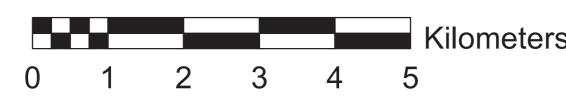
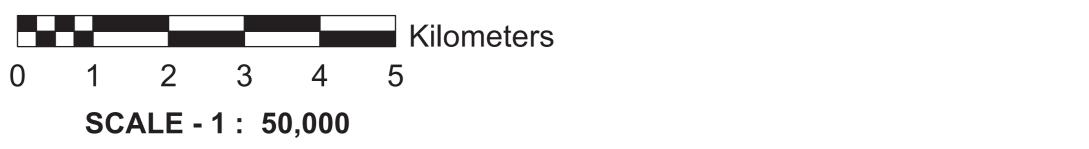
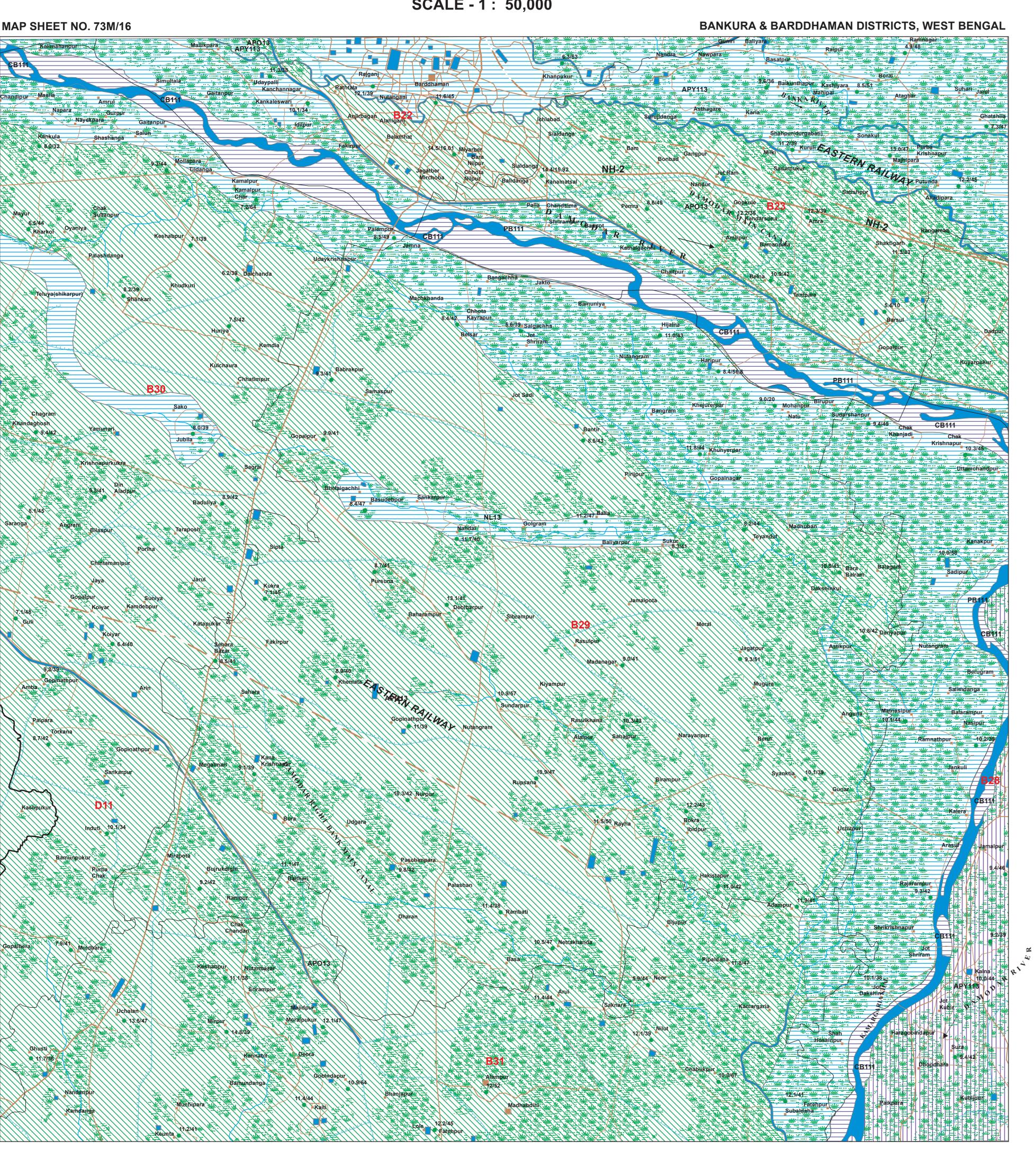
GROUND WATER PROSPECTS MAP

(PREPARED FROM SATELLITE IMAGE INTERPRETATION WITH LIMITED FIELD CHECKS)







DATA USED: IRS - P6 LISS III FCC dated February 2006, GROUND TRUTH & WELL OBSERVATION during April-May, 2009 & Jan-Feb, 2010, Published Geological maps & Literatures.

