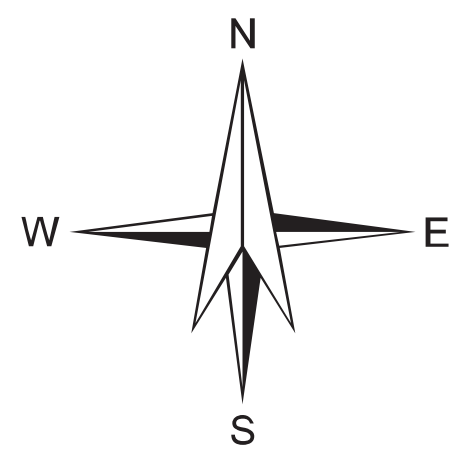
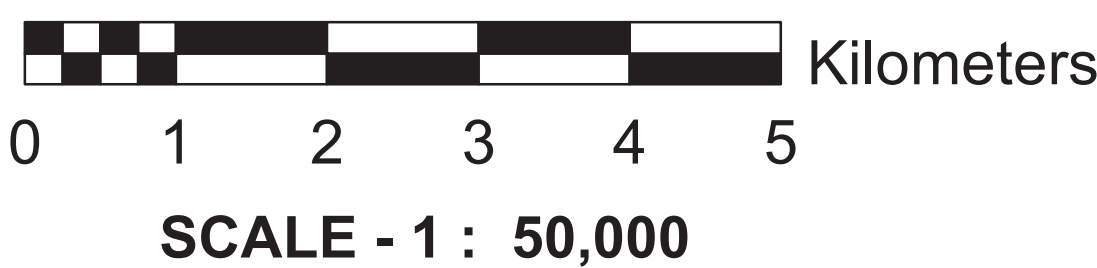


GROUND WATER PROSPECTS MAP

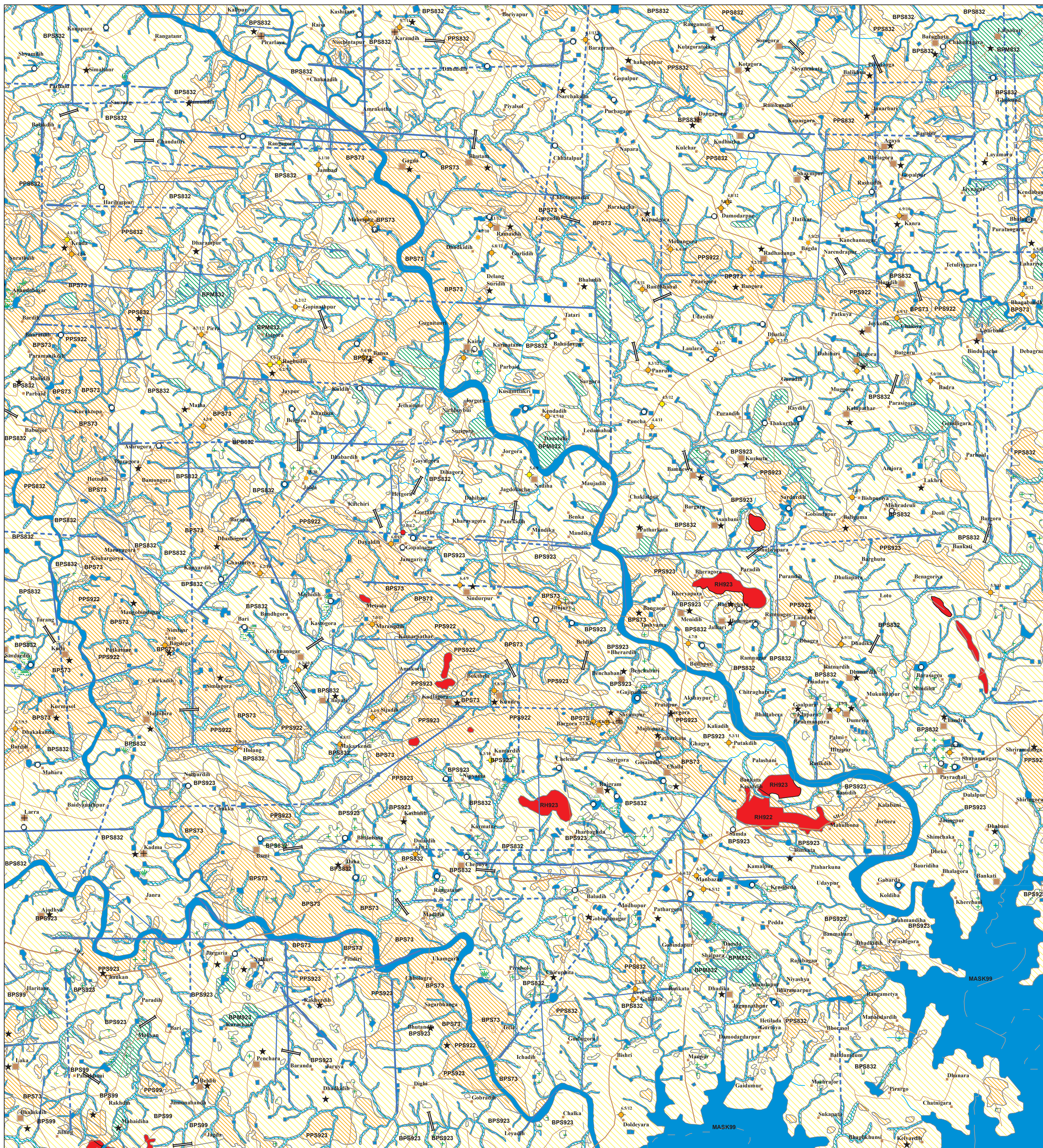
(PREPARED FROM SATELLITE IMAGE INTERPRETATION WITH LIMITED FIELD CHECKS)



