## GROUND WATER PROSPECTS MAP (PREPARED FROM SATELLITE IMAGE INTERPRETATION WITH LIMITED FIELD CHECKS) SCALE - 1: 50,000

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.

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MAP UNIT	GEOLOGICAL SEQUENCE / ROCK TYPE  (REPRESENTED IN THE MAP WITH NUMERIC CODE)		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	REMARKS
HYDROGEOMORPHIC UNIT )  REPRESENTED IN THE MAP WITH LPHANUMERIC CODE  COLOUR INDICATES YIELD RANGE AND HATCHING INDICATE DEPTH RANGE)			( REPRESENTED IN THE MAP WITH ALPHABETIC CODE )			AQUIFER MATERIAL  LS = LOOSE SEDIMENTS PR = PERMEABLE ROCK FIR = FISSURED ROCK FR = FRACTURED ROCK WR /= WEATHERED ROCK / WM WEATHERED MATERIAL IR = IMPERIVIOUS ROCK	TYPE OF WELLS SUITABLE  DW = DUG WELL RW = RING WELL BW = BORE WELL TW = TUBE WELL DBW / = DUG CUM-BORE WELL DTW DUG CUM-TUBE WELL	DEPTH RANGE OF WELLS (SUGGESTED) MIN - MAX (IN METERS)	YIELD RANGE OF WELLS (EXPECTED) (in LPM or m <sup>3</sup> / day)	HOMOGENEITY IN THE UNIT & SUCCESS RATE OF WELLS (PROBABILITY)  VERY HIGH HIGH MODERATE LOW	QUALITY OF WATER POTABLE (P) NON - POTABLE (NP) (INDICATE REASONS IF NON POTABLE)	GROUND WATER IRRIGATED AREA (APPROX . RANGE IN PERCENTAGE )	SUITABLE & PRIORITY  PT = PERCOLATION TANK CD = CHECK DAM 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	(PROBLEMS/LIMITATIONS)
CB111	on/Present day Deposits nt Day)	Alluvium (Sand Dominant) (111)	Channel Bar (CB)	<u>5 - 6</u> 2	Excellent	LS	TW	5-10 m	400-500 LPM	Very High	Р	42%	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.
PB111	     Hugli/Bhagirathi Formation   Preser		Point Bar (PB)	<u>6</u> 1	Very Good	LS	RW TW	5-10 m	300-400 LPM	Very High	Р	7%	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.
APY113	Panskura/Arambagh Fm (Early to Late Holocene)	Alluvium (Sand Dominant) (113)	Alluvial Plain Younger (APY)	4.4 - 7.5 m HP - 8	Very Good	LS	DW TW	10 - 12 m 20 - 30 m	100 -125m <sup>3</sup> /day 200 - 2500 LPM	Very High	Р	Nil	Not Required	Aquifer is formed of sandy part of alluve Recharge structures are not required good recharge condition prevails
NL13	hat Formation r Holocene)	Alluvium (Sand,Silt and Clay) (13)	Natural Leeve (NL)	8.2 - 14.5 DG - 3 HP - 6	Good to Very Good	LS	DW TW	10 - 15 m 25 - 30 m	50 - 75m³/day 175 - 200 LPM	High	Р	Nil	Not Required	Aquifer is formed of sandy part of alluving Recharge structures are not required a good recharge conditions prevail
APO13	Sijua/Rampur (Lowe		Alluvial Plain Older (APO)	3.5 - 8.1 DW - 43 HP - 40	Good	LS	DW TW	15 - 20 m 40 - 60 m	50 - 75 m³/day 150 - 200 LPM	High	Р	Nil	Not Required	Aquifer is formed of sandy part of allu Recharge structures are not required a good recharge condition prevails
VFS211	ormation stocene)	Middle to Upper Pleistocene (Aidle to Upper Pleistocene (A	Valley Fill Shallow (VFS)	No wells observed	Moderate	LS underlain by WM + FR	TW / BW	40 - 50 m	50 - 100 LPM	Moderate	Р	Nil	DT Moderate	Recharge structure will increase the sustainability of ground water prospects
LP211	h/IIIambazar F Middle to Upper Plei		Lateritic Plain (LP) (Lithomarge Clay)	2.2 - 7.5 DW - 32 HP - 16	Limited	WM + FR	DW TW / BW	15 - 20 m 50 - 60 m	15 - 25 m <sup>3</sup> /day 50 - 100 LPM	Moderate	Р	Nil	RW 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
DLU211	Lalgar		Dissected Lateritic Upland (DLU) (Hard and Lateritic nodules)	4.7 HP -1	Poor to limited	WM + IR (Impervious Material)	TW / BW	80 -100 m	30 - 50 LPM	Low	Р	Nil	Not Required	Essentially run-off zone where hard cr 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

D\_\_\_\_D /Q\_\_\_Q / P\_\_\_P
These are dykes, quartz reefs and pegmatite veins, which generally act as barriers for ground water movement.

Designed & Developed by Hydrogeology Division, NRSC, ISRO

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.

