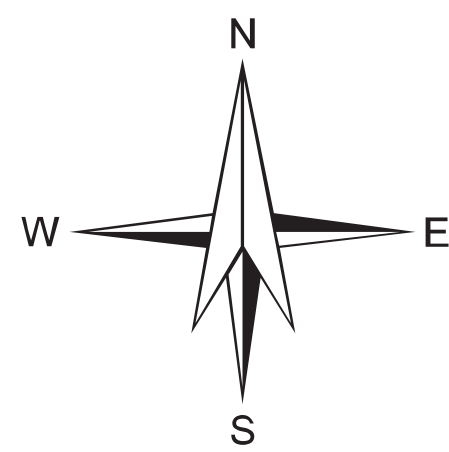
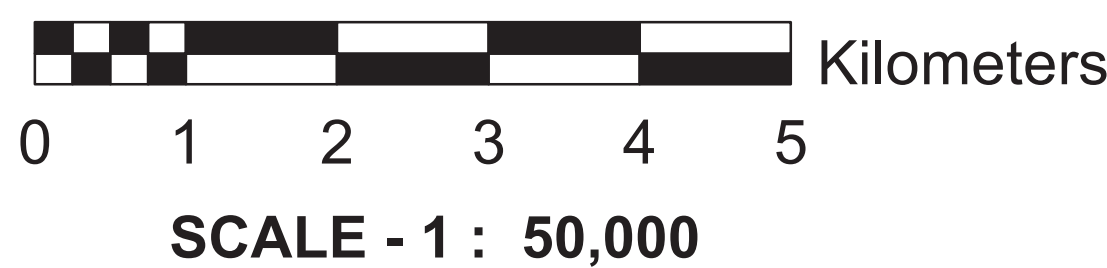





