केंद्रीय भूमि जल बोर्ड

जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय

भारत सरकार

Central Ground Water Board

Ministry of Water Resources, River Development and Ganga Rejuvenation

Government of India

AQUIFER MAPPING REPORT

Parts of Dimapur District, Nagaland

उत्तरी पूर्वी क्षेत्र, गुवाहाटी

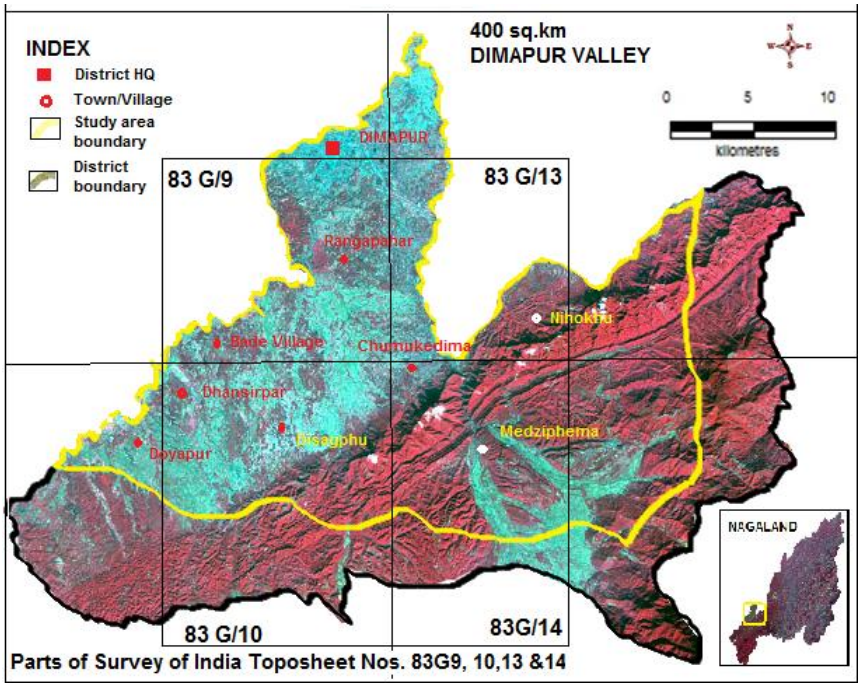
North Eastern Region, Guwahati

CENTRAL GROUND WATER BOARD

MINISTRY OF WATER RESOURCES

GOVERNMENT OF INDIA

AQUIFER MAPPING OF FLUVIAL ALLUVIUM VALLEY AREA OF BRAHMAPUTRA IN DIMAPUR VALLEY COVERING AN AREA OF 400 SQ.KM ON 1: 50,000 SCALE (PARTS OF SURVEY OF INDIA TOPOSHEETS 83G/9, 10, 13 AND 14) DIMAPUR DISTRICT), NAGALAND



NORTH EASTERN REGION

GUWAHATI

JULY, 2013

AQUIFER MAPPING OF FLUVIAL ALLUVIUM VALLEY AREA OF BRAHMAPUTRA IN DIMAPUR VALLEY COVERING AN AREA OF

400 SQ.KM ON 1: 50,000 SCALE (PARTS OF SURVEY OF INDIA TOPOSHEETS 83G/9, 10, 13 AND 14) DIMAPUR DISTRICT), NAGALAND

CONTENT

ABBREBIATIONS

LIST OF ABBREVIATIONS USED IN THIS REPORT

AAP	Annual Action Plan
AMP	Aquifer Management Plan
AQM	Aquifer Mapping
mamsl	Metre above mean sea level
BIS	Bureau of Indian Standards
BDL	Below detectable level
BCM	Billion Cubic Metres
DGM	Directorate of Geology and Mining
DTW	depth to water table
DW	Dug Well
EC	Electrical Conductivity
EW	Exploratory Well
GEC	Ground water Estimation Committee
GSI	Geological Survey of India
Ha	hectare
Ham	*hectare meter*
HQ	Head quarters
IMD	Indian Meteorological Department
Km	kilometer
LPD	liters per day
magl	meter above ground level
mbgl	meter below ground level
MCM	million cubic meters
mm	millimeter
mg/l	milligram per litre
MP	Measuring Point
NE-SW	North East _ South West
NGO	Non Government Voluntary Organization
NSSO	National l Sample Survey Organization
OW	Observation Well
^{o}C	degree Celsius
Ppm	parts per million equivalents to mg/l
Pz	Piezometer
SH	structural hills
SSE	South south East
sq. km	square kilometer
SWL	static water level
TDS	*Total dissolved solids*
VO	Volunteer Organisation
WHO	World Health Organization

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REPORT ON AQUIFER MAPPING IN PARTS OF SURVEY OF INDIA TOPOSHEET NOS.83 G/9, 10, 13 & 14 BY COVERING AN AREA OF 400 SQ.KM DIMAPUR VALLEY (ON 1: 50,000 SCALE) IN DIMAPUR DISTRICT, NAGALAND

1.0 INTRODUCTION

An area of 400 sq km in Dimapur district of Nagaland was covered as per the Annual Action Plan 2012-13 of Central Ground Water Board, North Eastern Region, Guwahati.

