Government of West Bengal
Irrigation & Waterways Department
Jalasampad Bhavan, Western Block, 3rd Floor
Bidhannagar, Kolkata- 700091.

Memo. No: 370 (5) - IB
IW-14011(38)/4/2022-SECTION(IW)-Dept. of IW

Dated: 01/11/2022

From: B. Chattopadhyay
Deputy Secretary,
Irrigation & Waterways Department,
Govt. of West Bengal.

To :
1. The Chief Engineer (South), I&W Directorate, Jalasampad Bhawan, 1st floor, Salt Lake City, Kolkata-700091.
2. The Chief Engineer (North), I&W Directorate, Green Park, Malda, P.O.- Mokdumpur, Dist.: Malda, Pin- 732103.
3. The Chief Engineer (West), I&W Directorate, Kanainatsal, Bardhaman, P.O. Sreepally, Dist.: Purba Bardhaman, Pin-713103.
4. The Chief Engineer (South-West), I&W Directorate, Khasjungle, P.O.-Abas, Dist.: Paschim Midnapur, Pin-721102.
5. The Chief Engineer (North-East), I&W Directorate, Jalapath Bhawan, Club Road P.O.- Jalpaiguri, Pin- 735101.

Ref: Memo no. 266-IB dated 15-09-2022 & Memo. no: 335(10)-IB dated 29/09/2022

The Undersigned is directed to state that a **Standard Format** comprising of **Name of Work** at **Annexure -I, Report** at **Annexure -II** and **Technical Notes** at **Annexure -III** in connection with **State Disaster Mitigation Fund (SDMF)** has been formulated and is being communicated for his perusal and action from his end. He is also requested to explore the possibility of inclusion of schemes in accordance with the SDMF guidelines after prioritizing the project under his jurisdiction.

Phase-I Allocation (Project ceiling Cost) of ₹ 125 Cr for 2022-23 under SDMF is at **Annexure -IV** and he is requested to frame the DPRs as per guidelines and Standardized formats provided with this memo and soft copy (1 no) of the same should be submitted through email at bivabasu.iwd@rediffmail.com for further processing from this end.

This issues with the approval of the Principal Secretary of this department.

Enclo: As stated.

01/11/22

(B. Chattopadhyay)
Deputy Secretary
Irrigation & Waterways Department
Govt. of West Bengal

Memo. No: 370(5)/1(3) - IB Dated: 01/11/2022

Copy forwarded for information to:

1. PS to the Hon'ble MIC, I&W Department, Jalasampad Bhawan, 1st floor, Salt Lake City, Kolkata-700091.
2. Sr. PA to the Principal Secretary, I&W Department, Jalasampad Bhawan, 1st floor, Salt Lake City, Kolkata-700091.
3. PA to the Secretary, I&W Department, Jalasampad Bhawan, 1st floor, Salt Lake City, Kolkata-700091.

(B. Chattopadhyay)
Deputy Secretary
Irrigation & Waterways Department
Govt. of West Bengal

Memo. No: 370(5)/2(1) - IB Dated: 01/11/2022

Copy forwarded for information and necessary action to:

1. DVC Study Cell may be requested to upload this memo in the official website of I&W Department.

(B. Chattopadhyay)
Deputy Secretary
Irrigation & Waterways Department
Govt. of West Bengal

Annexure-I

Name of Work

For sundarban: "Raising, Strengthening & resectioning /remodelling the damaged and vulnerable Sundarban embankments along rivers *(river name along with chainage in Km need to be mentioned)* for a total length of *XX (Mention the total length)* km in Blocks *(may be multiple Blocks)*, District *(maybe multiple name)* as a part of the structural measures for strengthening flood /cyclone risk management and reducing inundation hazard.

Name of Division:

For others: Strengthening & improvement of damaged and vulnerable embankments along rivers *YY (river name along with chainage in Km need to be mentioned) /Channel ZZ (channel name along with chainage in Km need to be mentioned)* for a total length of *XX (Mention the total length)* km in Blocks *(may be multiple Blocks)*, District *(maybe multiple name)* as a part of the structural measures for strengthening flood /cyclone risk management and reducing inundation hazard.