LEGEND

MAP SHEET NO. 73I/12

PURULIYA AND BANKURA DISTRICTS, WEST BENGAL



MAP UNIT (HYDROGEOLOGIC 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 ALPHANUMERIC CODE)	GEOMORPHIC UNIT / LANDFORM (REPRESENTED IN THE MAP WITH ALPHANUMERIC 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	TYPE OF WELLS SUITABLE	DEPTH RANGE OF WELLS (SUGGESTED)	YIELD RANGE OF WELLS (EXPECTED)	HOMOGENEITY IN THE UNIT & SUCCESS RATE OF WELLS (PROBABILITY)	QUALITY OF WATER (POTABLE P, NON-POTABLE NP)	GROUND WATER IRRIGATED AREA (APPROX. RANGE IN PERCENTAGE)		
BP573	Mafic Intrusives (J.P. 1000000, 1072 m. m)	Anorthosite and Gabbroic Anorthosite (73)	2.6 - 6.69 DW - 20 HP - 1	Limited	WM+FR	DW TW / BW	5 - 10 40 - 60	< 5 m ³ / day 30 - 50 LPM	Low	p	20%	RP High	Limited groundwater resources. Priority of recharge structures is high
VF5922	Singbhum Group (J.P. 1000000, 2000 - 2400 m. m)	Valley Fill Shallow (VFS)	5.87 DW - 1	Moderate	LS Underlain by WM+FR	TW / BW	30 - 50	100 - 125 LPM	Moderate	p	5%	CD/DT Moderate	Prospects inferred as no well observed. Recharge condition is moderate with moderate groundwater prospects
BPM922		Buried Pediplain Moderate (BPM)	No wells observed	Moderate	WM+FR	DW	5 - 10 40 - 60	10 - 15 m ³ / day 100 - 125 LPM	Moderate	p	10%	RP Moderate	Weathered material and underlying fractured rock form the aquifer. Recharge structures will improve sustainability of groundwater resources
PPS922		Weathered Pediplain Shallow (PPS)	No wells observed	Poor	FR	DW TW / BW	5 - 10 40 - 60	5 - 10 m ³ / day 30 - 50 LPM	Low	-	5%	RP High	Due to high run-off and poor infiltration, recharge structures are required to maintain sustainability of groundwater resources
RH922	Chotanagpur Gneiss Complex (Lower Proterozoic, 2400 m. m)	Residual Hill (RH)	No wells observed	-	-	-	-	-	-	-	-	-	Run-off zone. Not suitable for ground water development
VF5832		Valley Fill Shallow (VFS)	No wells observed	Moderate	LS Underlain by WM+FR	TW / BW	30 - 50	150 - 175 LPM	Moderate	p	5%	CD/DT Moderate	Prospects inferred as no well observed. Recharge condition is moderate with moderate groundwater prospects
BPM832		Buried Pediplain Moderate (BPM)	No wells observed	Moderate	WM+FR	DW TW / BW	5 - 10 40 - 60	15 - 25 m ³ / day 150 - 175 LPM	Moderate	p	Negligible	RP Moderate	Recharge structure will improve ground water prospects
BPS832		Buried Pediplain Shallow (BPS)	3.06 - 8.35 DW - 37 HP - 4	Limited	WM+FR	DW TW / BW	5 - 10 40 - 60	5 - 10 m ³ / day 75 - 100 LPM	Low	p	20%	RP/DT High	Recharge Structures will improve sustainability of groundwater sources
PPS832		Weathered Pediplain Shallow (PPS)	No wells observed	Poor	FR	DW TW / BW	5 - 10 40 - 60	5 - 10 m ³ / day 30 - 50 LPM	Low	p	Nil	RP High	Due to high run off and poor infiltration, recharge structures are required to maintain sustainability of groundwater sources
RH832	Unclassified Metamorphic (Older Metamorphic) (Archaean)	Residual Hill (RH)	No wells observed	-	-	-	-	-	-	-	-	-	Run-off zone. Not suitable for ground water development
VF5923		Valley Fill Shallow (VFS)	5.87 DW - 1	Moderate	LS Underlain by WM+FR	TW / BW	30 - 50	100 - 125 LPM	Moderate	p	5%	CD/DT Moderate	Prospects inferred as no well observed. Recharge condition is moderate with moderate groundwater prospects
BPM823		Buried Pediplain Moderate (BPM)	No wells observed	Moderate	WM+FR	DW TW / BW	5 - 10 40 - 60	10 - 15 m ³ / day 100 - 125 LPM	Moderate	p	10%	RP Moderate	Weathered material and underlying fractured rock form the aquifer. Recharge structures will improve sustainability of groundwater resources
BPS923		Buried Pediplain Shallow (BPS)	3.62 - 9.20 DW - 27 HP - 1	Limited	WM+FR	DW TW / BW	5 - 10 40 - 60	5 - 10 m ³ / day 50 - 75 LPM	Low	p	20%	RP/DT High	Recharge structures will improve sustainability of groundwater sources
PPS923		Weathered Pediplain Shallow (PPS)	No wells observed	Poor	FR	DW TW / BW	5 - 10 40 - 60	5 - 10 m ³ / day 30 - 50 LPM	Low	-	5%	RP High	Due to high run-off and poor infiltration, recharge structures are required to maintain sustainability of groundwater sources
RH923		Residual Hill (RH)	No wells observed	-	-	-	-	-	-	-	-	-	Run-off zone. Not suitable for ground water development
VF599		Valley Fill Shallow (VFS)	No wells observed	Moderate	LS Underlain by WM+FR	TW / BW	30 - 50	50 - 75 LPM	Moderate	p	10%	CD High	Loose sediments and mostly weathered zone form the aquifer. Recharge structures will enhance sustainability of groundwater prospects
BPM99		Buried Pediplain Moderate (BPM)	No wells observed	Moderate	WM+FR	DW TW / BW	5 - 10 40 - 60	5 - 10 m ³ / day 50 - 75 LPM	Moderate	p	50%	Not Required	Recharge structures not required since there are no settlements in the unit
BPS99		Buried Pediplain Shallow (BPS)	No wells observed	Limited	WM+FR	DW TW / BW	5 - 10 40 - 60	< 5 m ³ / day 30 - 50 LPM	Low	p	5%	RP High	Priority of recharge structures is high since yield is low. Dug wells preferred
PPS99		Weathered Pediplain Shallow (PPS)	No wells observed	Poor	FR	DW TW / BW	5 - 10 40 - 60	< 5 m ³ / day 20 - 30 LPM	Low	p	Nil	Not Required	Recharge structures not required since there are no settlements in the unit
RH99		Residual Hill (RH)	No wells observed	-	-	-	-	-	-	-	-	-	Run-off zone. Not suitable for ground water development