The study area covers Dimapur valley falling under Survey of India toposheets no. 83 G/9,G/10,G/13 and G/14 lies between north latitudes $25^0\ 54'\ 45''$ & $26^0 17'\ 06''$ and east longitudes $93^0 44'\ 30''$ & $94^0 15'\ 03''$. The study area forms part of Dhansiri and Doyang Sub-basins of the Brahmaputra Basin.

According to the 2011 census Dimapur district has a population of 379,769. The population density is 410 as per 2011 census.

The geomorphic units identified in the study area include alluvial plain, structural hills, intermontane valley fills, flood plains, residual hills, meander scars and ox-bow lakes. The alluvial plain and structural hills cover most part of the study area. The alluvial plain is found in the northern part of the study area whereas the structural hills occupy the southern part. The residual hills are the remnants of weathering and denudation.

The study area (Fig. 1) 1is dominated by Quaternary sediments and Tertiary rocks. The Quaternary sediments consist mainly of clays, sand and pebbles whereas the Tertiary rocks consist mainly of sandstones and shales. The Quaternary sediments provide good scope for infiltration and recharge of ground water. Consequently, they have good potential for ground water. The Tertiary rocks which form the structural hills and residual hill act as runoff zones and thus have less potential for ground water.

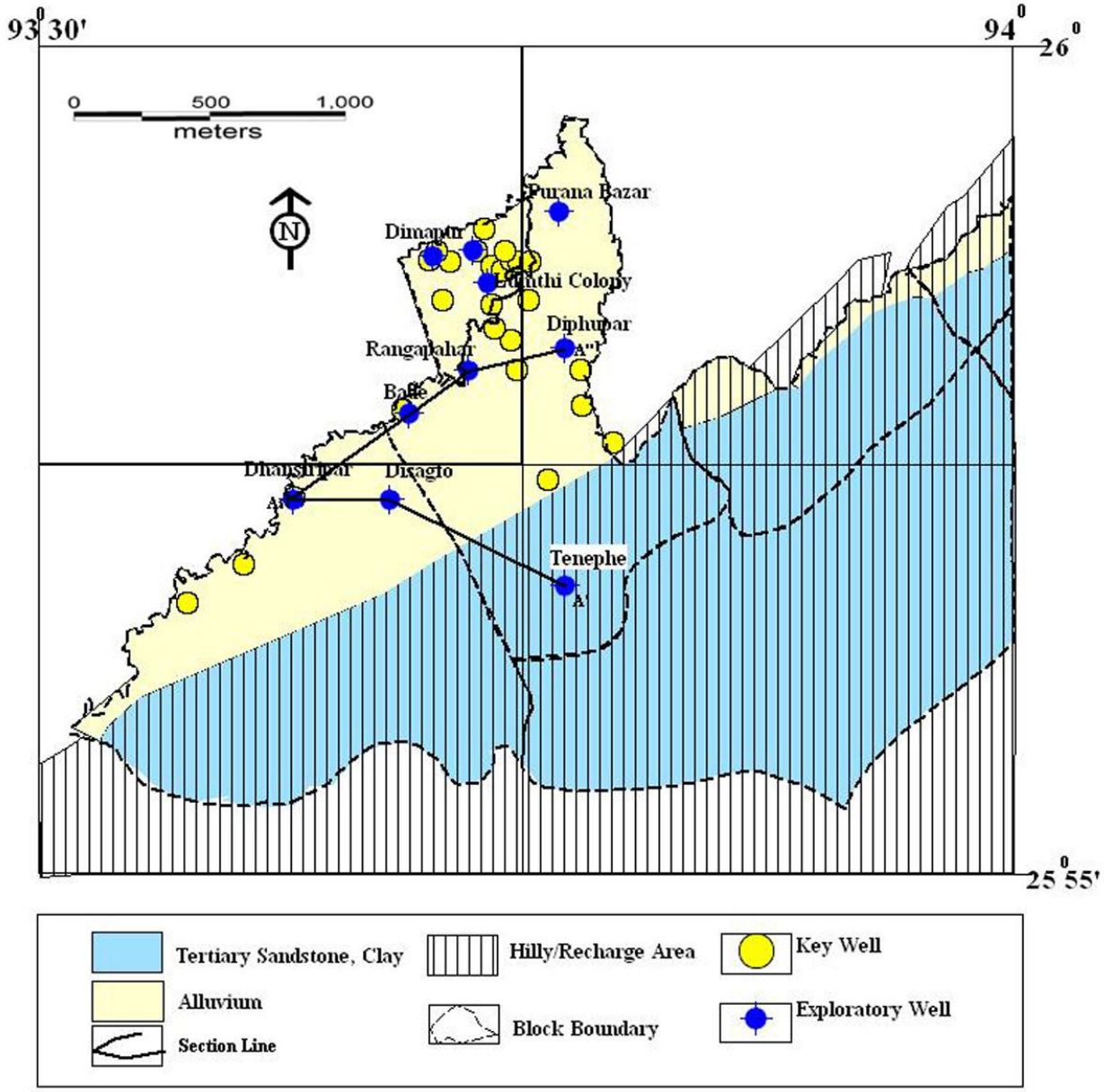


Fig.1. Study area

2.0 MAJOR GROUNDWATER ISSUES IN THE AREA

Major groundwater related issues found in the study area are low stage of development. In places, high concentration of iron in groundwater also observed.

