

# GROUND WATER PROSPECTS MAP

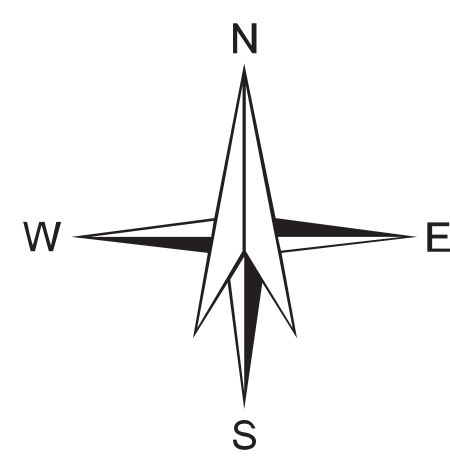
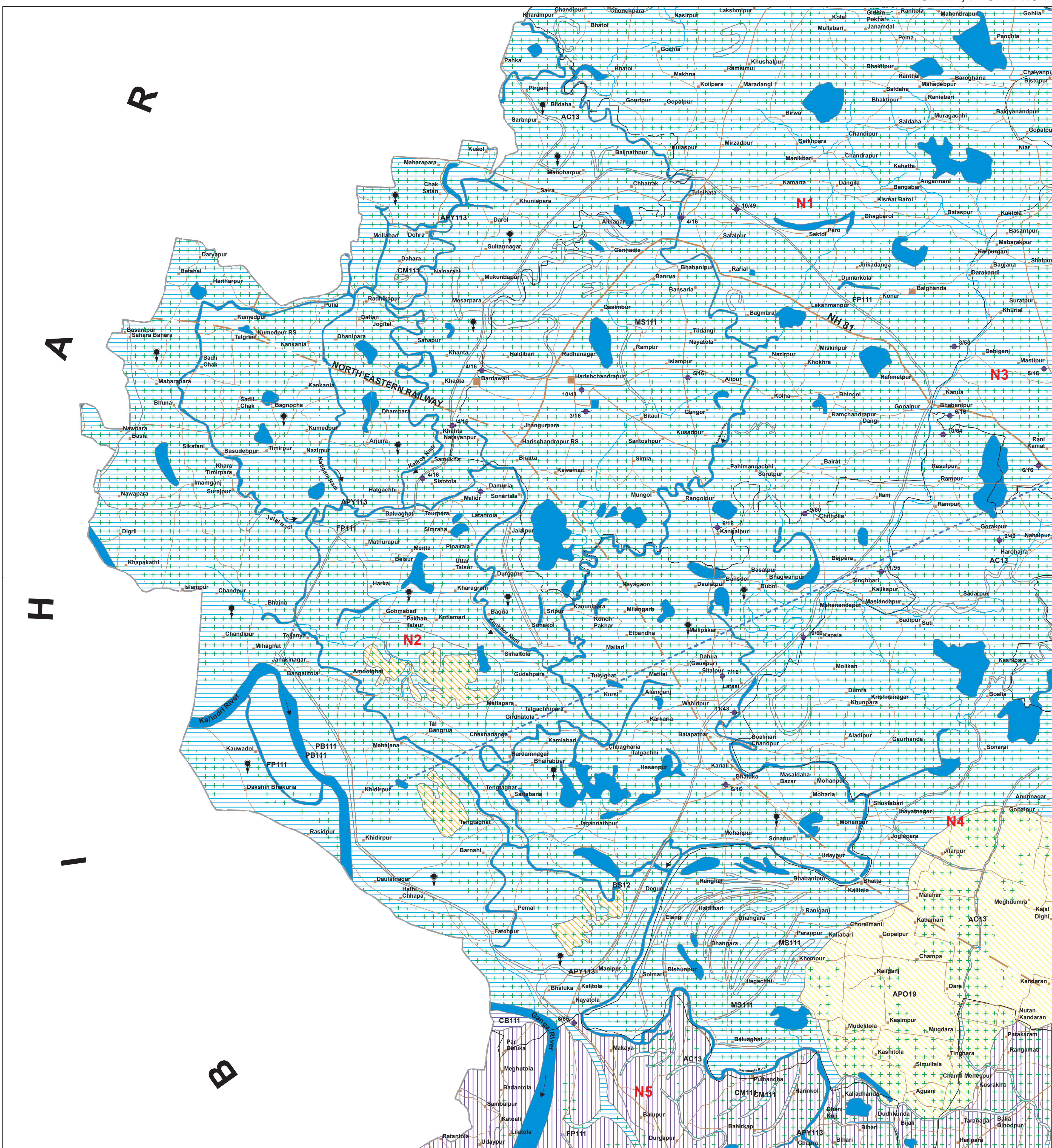
(PREPARED FROM SATELLITE IMAGE INTERPRETATION WITH LIMITED FIELD CHECKS)