Designed & Developed by Hydrogeology Division, NRSC, ISRO

C NRSC (ISRO), DEPT. OF SPACE, GOVT. OF INDIA

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MAP UNIT	GEOLOGICAL SEQUENCE / ROCK TYPE	GEOMORPHIC UNIT / LANDFORM	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 &	REMARKS
UNIT) REPRESENTED IN THE MAP WITH					AQUIFER MATERIAL	TYPE OF WELLS SUITABLE	DEPTH RANGE OF WELLS (SUGGESTED)	YIELD RANGE OF WELLS (EXPECTED)	HOMOGENEITY IN THE UNIT & SUCCESS	QUALITY OF WATER POTABLE (P)	GROUND WATER IRRIGATED	PRIORITY PT = PERCOLATION TANK CD = CHECK DAM	(PROBLEMS / LIMITATIONS)
ALPHANUMERIC CODE (COLOUR INDICATES YIELD RANGE AND HATCHING INDICATE DEPTH RANGE)	(REPRESENTED IN THE MAP WITH NUMERIC CODE)	(REPRESENTED IN THE MAP WITH ALPHABETIC CODE)			LS = LOOSE SEDIMENTS PR = PERMEABLE ROCK FIR = FISSURED ROCK FR = FRACTURED ROCK WR /= WEATHERED ROCK / WM WEATHERED MATERIAL IR = IMPERIVIOUS ROCK	DW = DUG WELL RW = RING WELL BW = BORE WELL TW = TUBE WELL DBW / = DUG CUM-BORE WELL / DTW DUG CUM-TUBE WELL	MIN - MAX (IN METERS)	(in LPM or m ³ /day)	RATE OF WELLS (PROBABILITY) VERY HIGH HIGH MODERATE LOW	NON - POTABLE (NP) (INDICATE REASONS IF NON POTABLE)	AREA (APPROX . RANGE IN PERCENTAGE)	NB = NALA BUND RW = RECHARGE WELL DT = DESILTING OF TANK RP = RECHARGE PIT SD = SUBSURFACE DYKE RS = RECHARGE SHAFT ST = STORAGE TANK SCM = SOIL CONSERVATION MEASURES	
PB111	Day) minimilar	Point Bar (PB)	6 1	Very Good	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.
CB111	Hugli/Bhagirathi Formation/Pres (Present Day) (111) (Tresent Day) (Tresent Day)	Channel Bar (CB)	<u>5 - 6</u> 2	Excellent	LS	TW	5-10 m	400-500 LPM	Very High	Р	Nil	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.
APY113	te Holocene) Holocene) Holocene) Mulician (Sand and Silt)	Alluvial Plain Younger	5.5 - 14.6 DW - 6 HP - 39	Very Good	LS	DW TW	10 - 12 m 20 - 30 m	100 - 125 m³/day 200 - 250 LPM	Very High	Р	74 %	Not Required	Aquifer is formed of sandy part of alluvium. Recharge structures are not required as good recharge conditions prevail
APY113	Panskura/Aram (Early to Lat (211)	(APY)	12.1 - 23.0 HP - 23	Very Good	LS	TW	100 - 120 m	400 - 500 LPM	Very High	NP (As) [At shallow depth]	42%	Not Required	Potable water available at depth range above 100 m.