3.0 MANIFESTATION AND REASONS OF ISSUES

The pre-monsoon water level in the shallow zone (dug well zone) ranges from 1.04 to 18.88 m bgl and the piezometric level varies from 5.20 to 19.09 m bgl. During post-monsoon

the depth to water level in Dimapur recorded between 1.0 to 16.66 m bgl and the piezometric level varied between 4.49 and 17.92 mbgl. Water level fluctuation between pre and post monsoon ranged between 0.11 and 5.02 m.

The climate of the study area to a large extent is controlled by its undulating topographical terrain features. The average annual temperature ranges from 18°C to 25°C in the study area. The monsoon lasts for five months from May to September with June, July and August being the wettest months. The average annual rainfall in the study area is 1504.7 mm.

Infrastructure for irrigation in the study area is very meager. Rain fed agriculture is practiced in the area and the groundwater withdrawal for irrigation purpose is practically nil. The following table shows the rainfed irrigation data in the study area.

Table 1. Details of net sown area and irrigated area (Dimapur valley)

SI No.	District (p)	Study area (in Ha)	Net Area Sown (in Ha)	Land under Irrigation (in Ha)	Land which can be brought under Irrigation (in Ha)
1	Dimapur valley	40000	7970	6315	1655

To know the water quality of the study area, water sampling done from both shallow and deeper aquifers. Ground water quality of both shallow and deeper zones were discussed below. Two (2) water samples from deep tube wells and seventeen (17) water samples from dug wells were collected during the study for the chemical analysis. Water samples collected during the study were analyzed for the different chemical constituents at the regional chemical laboratory of CGWB, NER Guwahati and result are as given in table-12 format.

The pH of the Ground water varies from 6.1 to 8.1 indicating pH of the water is within permissible limits. The value of EC varies from 154 to 966 µs/cm at 25^0 C. The fluoride content of water samples are varies from 0.0.24 to 0.74 mg/l. The iron content of dug well water samples varies from 0.02 to 3.38 mg/l and it is BDL for deep tube well samples. Location of higher concentration of iron in groundwater is depicted in F**ig.2.** Summary of results of chemical analysis data showing concentration of iron in groundwater is shown in table below.

Table:2 Summary of chemical analysis data showing concentration of iron in groundwater

Result of Water samples from dug wells			
SI. No	Fe (mg/l)	No. of samples	% of samples
01	0.0 to 0.3	11	64.70
02	0.3 to 1.00	4	23.52
03	> 1.00	1	5.88

It can be seen from the above table that 64.70 % water samples collected from dug wells are having iron content within desirable limit i.e., 0.30 mg/ lit (set by BIS). And 23.52% water samples collected from the dug wells are having iron content more than the desirable limit. No iron was detected in the deep tube wells.

