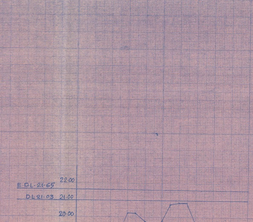
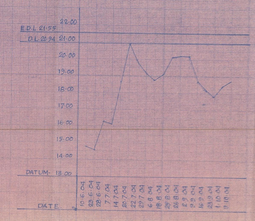


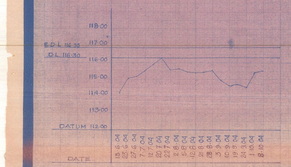
BHAGALPUR
RIVER GANGA



NURPUR
RIVER-GANGA



GERIA
RIVER-GANGA



HASIMARA
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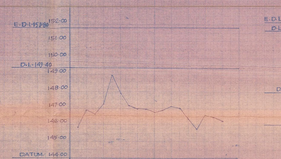
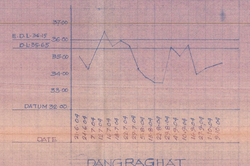


CORONATION BRIDGE
RIVER TEESTA



DANGRAGHAT
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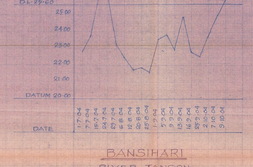

BANSIHARI
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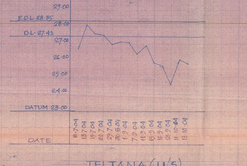
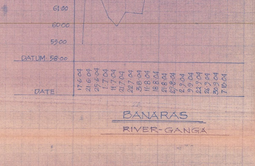


TEJTANA (U/S)
RIVER FULAHAR



ITAHAR
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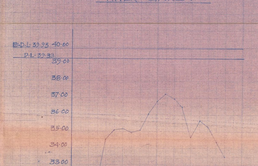
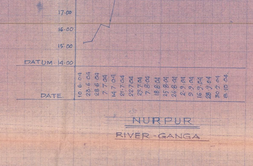
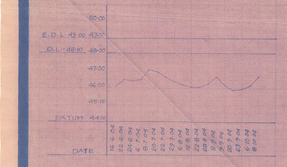


RADHIKAPUR
RIVER TANGON

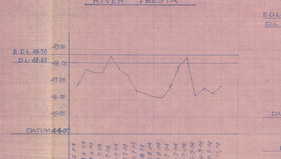


FARAKKA
RIVER-GANGA

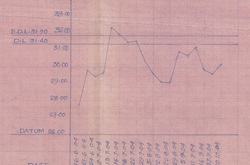
CHAKGHAT
RIVER-GANGA



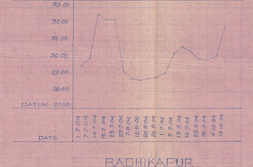
L.R.P. CROSSING
RIVER RAIDAK-II



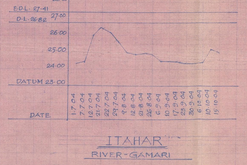
MATHABHANGA
RIVER- MANSAI



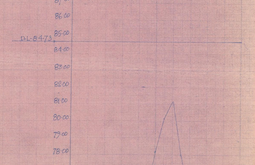
JHAWA
RIVER MAHANANDA



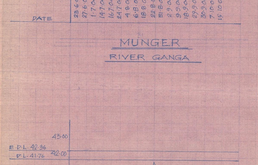
PAZOL
RIVER SUI



CHOPRA
RIVER - DAUK



ALLAHABAD
RIVER GANGA



HATIDAH
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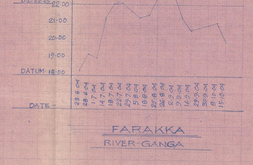

MANICKCHAKGHAT
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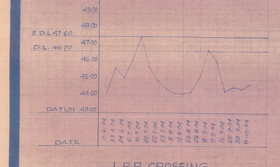
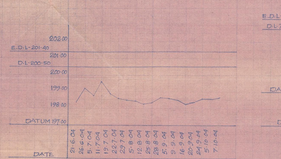
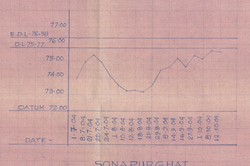