NL13	arly Holocene)	Natural Leeve (NL)	8.4 - 11.7 HP - 3	Good to Very Good	LS	DW TW	10 - 15 m 25 - 30 m	50 - 75m³/day 200 - 250 LPM	High	P	4%	Not Required	Aquifer is formed of sandy part of alluvium.Recharge structures are no required as good recharge conditions prevail.
DC12	Pleistocene to Early Ho T a t a t a t a c a t a c a c a c a c a c	Palaeochannel (PC)	8.0 HP - 1	Very Good	LS	DW TW	5 - 10 m 10 - 20 m	125 -150m ³ /day 300 - 400 LPM	Very High	P	Nil	Not Required	Aquifer is formed of sandy part of alluvium.Recharge structures are no required as good recharge conditions prevail.
	CLate PI	Alluvial Plain Older (APO)	5.0 - 14.9 HP - 71	Good	LS	DW TW	10 - 15 m 40 - 60 m	50 - 75m³/day 150 - 200 LPM	High	Р	Nil	Not Required	Moderate groundwater potentia at intermediate depths.
FF/ —— / — —	These are fac	 ult / fracture zones, which ge	enerally act as conduits for mo	ovement of ground water in	hard rocks. Along these zone	es, the yields are significantl	 y higher and wells a	re likely to be sustaina	hble for longer duration	on. However, the inferre	ed fractures need to be o	confirmed by detailed ground survey	s.
DD /QQ /	P_P These are P_P	dykes, quartz reefs and	I pegmatite veins, which g	enerally act as barriers	for ground water moveme	ent.							
	N.BThe depth range and yield Locations of the	range of wells may vary	within the unit because of	certain inhomogeneities	. Fractures/Lineaments wh	nich are clearly observed	/ inferred from the	e satellite image are	indicated on the me	ap. There could be s	ome obscured fractu	res which also influence the gro hydrogeological/geophysical su	und water prospects.

GROU	ND WATE	R PROSP	ECTS INFOR	MATION	HYDROLOGICAL INFO	RMATION	STRUCT	URAL INFORMAT	TON	BASE MAI	PINFORMATION	LOCATION I	NFORMATION
YIELD	COLOUR	DEPTH	RANGE OF V	VELLS	DESCRIPTION	SYMBOL	DIPS	BEDDING	SCHISTOSITY/ FOLIATION	SYMBOL	DESCRIPTION	STATE INDEX	DISTRICT INDEX
RANGE F WELLS	COLOUR CODE	SHALLOW	MODERATE	DEEP	CANAL / TANK IRRIGATED AREA	14	GENTLE (<15)	/	A	NH - 2	NATIONAL HIGHWAY		Prof.
F WELLS		< 30 METERS	30 - 80 METERS	> 80 METERS	GROUND WATER IRRIGATED AREA	+ + +	MODERATE (15 - 45)	/	A				
800 LPM	VIOLET				RIVER / STREAM (with sand)		STEEP (45 - 80)	Á	Á	SH - 9	STATE HIGHWAY	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	A C
					WATER BODY / SPRING	<u></u>	SUB - VERTICAL TO VERTICAL (> 80)	×	×		METALLED ROAD		22
00 - 800 LPM	INDIGO				CANAL	111111111	ANTICLINE / ANTIFORM		← ←		07,177, 2017	INDIA	C D B
					RAIN GUAGE STATION (With average annual rainfall in mm)	800					OTHER ROAD		
00 - 400 LPM	BLUE				RECHARGE STRUCTURES S		SYNCLINE / SYNFORM		←		RAILWAY	₩EST	F F
					NALA BUND REC	CHARGE WELL	TREND LINE					BENGAL	A-BIRBHUM B-BARDDHAMAN