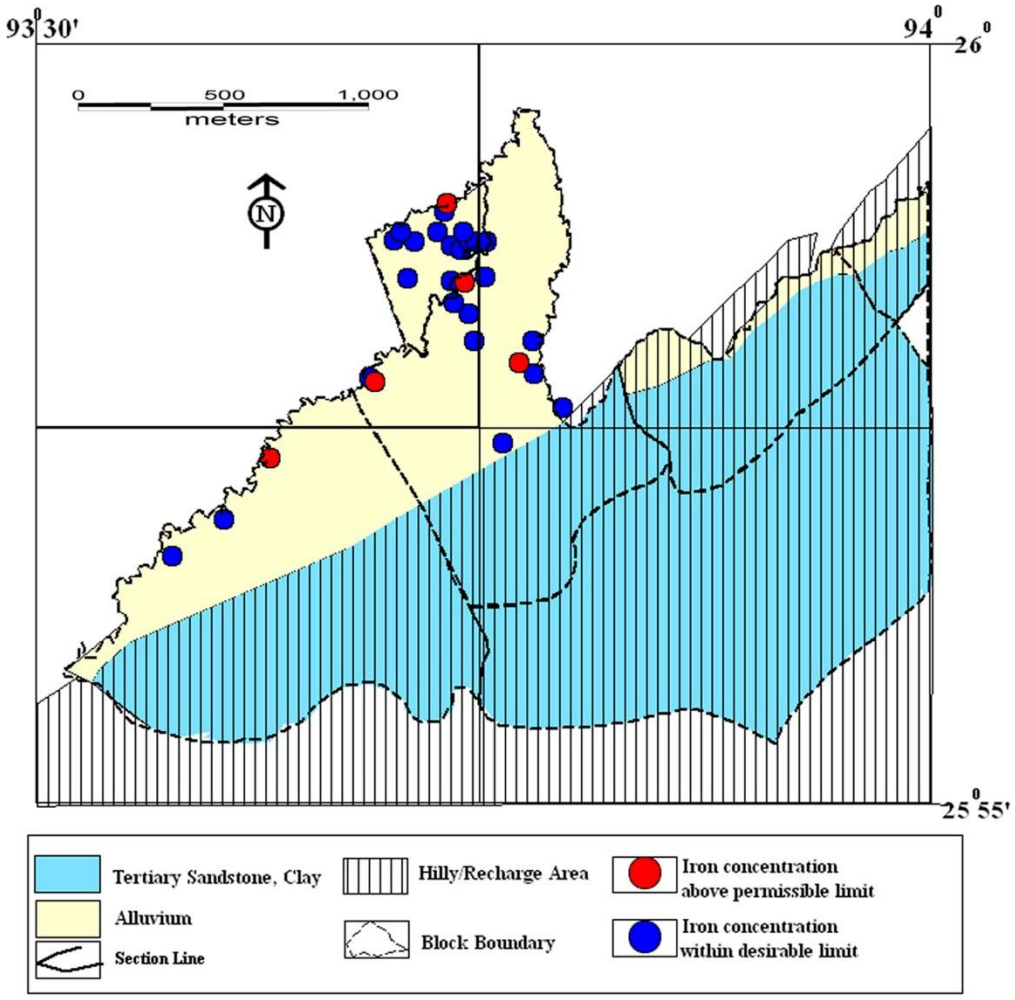


Fig.2 Map showing iron content in ground water of the study area

The study area can be divided into several geomorphic units, such as Alluvial plains, structural hills, residual hills, valleys and flood plains. The alluvial plain and structural hills cover most part of the study area. The alluvial plain is found in the northern part of the study area whereas the structural hills occupy the southern part. The residual hills are the remnants of weathering and denudation. The flood plains show very good potential for ground water. The intermontane valley fills and alluvial plains also hold good potential for ground water. The structural hills and the residual hills act as runoff zones and thus are poor sites for ground water.

Dhansiri, Diphu and Dayang rivers form the major drainage Sub-basins of the mighty Brahmaputra. These rivers are fed by a number of 2^{nd} and 3^{rd} order streams emerging from the hills in the south forming conspicuous dendritic pattern flowing to the north. A number of patches of swampy land are observed in the southeast and southwest parts of the area. Dhansiri flows through the south western part of the state through Rangapahar-Dimapur Plains of Dimapur District. This river receives almost all the western and southern drainages of Nagaland.

4.0 AQUIFER GEOMETRY AND CHARACTERIZATION

The main objective of the study is to delineate the horizontal and vertical disposition of aquifer as well as to study the aquifer character. In this connection 30 key wells including existing CGWB monitoring stations (dug well) were monitored in different season. To know the aquifer disposition in the study area, exploratory wells data, VES data available with CGWB and some data of state departments, Govt. of Nagaland were utilized.

In Dimapur valley, CGWB has drilled 11 EWs within a depth range of 100 to 301 m. A thin layer of discontinuous clay beds occur at surface all over the alluvial deposit ranging in thickness from 5 to 10 m. The tube wells drilled in alluvial deposits show alternate thick beds of sand, gravel and thin beds of clay.

The exploration reveals prevalence of both unconsolidated rocks belonging to Recent to Sub-Recent and semi-consolidated rocks belonging to Upper Tertiary age. Thickness of alluvium ranges from less than 10 m to maximum of 50 m, increasing towards north-eastern part of the valley. The Tertiary sediments comprised of clay, soft sandstone, siltstone, friable

ferruginous sandstone, pebble/boulder agglomerate, and clay etc within 300 m depth. Depth-wise distribution of aquifer granular materials from drilling has been shown in Table-3.