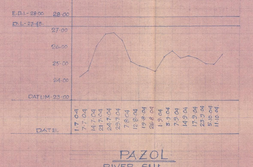
L.R.P. CROSSING
RIVER RAIDAK-I



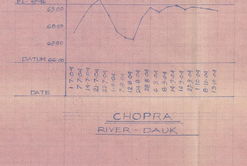
CHENGMARI
RIVER DIANA



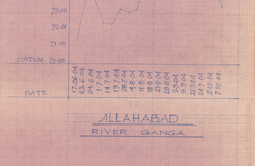
SONAPURGHAT
RIVER MAHANANDA



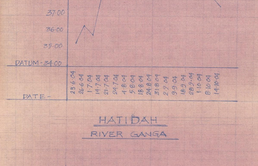
KATCHUA
RIVER- SUI



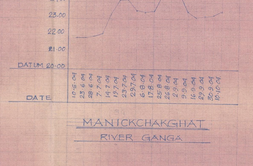
MAKDAMPUR
RIVER - NAGORE



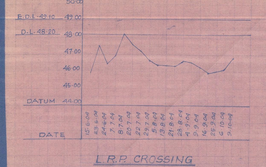
PALURGHAT
RIVER ATRAI



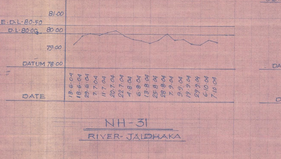
PATNA
RIVER GANGA



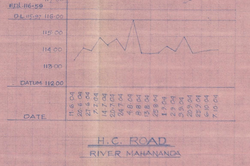
KALAGAON
RIVER GANGA



L.R.P. CROSSING
RIVER SANKOSH



NH-31
RIVER- JALDHAKA



H.C. ROAD
RIVER MAHANANDA

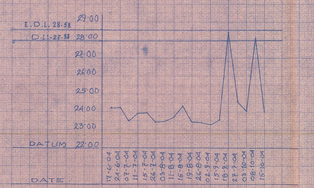
IMPORTANT GAUGE LEVEL OF RIVERS DURING FLOOD SEASON OF 2004

(ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED)
SCALE :- VERTICAL 1cm. = 1M.

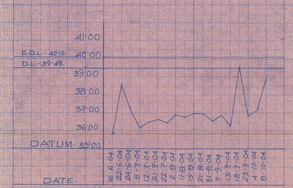
DRAWN BY :- Bijan Saha
BIJAN SAHA
(DRAUGHTSMAN)
C.E.'S DRG. OFFICE SALT LAKE
DATE 11.01.2005

P.K. BANDYOPADHYAY
(EXECUTIVE ENGINEER)
CE'S DRG. OFFICE
SALT LAKE

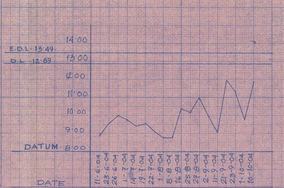
IMPORTANT GAUGE LEVELS OF RIVERS DURING FLOOD SEASON OF 2004.