Name of Division:

For Digha : Re-construction /remodelling of coastal protection works *(for Digha-Shankarpur-Jalda area) from----- to -----*, for a total length of *XX (Mention the total length)* km in Blocks *(may be multiple Blocks)*, District *(maybe multiple name)* as a part of the structural measures for strengthening flood /cyclone risk management and reducing inundation hazard.

Name of Division:

For North Bengal: Strengthening & improvement of flood embankments along rivers *(river name along with chainage in Km need to be mentioned)* for a total length of *XX (Mention the total length)* km in Blocks *(may be multiple Blocks)*, District *(maybe multiple name)* as a part of the structural measures for strengthening flood /cyclone risk management and reducing inundation hazard.

Name of Division:

Annexure-II

REPORT

This project proposal amounting to Rs. *LAC (Mention the total amount of the scheme by adding the sub-schemes)* has been framed to meet up the cost of the scheme "Name of work".

2. Necessity of the work

(a) The embankment stretches, mostly earthen, have become vulnerable and susceptible to total collapse due to the onslaught of recurring wave impact generated by frequent cyclonic storms & floods and also due to changes in hydro-morphological condition of the rivers /, (b) existing flood management infrastructure, being continuously subjected to flash floods accompanied by accumulation of debris (mostly boulders and pebbles) have been damaged badly and susceptible to failure. *(Select (a) or (b))*. Such failures would propel ingress of water in the countryside and cause loss of agricultural crops and immense damages to public utilities like roads, transmission towers, drinking water installations, educational institutions, markets, places of worships and private properties including hutments, buildings, orchards etc. These assets function as the first line of defence against the natural calamities like, flood, cyclone etc. and become the lifeline from the point of view of communication and taking shelter during such calamities. The need of the hour is to take appropriate measures to ensure sustainability, durability and proper functioning of flood management structures.

Implementation of this project will mitigate the flood and or flood like situation of .....sq-km area within mouzas*(name of mouzas)* in Blocks *(may be multiple Blocks)*, District *(maybe multiple name)* and also benefit .....nos of people.

3. Technical considerations.

The design considerations, parameters and analysis are as per the relevant national & international standards & practices and the Departmental Manual, taken from the latest survey in the respective worksites and these are consistent with the methodologies already successfully adopted in similar projects. Execution of the work would ensure sustainability of the flood management infrastructure, and minimise /avert the possibility of widespread inundation

4. Major items of the work.

Following are the major items of the work., taken from the USOR of IWD and PWD (Roads & Bridges).

a) Embankment improvement by various structural materials like (i) earthwork for resectioning and remodelling, (ii) driving wooden piles in multiple rows to strengthen

the core section of the embankments (iii) raising the crest, stabilizing the side slopes & protecting sea /river side slope by armouring with (A) soft materials like polymer based bags filled with locally available materials and often covered with geosynthetics, (B) boulders /brick blocks /cc blocks (iv) toe protection and apron works using Stone boulders, , wooden bullahs, porcupine cages for providing apron /bed bars /deflectors/spurs *(Chose the appropriate from (i) to (iv) or combine)*

b) PCC /RCC, structural steel and other materials for the hydro-mechanical components for Remodelling of drainage sluices and inlets.

5. Rates of items

As already stated in Paragraph 4 above, items of this estimate have mostly been taken from the currently available USOR of the IWD and SOR of PWD.

7. BC ratio

Benefit cost ratio has been calculated as per GFCC norms and found to be *G:1 (state the figure)*

8. Undertakings

.1 Execution of the scheme would not require acquisition /procurement of any additional parcel of land.

.2 Future maintenances of the scheme would be taken up out of the normally available budgetary provisions under Demand No. 32

.3 No additional post needs to be created and no additional persons would be engaged for implementation of the project. Also, no additional vehicle would be purchased. As such, salaries, office expenditure and other incidental charges in connection with implementation of this scheme would no way be charged to this scheme.

.4 No overlapping with any ongoing projects and not posed under any other source of fund.

.5 The scheme is not a large-scale mitigation measure, rather it aims to build up resilience at micro-level to the flood risk management, in the critically flood prone areas and quickly transfers the benefits envisaged, to the flood and cyclone victims in the vicinity of the project sites.