Table 3 Distribution of granular zone in various depths

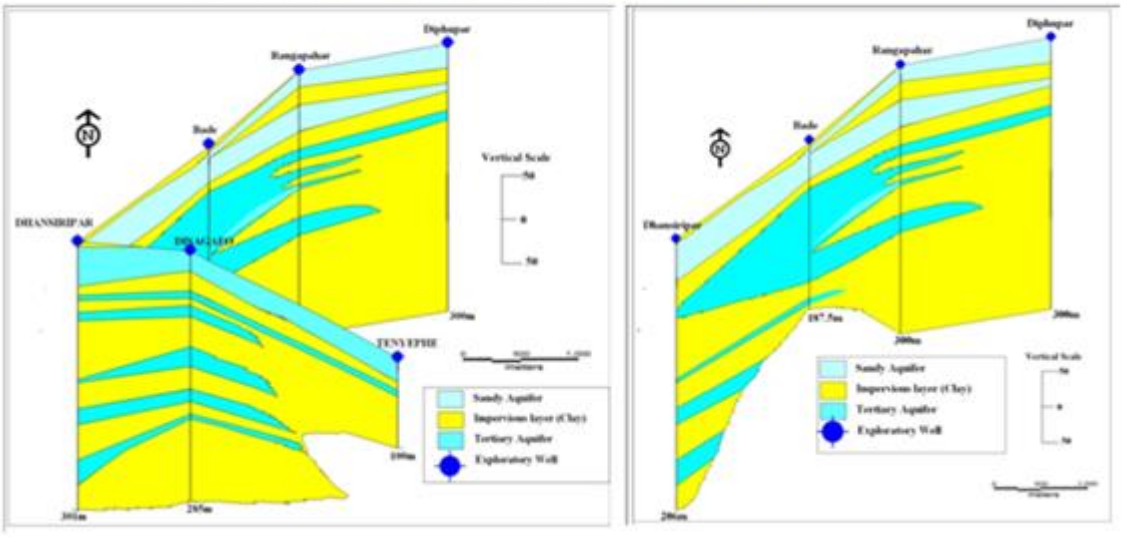
Depth Range	Within 50 m	50 - 100 m	100– 200 m	200 – 300 m
Thickness of Granular zone	8-46 m	10 – 64 m	8 – 57 m	Up to 47 m

It can be deciphered from the lithologs of different exploratory wells drilled by CGWB that two aquifer system exists in the area. Within a depth of 50m an unconsolidated sandy aquifer with gravel and clay intercalations exist in places. This aquifer is comprised mainly of medium to coarse sand. Upper Tertiary sandstone aquifer occur within a depth range of 50 to 200m. In some places due to the presence of clay intercalations 2 to 4 granular zones occur in the study area. Separations of two or more granular zones by clay beds often misguide to classify the aquifers into a multiple aquifer system. However, these clay beds are mostly in lensoid shape and they pinches out within a short distance. Thickness of the saturated zone varies from 8 to 46 m within a depth range of 50 m, 10 to 64 m within a depth range of 100 m, 8 to 57 m within a depth range of 200 m and up to 47 m within a depth range of 300 m. The isopach map of this aquifer shows that isopach value increases towards North West of the study area i.e., towards the Brahmaputra flood plain of Assam. The deep tube wells constructed by CGWB show yield of 3.12 to 61.5 m^3/hr for a drawdown of 3.5 to 30.2 m

Table.4 Aquifer character in the study area

Type of Aquifer	Depth range of the aquifers (mbgl)	Thickness (m)	Yield (m^3 per hr)	Draw down (m)	T (m2/day)	S
Aquifer - I (Unconsolidated)	**GL to 50**	**5 to 30**	**25**	**18**	**55**	**$1.5x10^{-3}$**
Aquifer - II (Tertiary sandstone)	**50 to 200**	**12 to 50**	**23**	**18**	**82**	**$3.4x10^{-4}$**

Fig.3 Auifer disposition and characteristic



Groundwater occurs under unconfined condition in the sandy aquifer system. Unconfined condition extends down to the depth of 50 m. In the Upper Tertiary aquifer system groundwater occurs under semi-confined to confined conditions.

According to the results of interpretation of VES curves, correlation of the data with hydrogeological details of exploratory boreholes and taking into account the apparent resistivity following conclusions have been drawn in Dimapur valley.

i. The top soil with resistivity in the range of 30 and 260 Ohm with thickness within 10m comprises top soil with clays / hard clays etc.

ii. The underlying layers below the top soil in the depth below the top soil layer with varying resistivity within 60 Ohm m in general is indicative of sandy formation intercalated with clays / hard clays etc. Comparatively high resistivity above 100 Ohm m is indicative of the hard clay/semi-consolidated or consolidated formation.

iii. The inferences for bottom portion are drawn on the basis of interpreted results of surface resistivity surveys, apparent resistivity pertaining to extreme portion of VES curves and hydrogeological data.

During the survey H, HK, HA type VES curves were obtained. The inferences drawn on the basis of interpreted results could not be obtained for deeper formation due to the

limitations of unavailability of large and straight stretch for current electrode separation. Interpreted results of VES and inferences with respect to possible sub-surface geology are given in Table.

As per the report on dynamic groundwater resources of Nagaland, 2011 the study area is having a net groundwater availability of 9.66mcm, gross annual draft of 0.37 mcm and stage of development is 3.8%.

Table.5. Balance of ground water availability for future use as per dynamic ground water resources in Dimapur valley

District (p)	Stage of Ground Water development (%)	Net GW Availability (ham)	Existing Ground Water Draft for Irrigation	Existing Gross Ground Water Draft for All Uses	Provision for Domestic & Industrial requirement for upto 2025	Net GW Availability for Irrigation (ham)	GW Availability for Future Irrigation @ 60% Net GW Availability (ham)	No. of TW feasible as per Resource (Unit draft 3 ham)
Dimapur	3.8	9660	0.00	367.2	254.58	9039	5423	1808

5. AQUIFER MANAGEMENT PLAN

MANAGEMENT STRATEGIES

The study area is having meager irrigation facility. A vast land of 1700 ha does not have any ground water irrigation facility which can be brought under irrigation using the huge dynamic groundwater resources available in the area. It is proposed to bring 60% of area under paddy and 40% under non-paddy cultivation. Water requirement for paddy cultivation (Δ=1.2m) would be 12 mcm while that for non-paddy cultivation (Δ=1.2m) would be 2 mcm. Total water requirement to bring this entire uncovered area under irrigation is 14 mcm.