F_{max} / F_{min} / F_{avg}

These are faults / 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_{max} / D_{min} / D_{avg} / P_{max} / P_{min} / P_{avg}
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	STATE INDEX	DISTRICT INDEX						
		SHALLOW < 10 METERS	MODERATE 10 - 40 METERS	DEEP > 40 METERS										SYMBOL	DESCRIPTION	STATE INDEX	DISTRICT INDEX		
> 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				CANAL		ANTICLINE / ANTIFORM					RAILWAY							
30 - 50 LPM	ORANGE				RAIN GUAGE STATION (With average annual rainfall in mm)	800	SYNCLINE / SYNFORM					CITY / VILLAGE							
20 - 30 LPM	BROWN				RECHARGE STRUCTURES SUGGESTED		TREND LINE					HABITATIONS : NON - COVERED (NC) PARTIALLY COVERED (PC)							
10 - 20 LPM	PINK				PERCOLATION TANK		ESCAPAMENT					BOUNDARY :							
Prospects inferred only (PPS, PMS, etc.)	RED				NALA BUND		LITHOLOGY / GEOMORPHIC UNIT BOUNDARY					STATE							
Run off zone					DESIGNING OF TANK		FAULT					DISTRICT			BLOCK INDEX				
					SUBSURFACE DYKE		THRUST					BLOCK	MAPSHEET INDEX						
					SOIL CONSERVATION MEASURES		FRACURE / LINEAMENT					OTHER INFORMATION							
							FRACURE / LINEAMENT (Inferred)					Rainfall : 1322 mm (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 gradational												
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			