9. The cost is proposed to be chargeable to State Disaster Mitigation Fund (SDMF), under the Major Head "2245-Relief on Account of Natural Calamities"

Annexure-III

TECHNICAL NOTE

Drawing an Estimate is prepared based on: 'Guidelines on riverbank protection and anti-sea erosion works in West Bengal' circulated vide I& WD's Memo No. 93-

Location of work site	GP		Block	District
Geo-reference of work site :	Latitude	N	Longitude	E

Page reference of 'Guidelines on riverbank protection and anti-sea erosion works in West Bengal'

Zone Name		
Sub-Zone Name		
Protection Type		
Name of River		
[delete row(s) below whichever is not applicable]		
Discharge,Q	cumec	
Lacey's Linear Waterway P = 4.75√Q	m	
Observed waterway at site	m	
HFL at site	M GTS	
LWL at site	M GTS	
Silt Factor, f	*(give reference of RRI, if any)*	
Nominal Scour depth below HFL, D	m	*(show formula and calculation)*
Observed Scour depth below HFL	m	
Bank slope of river	1 (V) : -- (H)	
Type of pitching		
Slope of pitching	1 (V) : -- (H)	
Thickness of pitching, t	m	
Type of apron		
Thickness of apron, T	m	
Length of apron , W	m	*(show formula and calculation)*
Whether trapezoidal deflector is required (yes/no)		
Dimensional details of trapezoidal deflector		
Bank level	M GTS	
Width of horizontal pitching on bank top		
Type of filler material for scour hole		
Width of berm at LWL for scour hole filling		
Width of extension of end protection	m	
Thickness of filler material at end	m	
Description of toe wall		
Width of toe wall	m	
Depth of toe wall	m	
Description of cylindrical sausage		
Length of cylindrical sausage	m	
Dia of cylindrical sausage	m	
Spacing of cylindrical sausage	m	
Arrangement of porcupine		
Arrangement of Tetrapod		
Highest HWL	M GTS	
Wave run up	m	
Settlement	m	
Free board	m	
Design Crest Level of Embankment	M GTS	
Side slope of embankment		
a) Country side	1 (V) : -- (H)	
b) River side	1 (V) : -- (H)	
Crest width of embankment		
Departure from Manual, if any, with reasons		

Annexure-IV

(Rupees in Crore)

CE	Division	Proposed Phase-I Allocation under SDMF in 2022-23	Remarks
1	2	3	4
South	Basirhat Irrigation Division	7.00	
	EE-II,Joynagar Irrigation Division	4.00	
	EE-I,Joynagar Irrigation Division	8.00	
	EE-I,Canal Division	2.00	
	Kakdwip Irrigation Division	24.00	
Sub Total		45.00	
North East	Alipurduar Irrigation Diviison	4.50	
	Coochbehar Irrigation Division	5.00	
	Jalpaiguri Irrigation Division	5.00	
	Siliguri Irrigation Division	2.50	
Sub Total		17.00	
North	North Dinajpur Irrigation Division	5.00	Raising & Strengthening of Kulik Embankment at Pajol
	Mahananda Embankment Division	14.00	Raising & Strengthening of Bassi Branch Embankment for 14 km.
Sub Total		19.00	
South West	East Midnapore Division	1.72	
	KKB Project Divison	1.49	Rasising & Strengthening of Deuli Embankment
	Contai Irrigation Division	12.50	Sea protection at Digha (Dropped from RIDF-28)
	West Midnapur Irrigation Division	1.45	Raising & Strengthening of Silabati Embankment

	Bankura Irrigation Division	6.00	Raising & Strengthening of Dewarkeshwar Embankment at kotulpur
	Jhargram FM& P Division	1.42	Raising & Strengthening of Kangsabati Embankment.
Sub Total		24.58	
West	Damodar Head works Division	3.42	
	EE-II,Lower Damodar Construction Division	13.00	Basudevpur for Rs. 6 Cr and Champa khal Sluice at river Hoogly for Rs. 7 Cr.
	EE-I,Lower Damodar Construction Division	3.00	Goyalberia Sluice at river Hoogly.
Sub Total		19.42	
Grand Total		125.00	