As per the report on dynamic groundwater resources of Nagaland, 2011 the study area is having a balance groundwater availability for future uses in the order of 90 mcm. If a plan is made to develop 60% of the balance dynamic groundwater resources available (54 mcm) in the area for the irrigation purposes then 1800 nos. of tube wells (considering a unit draft of 3 ham/yr) can be constructed in the area.

CGWB has established that aquifer in the area is having moderate potentiality and this can be sustainably developed to irrigate this vast land. A tube well yielding 23 m^3/hr, runs for

12hrs/day for 120 days will create a draft of 3.3 ham. To meet the water requirement of 14 mcm, 400 nos. of such tube well will be required (considering a unit draft of 3.3 ham/yr).

But in 1700 ha area maximum 70 tube wells can be constructed which can deliver 2.3 mcm water that can irrigate 70 ha non-paddy area.

Tube wells can be designed in the study area within a depth of 100 m, tube wells can be constructed by tapping 20 to 30 m of granular zone and expected yield is 23 m^3/hr for a maximum drawdown of 18 m. Wells may be constructed by using $6^{//}$ dia casing pipe down to 36m, $6^{//}$ dia 1 to 1.5 mm slot pipes for 20 to 30 m and $6^{//}$ dia 34 to 44 m blank pipe.

Though huge GW resource is available but farmers in the area are poor and it may not be possible for them to construct tube wells individually. Community based irrigation schemes through groundwater may be taken up by Govt., which will greatly boost the socio-economic conditions in the area.

Cost Estimates

One time expenditure to construct 70 tube wells @ Rs. 4,50,000/= is Rs. 3.2 crores.

MANAGEMENT PLAN

By providing irrigation facilities to 70 ha of non-paddy land 40 to 5200 metric tons of oilseeds or potato can be produced. This will boost the economy by providing Rs. 0.1 to 3 crores per annum income (recent minimum price of vegetables Rs. 520/Qn to Rs. 3000/ Qn of oilseeds). Total one time expenditure Rs. 3.2 crores. Benefit Rs. 0.1 to 3 crores per annum.

In some pockets, groundwater in the area is infested with iron, therefore, before consumption aeration/ filtering/ installation of Iron Removal Plant is necessary.

Farmer’s co-operative societies may be formed which will look after maintenances of the tube wells.

ANNEXURE-I

TWELVE POINT DATA: DIMAPUR VALLEY

A. DATA AVAILABLE IN GOLAGHAT DISTRICT

- Lithology
- Aquifer parameter
- Aquifer Quality /Chemical analysis data
- Rainfall data
- Water Level Monitoring data
- Geophysical (VES) data

B. NON AVAILABILITY OF DATA IN DIMAPUR VALLEY

- Minor Irrigation
- Minor, Medium and Bigger Minor Irrigation Data
- water conservation structures (KT Weirs, Gully Plugs/Check Dams/ Nala Bunds, Percolation Tanks, etc.)
- Soil conservation structures
- Cropping pattern data
- Hydrological data

12 POINT DATA Dimapur Valley AQUIFER MAPPING

LITHOLOGY : 11 Exploratory wells of CGWB

400 sq.km in DIMAPUR DISTRICT

Unique ID			**Dima_01**
Village			**PURANABAZAR**
Taluka/Block			Dimapur Sardar
District			Dimpaur
Toposheet No			83G/9
Latitude			26.92
Longitude			93.76
RL (m amsl)			145
Drilled Depth (in metre)			300.0
Casing			238
SWL (mbgl)			3.26
Discharge (lps)			17.08
Date/year			AAP
Depth range (mbgl)		**Thickness (m)**	**Litholog**
From	**To**		
0	6.2	6.2	surface clay, brown
6.2	26.2	20	Fine sand with little clay
26.2	32	5.8	Clay,grey
32	66.4	34.4	Fine to Medium sand
66.4	82	15.6	Clay,grey , sticky
82	90.4	8.4	Medium to coarse sand
90.4	98	7.6	Clay, grey, sticky
98	122	24	Medium to coarse sand
122	300.8	178.8	Sand mixed with clay

Unique ID	**Dima_02**
Village	**LUMITHI COLONY**
Taluka/Block	Chumukedima
District	Dimapur
Toposheet No	83G/14
Latitude	25.89
Longitude	93.73
RL (m amsl)	152
Drilled Depth (in metre)	300.0
Casing	272
SWL (mbgl)	1.28
Discharge (lps)	2.1
Date/year	AAP