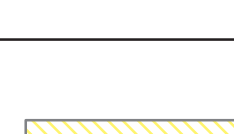






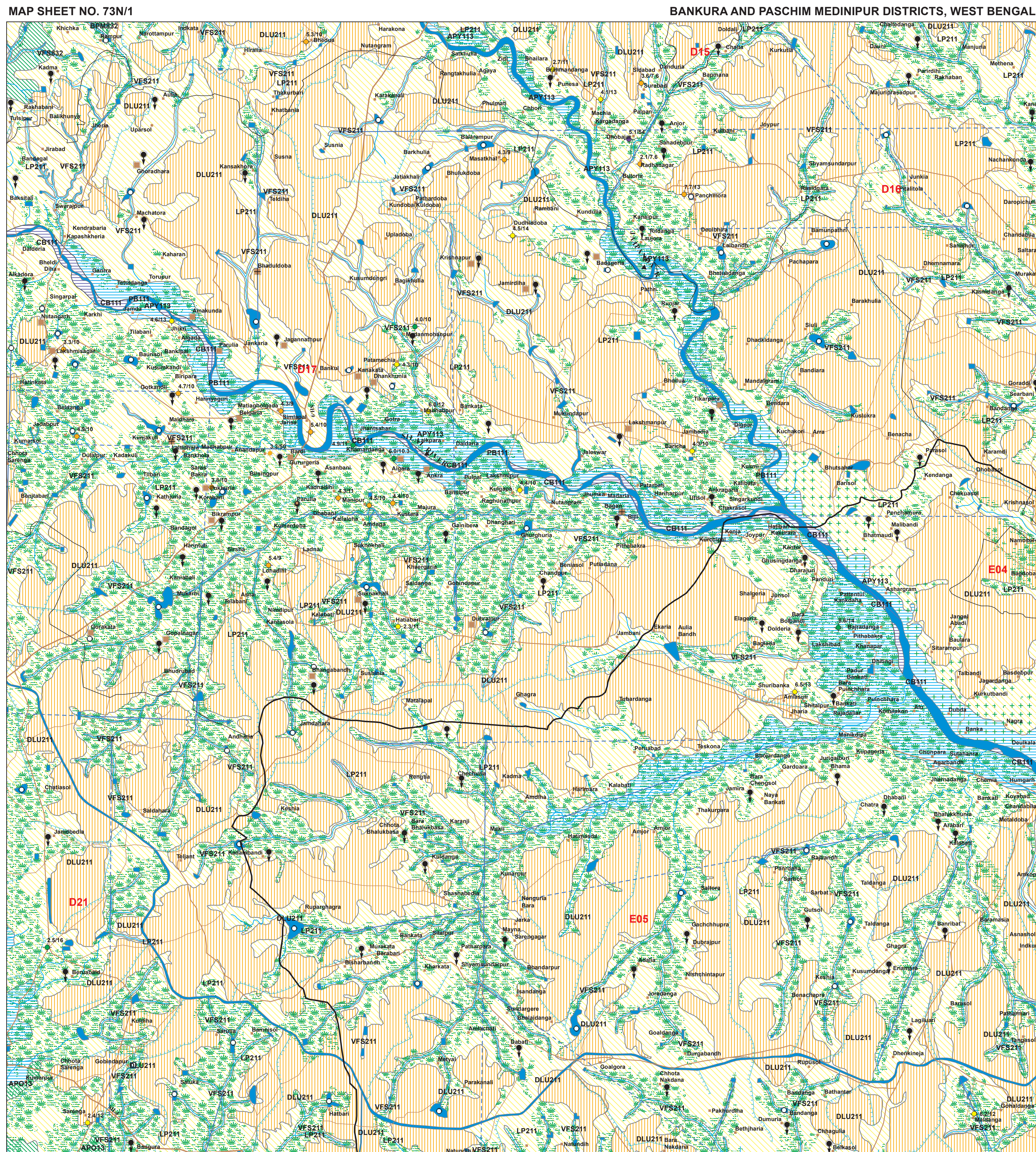
GROUND WATER PROSPECTS MAP

(PREPARED FROM SATELLITE IMAGE INTERPRETATION WITH LIMITED FIELD CHECKS)



