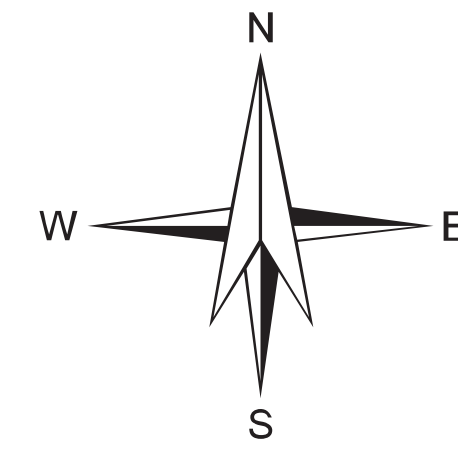
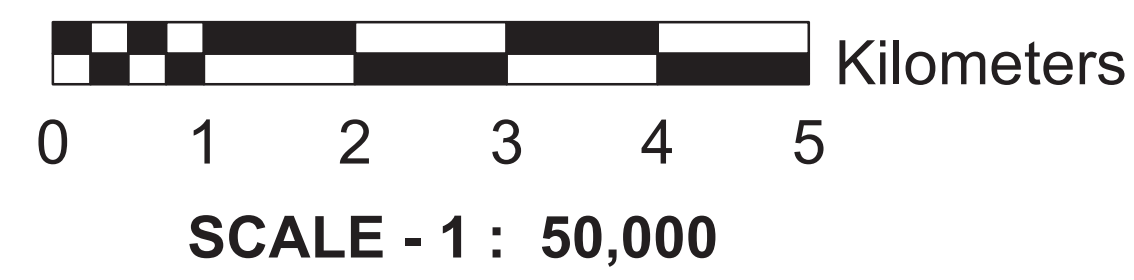


# GROUND WATER PROSPECTS MAP

(PREPARED FROM SATELLITE IMAGE INTERPRETATION WITH LIMITED FIELD CHECKS)



## LEGEND

MAP UNIT (HYDROGEOLOGICAL UNIT REPRESENTED IN THE MAP WITH ALPHANUMERIC CODE (COLOUR INDICATES YIELD RANGE AND MATCHING 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 SUMMER / PRE-MONSOON (RANGE IN METERS) NO. OF WELLS OBSERVED	RECHARGE CONDITIONS BASED ON AVAILABILITY OF WATER (RANFALL & OTHER SOURCES)	GROUND WATER PROSPECTS							RECHARGE STRUCTURES SUITABLE & PRIORITY (PROBLEMS / LANDFORMS)	
					AQUIFER MATERIAL (LS = LOOSE SEDIMENTS, PS = FISSURED ROCK, FR = FRACTURED ROCK, WM = WEATHERED MATERIAL, IM = IMPERVIOUS ROCK)	TYPE OF WELLS SUITABLE (RW = RAINFALL WELL, DW = DEEP WELL, TW = TUBEWELL, WBM = WHELL, BW = BORE WELL, CFW = CURVE TUBE WELL, CW = CUMULATIVE WELL)	DEPTH RANGE OF WELLS (METERS)	YIELD RANGE OF WELLS (EXPECTED) (IN LPM or m³/day)	HOMOGENEITY IN THE UNIT & SUCCESS RATE OF WELLS (PROBABILITY)	QUALITY OF WATER (SUITABLE (P) / NOT SUITABLE (N)) (INCLUDE REASON IF NOT SUITABLE)	GROUND WATER IRRIGATED AREA (APPROX. RANGE IN PERCENTAGE)		RECHARGE STRUCTURES SUITABLE & PRIORITY (PT = PERCOLATION TANK, CS = CHECK DAM, NW = NALA WASH, DS = DISTINGUISHING POINT, DF = DESTINGUISHING POINT, RS = RECHARGE TANK, BS = RECHARGE SHAFT, ST = STORAGE TANK, SCM = SOIL CONSERVATION MEASURES)
CB111	Alluvium (Sand Dominant) (111)	Channel Bar (CB)	5 - 6 2	Excellent	LS	RW TW	5-10	400-500	Very High	P	42%	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.
APY113	Alluvium (Sand and Sil) (113)	Alluvial Plain Younger (APY)	No wells observed	Excellent	LS	DW TW	10 - 12 20 - 30	100 - 125 m³/day 250 - 300 LPM	Very High	P	Negligible	Not Required	Aquifer is formed of sandy part of alluvium. Recharge structures are not required as a good recharge condition prevails.
VFS211	Laterite (Ferricrete-hard crust, lateritic nodules and lithomarg clay) (211)	Valley Fill Shallow (VFS)	No wells observed	Moderate	LS Underlain by WM+FR	TW / BW	40 - 50	50 - 100 LPM	Moderate	P	70%	CD Moderate	Recharge structures will increase the sustainability of groundwater prospects.
LP211	Lithomarg clay (211)	Lateritic Plain (LP)	No wells observed	Limited	WM+FR	DW TW / BW	15 - 20 50 - 60	15 - 25 m³/day 50 - 100 LPM	Moderate	P	40%	RW High	Recharge wells have high priority as the lithomarg clay layer needs to be percolated to recharge underlying aquifer formed of weathered material and fractured rock.
DLU211	Hard crust and lateritic nodules (211)	Dissected Lateritic Upland (DLU)	No wells observed	Poor to limited	WM+FR (Impervious Material)	TW / BW	80 - 100	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 steep water table conditions. Primary forest areas with sparse settlements. Not suitable for large scale development of groundwater.