Depth range (mbgl)		**Thickness (m)**	**Litholog**
From	**To**		
0	4.1	4.1	clay,yellowish grey
4.1	7.61	3.51	sand grey fine to veryfine with chips of siltstone
7.61	11	3.39	Find sand
11	32.06	21.06	Fine to medium grained sand
32.06	42	9.94	Sandy clay
42	45.1	3.1	Fine to medium grained sand
45.1	51.22	6.12	Sandy clay
51.22	54	2.78	Fine to medium grained sand
54	57.34	3.34	Sand clay
57.34	90	32.66	**Sandy clay**
90	94.03	4.03	**Fine to medium grained sand**
94.03	97	2.97	**clay,yellowish grey**
97	106.26	9.26	**Fine to medium grained sand**
106.26	111	4.74	**clay,yellowish grey**
111	112.36	1.36	**Fine to medium grained sand**
112.36	124.6	12.24	**clay,yellowish grey**
124.6	145	20.4	**Fine to medium grained sand**
145	173.52	28.52	**Sandy clay**
173.52	182	8.48	**Fine to medium grained sand**
182	185.74	3.74	**clay,yellowish grey**
185.74	196	10.26	**Fine to medium grained sand**
196	197.98	1.98	**clay,yellowish grey**
197.98	207	9.02	**Fine to medium grained sand**
207	232	25	**Sandy clay**
232	241	9	**Fine to medium grained sand**
241	246.92	5.92	**Sandy clay**
246.92	262	15.08	**Fine to medium grained sand**
262	264	2	**clay,yellowish grey**
264	271.38	7.38	**Fine to medium grained sand**
271.38	283.61	12.23	**Sandy clay**
283.61	300.25	16.64	**clay,yellowish grey**

Unique ID			**Dima_03**	
Village			**RANGAPAHAR**	
Taluka/Block			Chumukedima	
District			Dimapur	
Toposheet No			83G/14	
Latitude			25.85	
Longitude			93.72	
RL (m amsl)			159	
Drilled Depth (in metre)			301.0	
Casing			189	
SWL (mbgl)			0.50 agl	
Discharge (lps)			0.89	
Date/year			AAP	
Depth range (mbgl)		**Thickness (m)**	**Litholog**	
From	**To**			
0	6	6	Clay, brown with fine sand	
6	15	9	sand, greyish yellow fine to medium	
15	74	59	Sand mixed with clay	
74	101	27	sand, yellowish frey fine to coarse with clay traces	
101	109	8	Sandy clay	
109	111	2	Clay, brown	
111	117.81	6.81	sand, grey, fine to medium	
117.81	120	2.19	Clay, brown	
120	126	6	sand, grey, medium grained	
126	138	12	sand, yellowish frey fine to coarse with clay traces	
138	141	3	sand, grey, medium grained	
141	170	29	Sand mixed with clay	
170	176	6	sand, grey, medium grained	
176	177.8	1.8	sand, yellowish frey fine to coarse with clay traces	
177.8	188	10.2	sand, grey, medium grained	
188	300	112	Sandy clay	

Unique ID	**Dima_04**
Village	**DISGAPHO**
Taluka/Block	Dhansirpar
District	Dimapur
Toposheet No	83G/10
Latitude	25.79
Longitude	93.68
RL (m amsl)	176
Drilled Depth (in metre)	285.0
Casing	189
SWL (mbgl)	10.5
Discharge (lps)	4.42
Date/year	AAP

Depth range (mbgl)		Thickness (m)	Litholog
From	To		
0	17.55	17.55	clay, brown sticky
17.55	26.6	9.05	sand, light yellowish brown, fine grained
26.6	65.81	39.21	sand, light grey and brown fine to medium grained
65.81	68.84	3.03	sandy clay, light brown
68.84	100	31.16	sand, light grey and brown, fine to medium grained with mafics
100	133	33	Fine to medium sand
133	154	21	sandy clay, light brown
154	178	24	Fine sand mixed with clay
178	196	18	Fine to medium sand
196	219	23	sandy clay, light brown
219	245	26	Fine sand mixed with clay
245	266	21	Fine to medium sand
266	285	19	sandy clay, light brown

Unique ID	**Dima_05**
Village	**DHANSIRPAR**
Taluka/Block	Dhansirpar
District	Dimapur
Toposheet No	83G/10
Latitude	25.79
Longitude	93.63
RL (m amsl)	151
Drilled Depth (in metre)	301.0
Casing	281
SWL (mbgl)	1.2
Discharge (lps)	7.03
Date/year	

Depth range (mbgl)		Thickness (m)	Litholog
From	To		
0	10	10	Muddy clay
10	17	7	Sand , Fine grained
17	43	26	Sand, fine grained with assorted gravel
43	48	5	Clay, Gray
48	53	5	Sandy clay, light grey, non-sticky
53	56.48	3.48	Sand, fine grained
56.48	62	5.52	Sandy clay, light grey, non-sticky
62	72	10	Sand, fine grained with very fine gravel
72	90	18	Sandy clay, light grey, non-sticky
90	169	79	Sandy clay,sticky
169	174	5	Sand, fine grained
174	190.91	16.91	Sandy clay
190.91	196.5	5.59	Clay mixed with sand
196.5	201.45	4.95	Sand. Medium grained
201.45	206	4.55	Sandy clay