L E G E N D

MAP UNIT (HYDROGEOLOGIC UNIT) REPRESENTED IN THE MAP WITH ALPHANUMERIC CODE (COLOUR INDICATES YIELD RANGE AND HATCHING INDICATE DEPTH RANGE)	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	REMARKS (PROBLEMS / LIMITATIONS)
					AQUIFER MATERIAL LS = LOOSE SEDIMENTS PM = PERMEABLE ROCK FR = FRACTURED ROCK WM = WEATHERED MATERIAL IR = IMPERVIOUS ROCK	TYPE OF WELLS SUITABLE DW = DUG WELL RW = RIGID WALL WELL TW = TUBE WELL DWP = DUG CUM RIGID WALL DTP = RIGID CUM TUBE WELL	DEPTH RANGE OF WELLS (SUGGESTED) MIN - MAX (IN METERS)	YIELD RANGE OF WELLS (EXPECTED) (IN LPM OR m ³ /day)	HOMOGENEITY IN THE UNIT & SUCCESS RATE OF WELLS (PROBABILITY)	QUALITY OF WATER (POTABLE (P), NON-POTABLE (NP)) (HATCHING INDICATES NON-POTABLE)	GROUND WATER RESURGENT AREA (APPROX. RANGE IN PERCENTAGE)		
	Hugli/Bhagirathi Formation (Present Day)	Channel Bar (CB)	5 - 6 2	Excellent	LS	TW	5 - 10 m	400-500 LPM	Very High	P	42%	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.
		Point Bar (PB)	6 1	Very Good	LS	LS RW TW	5 - 10 m	300-400 LPM	Very High	P	7%	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.
	Alluvium (Sand and Silt) (113)	Alluvial Plain Younger (APY)	4.6 - 8.6 DW - 4	Very Good	LS	DW TW	10 - 12 m 20 - 30 m	100 - 125 m ³ /day 200 - 250 LPM	Very High	P	30%	Not Required	Aquifer is formed of sandy part of alluvium. Recharge structures are not required as good recharge condition prevails.
	Alluvium (Sand, Silt and Clay) (13)	Alluvial Plain Older (APO)	No wells observed	Good	LS	DW TW	10 - 15 m 40 - 60 m	50 - 75 m ³ /day 150 - 200 LPM	High	P	Nil	Not Required	Aquifer is formed of sandy part of alluvium. Recharge structures are not required as good recharge condition prevails.
	Lalgathi/Lilambazari Formation (Middle to Upper Pleistocene)	Valley Fill Shallow (VFS)	No wells observed	Moderate	LS Underlain by WM + FR	TW / BW	40 - 50 m	50 - 100 LPM	Moderate	P	Nil	DT Moderate	Recharge structure will increase the sustainability of ground water prospects
		Latentite Ferricrete-hard crust lateritic nodules and lithomarge clay (LP) (Lithomarge Clay) (211)	2.1 - 6.5 DW - 19 HP - 1	Limited	WM + FR	DW TW / BW	15 - 20 m 50 - 60 m	15 - 25 m ³ /day 50 - 100 LPM	Moderate	P	25%	RW / DT High	Recharge wells have high priority as the lithomarge clay layer needs to be penetrated to recharge underlying aquifer formed of weathered material and fractured rock
		Dissected Latentite Upland (DLU) (Hard Crust and lateritic nodules)	2.4 - 7.7 DW - 5	Poor to limited	WM + IR (Impervious Material)	TW / BW	80 - 100 m	30 - 50 LPM	Low	P	Nil	Not Required	Essentially run-off zone where hard crust is present. Areas of lateritic nodules are recharge zones with deep water table conditions. Primarily forest areas with sparse settlements. Not suitable for large scale development of ground water.
	Chhotanagpur Gneissic Complex (Lower Proterozoic-2500 m.yrs.)	Valley Fill Shallow (VFS)	No wells observed	Moderate	LS Underlain by WM + FR	TW / BW	30 - 50 m	150 - 175 LPM	Moderate	P	Nil	Not Required	Prospects inferred as no wells observed. Recharge condition is moderate with moderate ground water prospects.
		Buried Pediment Moderate (BPM)	No wells observed	Moderate	WM + FR	DW TW / BW	5 - 10 m 40 - 50 m	15 - 25 m ³ /day 150 - 175 LPM	Moderate	P	Nil	Not Required	Very small unit, no settlements, recharge structure not required
		Buried Pediment Shallow (BPS)	No wells observed	Limited	WM + FR	DW TW / BW	5 - 10 m 40 - 60 m	10 - 15 m ³ /day 75 - 100 LPM	Low	P	Nil	Not Required	Very small unit, no settlements, recharge structure not required
F --- 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 / Q --- Q / P --- P 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. Fractures/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		DESCRIPTION	SYMBOL	DIPS	BEDDING	SCHISTOSITY/ FOLIATION	SYMBOL	DESCRIPTION	SYMBOL	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	STATE INDEX	DISTRICT INDEX	BLOCK INDEX	MAPSHEET INDEX
		SHALLOW (0-10 METERS)	MODERATE (10-19 METERS)																
> 800 LPM	VIOLET			CANAL / TANK IRRIGATED AREA		GENTLE (< 15)				NH - 2			NATIONAL HIGHWAY						
400 - 800 LPM	INDIGO			GROUND WATER IRRIGATED AREA		MODERATE (15 - 45)				SH - 9			STATE HIGHWAY						
200 - 400 LPM	BLUE			RIVER / STREAM (with sand)		STEEP (45 - 80)							METALLED ROAD						
100 - 200 LPM	GREEN			WATER BODY / SPRING		SUB-VERTICAL TO VERTICAL (> 80)							OTHER ROAD						
50 - 100 LPM	YELLOW			RAIN GUAGE STATION (With average annual rainfall in mm)		ANTICLINE / ANTIFORM							RAILWAY						
30 - 50 LPM	ORANGE			PERCOLATION TANK		SYNCLINE / SYNTIFORM							CITY / VILLAGE						
20 - 30 LPM	BROWN			NALA BUND		TREND LINE							HABITATIONS : NON - COVERED (NC) PARTIALLY COVERED (PC)						
10 - 20 LPM	PINK			DESILTING OF TANK		ESCAPAMENT							BOUNDARY :						
Prospects inferred to be potable only (P/Potable) etc.)	RED			SUBSURFACE DYKE		LITHOLOGY / GEOMORPHIC UNIT BOUNDARY							STATE						
				BOIL CONSERVATION MEASURES		FAULT							DISTRICT						
				ARTESIAN WELL		THRUST							BLOCK						
						FRACTURE / LINEAMENT (Inferred)							OTHER INFORMATION						
						FRACTURE / LINEAMENT (Inferred)							Rainfall : 1386mm (Source IMD)						
						SHEAR ZONE (Confirmed / Inferred)													
						DYKE (Confirmed / Inferred)													
						QUARTZ REEF (Confirmed / Inferred)													
						PEGMATITE VEIN (Confirmed / Inferred)													
						Lithologic contacts are inferred at places & Geomorphic boundaries are areational													
PREPARED BY GEOINFORMATICS & REMOTE SENSING CELL W.B. STATE COUNCIL OF SCIENCE AND TECHNOLOGY DEPARTMENT OF SCIENCE AND TECHNOLOGY GOVERNMENT 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 SURVEY OF INDIA GEOLOGICAL SURVEY OF INDIA PHED, GOVT. OF WEST BENGAL STATE WATER INVESTIGATION DIRECTORATE, GOWB P.S.MAPS (LAND RECORD), GOVT OF WEST BENGAL				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 III B) DEPARTMENT OF DRINKING WATER SUPPLY (DDWS) MINISTRY OF RURAL DEVELOPMENT GOVERNMENT OF INDIA NEW DELHI			