SCALE - 1 : 50,000

MAP SHEET NO. 720/15

MALDA DISTRICT, WEST BENGAL



## LEGEND

MAP UNIT (HYDROGEOGRAPHIC UNIT) REPRESENTED IN THE MAP WITH ALPHABETIC CODE (COLOUR INDICATES YIELD RANGES AND HATCHING INDICATE DEPTH RANGES)	GEOLOGICAL SEQUENCE / ROCK TYPE (REPRESENTED IN THE MAP WITH NUMERIC CODE)	GEOMORPHIC UNIT / LANDFORM (REPRESENTED IN THE MAP WITH ALPHABETIC CODE)	DEPTH TO WATER LEVEL PRE / POST-MONSOON (AVERAGE IN METERS) NO. OF WELLS OBSERVED	RECHARGE CONDITIONS BASED ON AVAILABILITY OF WATER (RAINFALL & OTHER SOURCES)	GROUND WATER PROSPECTS							RECHARGE STRUCTURES SUITABLE & PRIORITY PT = PERCOLATION TANK CW = CONCRETE WELL RW = RECHARGE WELL ST = STORAGE TANK SW = SUBSURFACE DYKE ST = STORAGE TANK SW = SUBSURFACE DYKE	REMARKS (PROBLEMS / LIMITATIONS)
					AQUIFER MATERIAL	TYPE OF WELLS SUITABLE	DEPTH RANGE OF WELLS (SUGGESTED)	YIELD RANGE OF WELLS (LPM)	HOMOGENEITY IN THE UNIT & SUCCESS RATE OF WELLS (PROBABILITY)	QUALITY OF WATER (POSSIBLE pH)	GROUND WATER IRRIGATED AREA (APPROX. RANGE IN HECTARES)		
CB111	Alluvium (Sand Dominant) (111)	Channel Bar (CB)	No Well Observed	Excellent	LS	TW	5-10 m	400-800 LPM	Very High	P	Nil	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.
PB111		Point Bar (PB)	No Well Observed	Very Good	LS	RW TW	5-10 m	300-400 LPM	Very High	P	Nil	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.
MS111		Meander Scar (MS)	No Well Observed	Very Good	LS	RW TW	10-15 m	200-250 LPM	High	P	Nil	Not Required	Highly productive shallow aquifers with good recharge.
CM111		Cut-off Meander (CM)	No Well Observed	Good	LS	RW TW	10-20 m	300-400 LPM	High	P	Nil	Not Required	Highly productive shallow aquifers with good recharge from the river base flow.
FP111		Flood Plain (FP)	No Well Observed	Very Good	LS	TW	<30 m	250-350 LPM	Very High	P	Nil	Not Required	Potable water available at shallow depth.
FP111	Alluvium (Clay Dominant) (12)	Back Swamp (BS)	No Well Observed	Poor	LS	TW	60-70 m	40-50 LPM	Low to Moderate	P	100	Not Required	Areas with high concentration of Arsenic & Iron. Potable water available at deeper depth.
BS12		Alluvium (Clay Dominant) (12)	No Well Observed	Poor	LS	TW	60-70 m	40-50 LPM	Low to Moderate	P	100	Not Required	Areas with high concentration of Arsenic & Iron. Potable water available at deeper depth.
APY113		Alluvial Plain Younger (APY)	9 / 5 22	Good	LS	TW	25-30 m	200-250 LPM	High	P	98	RW	Water available at shallow depth, however, parts of the unit falling under Harishchandrapur-II block under semi-critical category, recharge structure suggested.
APY113		Alluvial Plain Younger (APY)	9 / 6 1	Good	LS	TW	100-120 m	400-500 LPM	High	NP (As & Fe) (at shallow depth)	45	Not Required	Areas with high Arsenic & Iron content. Potable water available at deeper depth.
AC13		Abandoned Channel (AC)	No Well Observed	Excellent to Very Good	LS	RW TW	10-15 m	250-300 LPM	Very High	P	Nil	Not Required	Highly productive shallow aquifers with good recharge from base flow.
APY19	Alluvium (Silt Dominant) (Caiciche & Fe-Nodes Bearing) (19)	Alluvial Plain Older (APO)	No Well Observed	Moderate	LS	TW	50-60 m	75-100 LPM	Moderate	P	25	Not Required	Shallow aquifers form due to clayey sediments. Aquifers occurred at more depth.
F = F / — — — — — These are fault / fracture zones, which generally act as conduits for movement of ground water in hard rocks. Along these zones, the yields are significantly higher and wells are likely to be sustainable for longer duration. However, the inferred fractures need to be confirmed by detailed ground surveys.													
D = D / — — — — — These are dykes, quartz reefs and pegmatite veins, which generally act as barriers for ground water movement.													
N.B.-The depth range and yield range of wells may vary within the unit because of certain inhomogeneities. Fractured lineaments which are clearly observed / inferred from the satellite image are indicated on the map. There could be some obscured fractures which also influence the ground water prospects. Locations of the recharge structures shown in the map are tentative. This map is useful for narrowing down the target zones and exact location on the ground for wells and recharge structures should be identified based on follow-up ground hydrogeological/geophysical surveys.													