*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.

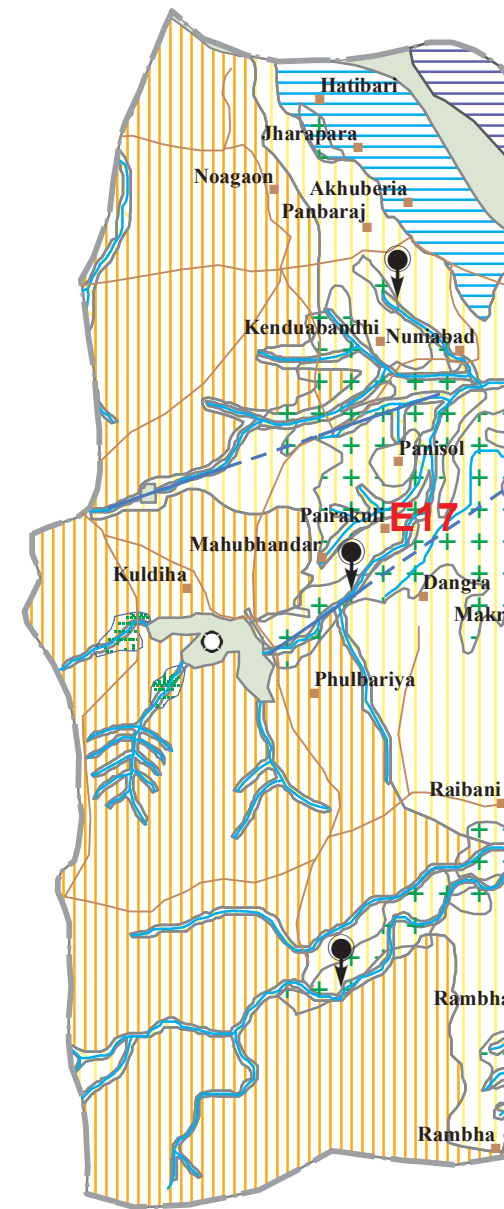
*D --- D / Q --- Q / P --- P* / --- / --- These are dykes, quartz reefs and pegmatite veins, which generally act as barriers for ground water movement.

*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.

MAP SHEET NO. 73J/12

PASCHIM MEDINIPUR DISTRICT, WEST BENGAL

A  
S  
S  
I  
R  
O



### GROUND WATER PROSPECTS INFORMATION

YIELD RANGE OF WELLS	COLOUR CODE	DEPTH RANGE OF WELLS (IN METERS)	SHALLOW (0-10)	MODERATE (10-40)	DEEP (>40)
> 800 LPM	VIOLET				
400 - 800 LPM	INDIGO				
200 - 400 LPM	BLUE				
100 - 200 LPM	GREEN				
50 - 100 LPM	YELLOW				
30 - 50 LPM	ORANGE				
20 - 30 LPM	BROWN				
10 - 20 LPM	PINK				
Prospects (Under water surface city (W.C. Pattern))	RED				
Problems (Under water surface city (W.C. Pattern))	RED				

### HYDROLOGICAL INFORMATION

DESCRIPTION	SYMBOL
CANAL / TANK IRRIGATED AREA	
GROUND WATER IRRIGATED AREA	
RIVER / STREAM (with sand)	
WATER BODY / SPRING	
CANAL	
RAIN GUAGE STATION (with average annual rainfall in mm)	
RECHARGE STRUCTURES SUGGESTED	
PERCOLATION TANK	
NALA RUND	
DESILTING TANK	
SUBSURFACE DYKE	
SOIL CONSERVATION MEASURES	
CHECK DAM	
RECHARGE WELL	
RECHARGE PIT	
RECHARGE SHAFT	
STORAGE TANK	

### STRUCTURAL INFORMATION

DIPS	BEDDING	SCHEMATIC / FOLIATION
GENTLE (< 15°)		
MODERATE (15 - 45°)		
STEEP (45 - 80°)		
VERY VERTICAL (> 80°)		
ANTICLINE / ANTIFORM		
SYNCLINE / SYNFORM		
TREND LINE		
ESCAPMENT		
LITHOLOGY / GEOMORPHIC UNIT BOUNDARY		
FAULT		
THRUST		
FRACATURE / LINEAMENT		
FRACATURE / LINEAMENT (Inferred)		
SHEAR ZONE (Confirmed / Inferred)		
DYKE		
QUARTZ REEF		
PEGMATITE VEIN (Confirmed / Inferred)		

### BASE MAP INFORMATION

SYMBOL	DESCRIPTION
NH - 2	NATIONAL HIGHWAY
SH - 9	STATE HIGHWAY
	METALLED ROAD
	OTHER ROAD
	RAILWAY
	CITY / VILLAGE
	HABITATIONS: NON - COVERED (NC) PARTIALLY COVERED (PC)
BOUNDARY:	
	STATE
	DISTRICT
	BLOCK
OTHER INFORMATION	
Rainfall : 1542mm (Source IMD)	

### LOCATION INFORMATION

STATE INDEX	DISTRICT INDEX
BLOCK INDEX	MAPSHEET INDEX
BLOCK: 73J SHEET: 73J/12	
BLOCK: 73K SHEET: 73K/13	

### 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  
PHE.D, 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 RURAL DEVELOPMENT  
MINISTRY OF RURAL DEVELOPMENT  
GOVERNMENT OF INDIA  
NEW DELHI