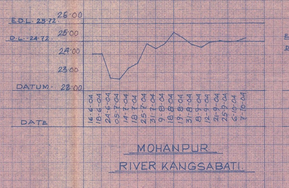
NARAYANPUR
RIVER MAYURAKSHI



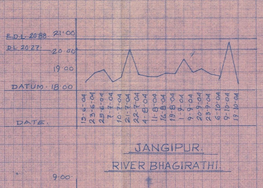
BUDRA
RIVER AJOY



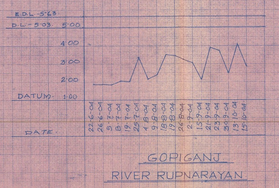
CHAMPADANGA
RIVER DAMODAR



MOHANPUR
RIVER KANGSABATI

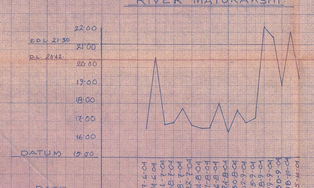


JANGIPUR
RIVER BHAGIRATHI

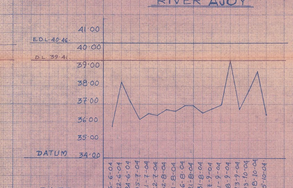


GOPIGANJ
RIVER RUPNARAYAN

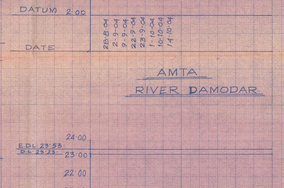
GAIGHATA
RIVER JAMUNA



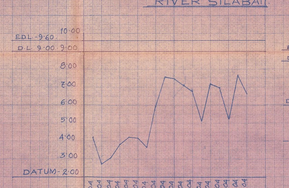
SANKOGHAT
RIVER DWARKA



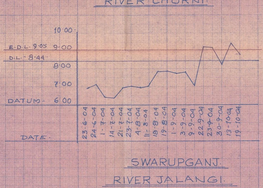
GHEROPARA
RIVER AJOY



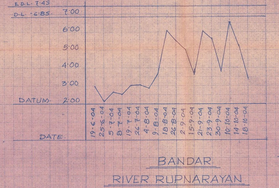
AMTA
RIVER DAMODAR



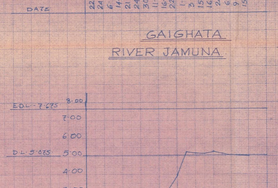
GADGHAT
RIVER SILABATI



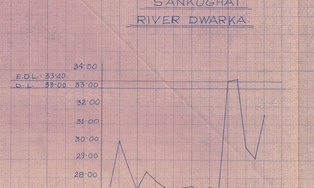
SWARUPGANJ
RIVER JALANGI



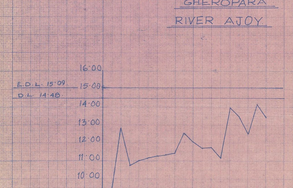
BANDAR
RIVER RUPNARAYAN



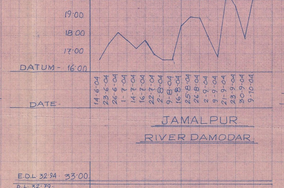
BONGAON
RIVER ICHAMATI



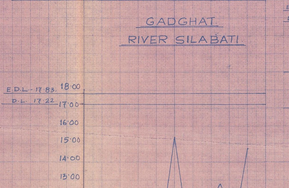
ADB ROAD
RIVER BRAHMONI



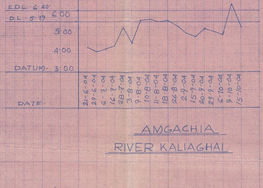
KATWA
RIVER AJOY



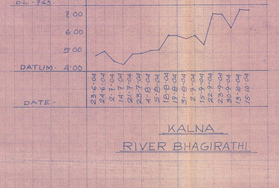
EDILPUR
RIVER DAMODAR



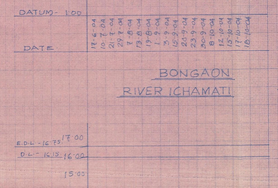
ARAMBAG
RIVER DWARAKESWAR



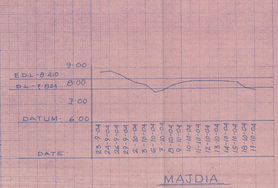
PANSKURA
RIVER KANGSABATI



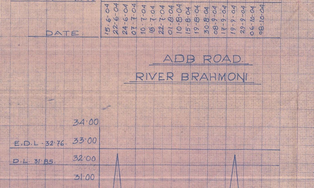
KATWA
RIVER BHAGIRATHI



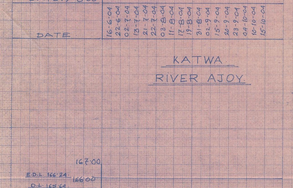
SONAKONIA
RIVER SUBARNAREKHA



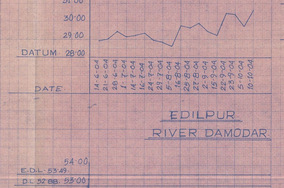
MAJDIA
RIVER ICHAMATI



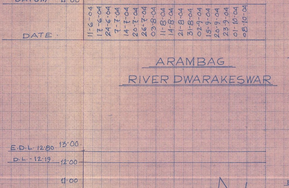
BANSLOI
RIVER PAGLA



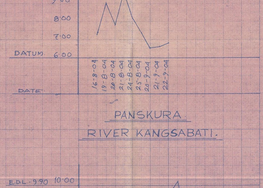
SIKATIA
RIVER AJOY



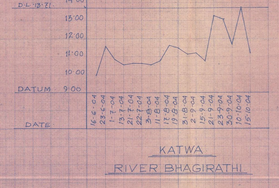
RANDIA
RIVER DAMODAR



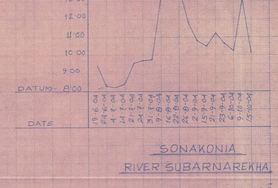
HARINKHOLA
RIVER MUNDESWARI



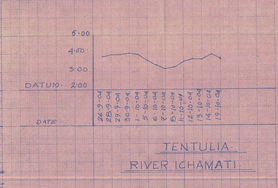
KOLMIJORE
RIVER KANGSABATI



BERHAMPUR
RIVER BHAGIRATHI



RANICHAK
RIVER RUPNARAYAN



GOBARDANGA
RIVER JAMUNA

DRAWN BY
ASHIM DAS
(TRACER)
C.E.S DRG. OFFICE
SALTLAKE.
DATE: 14.1.05

P.L. BANDYOPADHYAY
(EXECUTIVE ENGINEER)
C.E.S DRG. OFFICE
SALTLAKE.