GROUND WATER PROSPECTS INFORMATION				HYDROLOGICAL INFORMATION				STRUCTURAL INFORMATION				BASE MAP INFORMATION				LOCATION INFORMATION			
YIELD RANGE OF WELLS	COLOUR CODE	DEPTH RANGE OF WELLS	SHALLOW MODERATE DEEP	DESCRIPTION	SYMBOL	DIPS	BEDDING	SCHISTOSITY / FOLIATION	SYMBOL	DESCRIPTION	STATE INDEX	DISTRICT INDEX	BLOCK INDEX	MAPSHEET INDEX	OTHER INFORMATION	SPONSORED BY	RAJIV GANDHI NATIONAL DRINKING WATER MISSION (PHASE IV)	DEPARTMENT OF DRINKING WATER SUPPLY (DDWS)	MINISTRY OF DRINKING WATER AND SANITATION (MDS)
> 800 LPM	VIOLET	SHALLOW MODERATE DEEP		CANAL / TANK IRRIGATED AREA		GENTLE (< 15°)				NATIONAL HIGHWAY	INDIA	WEST BENGAL			RAINFALL: 1423 mm	NEAREST RAIN GAUGE STATION: MALDA (Source IMD)			
400 - 800 LPM	INDIGO			GROUND WATER IRRIGATED AREA		MODERATE (15 - 45°)				STATE HIGHWAY									
200 - 400 LPM	BLUE			RIVER / STREAM (with sand)		STEEP (45 - 80°)				METALLED ROAD									
100 - 200 LPM	GREEN			WATER BODY / SPRING		VERY STEEP (> 80°)				OTHER ROAD									
50 - 100 LPM	YELLOW			CANAL		ANTICLINE / ANTIFORM				RAILWAY									
30 - 50 LPM	ORANGE			RAIN GAUGE STATION (With average annual rainfall in mm)		SYNCLINE / SYNFORM				CITY / VILLAGE									
20 - 30 LPM	BROWN			PERCOLATION TANK		TREND LINE				HABITATIONS - NON - COVERED (NC)									
10 - 20 LPM	RED			RECHARGE STRUCTURES SUGGESTED		ESCARPMENT				PARTIALLY COVERED (PC)									
				PERCOLATION TANK		LITHOLOGY / GEOMORPHIC UNIT BOUNDARY				BOUNDARY:									
				RECHARGE WELL		FAULT				INTERNATIONAL									
				RECHARGE PIT		THRUST				STATE									
				RECHARGE SHAFT		FRACATURE / LINEAMENT (Inferred)				DISTRICT									
				STORAGE TANK		FRACATURE / LINEAMENT (Inferred)				BLOCK									
						SHEAR ZONE (Confirmed / Inferred)				OTHER INFORMATION									
						DYKE (Confirmed / Inferred)				RAINFALL: 1423 mm									
						QUARTZ REEF (Confirmed / Inferred)				NEAREST RAIN GAUGE STATION: MALDA (Source IMD)									
						PEGMATITE VEIN (Confirmed / Inferred)													
						Lithologic contacts are inferred at places & Geomorphologic boundaries are gradational													
PREPARED BY GEOINFORMATICS & REMOTE SENSING CELL W.B. STATE COUNCIL OF SCIENCE AND TECHNOLOGY DEPARTMENT OF SPACE, GOVT. OF WEST BENGAL 4TH FLOOR, BIKASH BHAVAN SALT LAKE, KOLKATA 700 091				TECHNICAL GUIDANCE & QUALITY CHECK NATIONAL REMOTE SENSING CENTRE INDIAN SPACE RESEARCH ORGANISATION (ISRO) DEPT. OF SPACE, GOVT. OF INDIA BALANAGAR, HYDERABAD - 500 625				PARTICIPATING ORGANIZATIONS PHED, GOVT. OF WEST BENGAL GEOINFORMATICS & REMOTE SENSING CELL W.B. STATE COUNCIL OF SCIENCE AND TECHNOLOGY, GOWB STATE WATER INVESTIGATION DIRECTORATE, GOWB				METHODOLOGY & PROJECT EXECUTION NATIONAL REMOTE SENSING CENTRE INDIAN SPACE RESEARCH ORGANISATION (ISRO) DEPT. OF SPACE, GOVT. OF INDIA BALANAGAR, HYDERABAD - 500 625				SPONSORED BY RAJIV GANDHI NATIONAL DRINKING WATER MISSION (PHASE IV) DEPARTMENT OF DRINKING WATER SUPPLY (DDWS) MINISTRY OF DRINKING WATER AND SANITATION (MDS) GOVERNMENT OF INDIA NEW DELHI			