0 - 200 LPM	GREEN				SUBSURFACE DYKE IIIIIII	CHARGE PIT					CITY / VILLAGE		C-PURULIYA D-BANKURA E-PASCHIM MEDINIPUR
		-	A		SOIL CONSERVATION A CONSERVATION	CHARGE SHAFT A PRAGE TANK	ESCARPMENT	, y	Marketin My		BITATIONS : NON - COVERED (NC)		E-FASCHIM MEDINIPOR
) - 100 LPM	YELLOW				WELLS OBSERVED DURING FIELD V YIELD RANGE BORE / YIELD RANG		LITHOLOGY / GEOMORPH	HIC UNIT			PARTIALLY COVERED (PC)		
					IN LPM TUBE WELL IN m³/ day	dav RING WELL	BOUNDARY	MINOR	MAJOR			BLOCK INDEX	MAPSHEET INDEX
) - 50 LPM	ORANGE				400 - 800 LPM - 15/70 200 - 400 m ³ /	day • 8/15	FAULT	FF	FF		BOUNDARY: STATE		
					200 - 400 LPM - 15/70 100 - 200 m ³ /	·	THRUST	тт	Т——Т		STATE	B22 page	73M/11 73M/15 79A/3
0 - 30 LPM	BROWN				100 - 200 LPM	.,	FRACTURE / LINEAMENT				DISTRICT	B23	
0 - 30 El W	21101111				50 - 100 LPM	.,	FRACTURE / LINEAMENT (Inferred)				BLOCK	B30 &	73M/12 73M/16 79A/4
0 - 20 LPM	PINK				20 - 30 LPM		<u> </u>	onfirmed / Inferred) S	S/S S	0.7//5		B29	75M12 75M1/10 77A/4
					10 - 20 LPM	-	<u> </u>	onfirmed / Inferred)	D / D D	OTHE	R INFORMATION	B28	
ospects lited to valley rtions only				mmmml	<10 LPM + 15/70 <5 m ³ /d	day • 8/15				Rainfa	III: 1348mm	B22 BARDDHAMAN - I B28 JAMALPUR B23 BARDDHAMAN - II B31 RAINA - II	73N/9 73N/13 79B/1
ills, Plateaus	RED				Colour inside well symbol indicates yield range. I hand side of well indicate the depth to water level		QUARTZ REEF (C	onfirmed / Inferred)	Q / Q - Q			B29 RAINA - I D11 INDUS B30 KHANDAGHOSH	
n-off zone/	l KED		<u> </u>		DUG - CUM- BORE WELL	HAND PUMP WELL	PEGMATITIE VEIN (C	onfirmed / Inferred)	P / P P	(So	urce IMD)		
rrier for N. movement			(Inselberg / Ridg	ge / Dyke etc.)	ARTESIAN WELL	OBSERVATION WELL OF G.W DEPT. / C.G.W.B.	Lithologic contacts are in are gradational	nferred at places & Ge	omorphic boundaries	,	,		
PREPARED BY TECHNICAL GUIDAN		TECHNICAL GUIDANCE & QU	ALITY CHECK	PARTICIPATING ORGANIZATIONS			*** METHODOLOGY	& PROJECT EXECUTION	SPONSORED BY				
GEOINF			OTE SENSI	NG CELL	ਤਸ਼ਹੇ ਤਿਸ਼ਤ					इसरो ंडाव		RAJIV GANDHI NATIONAL I	
3. STATE COUNCIL OF SCIENCE AND TECHNOLOGY DEPARTMENT OF SCIENCE AND TECHNOLOGY			NATIONAL REMOTE SENS	SURVEY OF INDIA GEOLOGICAL SURVEY OF INDIA			NATIONAL REMO	TE SENSING CENTRE	(PHASE III B) DEPARTMENT OF DRINKING WATER SUPPLY (DDW				
					INDIAN SPACE RESEARCH ORG		1	VT. OF WEST B			EARCH ORGANISATION (ISRO)	MINISTRY OF RURA	•
GOVERNMENT OF WEST BENGAL 4TH FLOOR, BIKASH BHAVAN		DEPT. OF SPACE, GOV	STATE WATER INVESTIGATION DIRECTORATE, GOWB			1	PACE, GOVT. OF INDIA	GOVERNMENT OF INDIA					
SALT LAKE, KOLKATA 700 091			CATA 700 09	1	BALANAGAR, HYDERAB	P.S.MAPS (LAND RECORD), GOVT OF WEST BENGAL			BALANAGAR	HYDERABAD - 500 625	NEW DELHI		