206	251.75	45.75	Clay, sticky mixed with fine sand particles
251.75	264.4	12.65	Sand, fine grained with very fine gravel
264.4	280	15.6	Sand, fine grained
280	285	5	Sandy clay
285	301	16	Clay, Gray

Unique ID			**Dima_06**
Village			**DIPHUPAR**
Taluka/Block			Chumukedima
District			Dimapur
Toposheet No			83G/13
Latitude			25.86
Longitude			93.77
RL (m amsl)			149
Drilled Depth (in metre)			300.0
Casing			85.43
SWL (mbgl)			6.23
Discharge (lps)			10.85
Date/year			AAP
Depth range (mbgl)		**Thickness (m)**	**Litholog**
From	**To**		
0	7	7	surface clay, brown, non sticky
7	10	3	Fine to medium sandy clay
10	13	3	Clay, gray
13	31	18	Fine to Medium sand with gravel
31	43	12	Sandy clay
43	52	9	Medium to coarse sand with gravel
52	70	18	Sandy clay
70	82	12	Medium to coarse sand with gravel
82	85	3	Sandy clay
85	100	15	Clay, gray
100	145	45	Sandy clay
145	186	41	Fine sand with clay
186	220	34	Sandy clay
220	275	55	Finesand with clay
275	300	25	Sandy clay

Unique ID			**Dima_07**
Village			**TENYEPHE**
Taluka/Block			Medziphema
District			Dimapur
Toposheet No			83G/13
Latitude			25.75
Longitude			93.77
RL (m amsl)			189
Drilled Depth (in metre)			100.0
Casing			60.09
SWL (mbgl)			8.1
Discharge (lps)			5.55
Date/year			AAP
Depth range (mbgl)		**Thickness (m)**	**Litholog**
From	**To**		
0	6.85	6.85	surface clay with sand grains , brown
6.85	10	3.15	Fine grained sand
10	16	6	Sandy clay
16	24.95	8.95	Sand mixed with clay & sandstone particles
24.95	50	25.05	Fine to medium sand
50	53	3	Sandy clay
53	58	5	Medium grained sand
58	60.9	2.9	Sandy clay
60.9	64	3.1	Caly, gray
64	66.85	2.85	Sandy clay
66.85	73.79	6.94	Clay, sticky
73.79	74.5	0.71	Fine to medium sand
74.5	78.74	4.24	Sandy clay
78.74	84.65	5.91	Clay, sticky
84.65	100	15.35	Sand mixed with clay & sandstone particles

Unique ID			**Dima_08**
Village			**SEWAK**
Taluka/Block			Medziphema
District			Dimapur
Toposheet No			83G/13
Latitude			25.90556
Longitude			93.7222
RL (m amsl)			150
Drilled Depth (in metre)			104.4
Casing			94.3
SWL (mbgl)			1.64
Discharge (lps)			4.42
Date/year			AAP
Depth range (mbgl)		**Thickness (m)**	**Litholog**
From	**To**		
0	6	6	surface clay, yellowish brown
6	12.2	6.2	Fine sand with slity clay
12.2	16	3.8	Fine grained sand, brownish
16	30.5	14.5	Medium to coarse sand with fragments of K-feldspar

30.5	39.6	9.1	Medium grained sand with fragments of slat
39.6	45.7	6.1	Medium grained sand with weathered fragments of slat
45.7	51.8	6.1	Fine to medium sand with weathered fragments
51.8	61	9.2	Medium grained with fragments of Qtz, mica etc.
61	66.1	5.1	Medium sand with granules of micaceous particles
66.1	75.2	9.1	Sandy clay mixed with weathered shales
75.2	87.4	12.2	Fine grained sand, brownish with micaceous fragments
87.4	96.6	9.2	Sandy clay mixed with weathered shales
96.6	104.4	7.8	Medium sand with granules of micaceous particles

Unique ID			**Dima_09**
Village			**BADE VILLAGE**
Taluka/Block			Dhansirpar
District			Dimapur
Toposheet No			83G/9
Latitude			25.83
Longitude			93.69
RL (m amsl)			145
Drilled Depth (in metre)			187.0
Casing			161
SWL (mbgl)			8.5
Discharge (lps)			4.411
Date/year			AAP 2012-2013
Depth range (mbgl)		**Thickness (m)**	**Litholog**
From	**To**		
0	3	3	surface soil, brown
3	6.25	3.25	Clay, gray mixed with silt
6.25	9.25	3	Fine grained sand, grey
9.25	12.5	3.25	Clay, gray mixed with silt
12.5	50	37.5	Sand, fine to medium grained
50	53	3	Clay, stcky, grey
53	100	47	Sand, fine to medium grained±gravel cuttings
100	104	4	Fine sand mixed with occasional cuttings of gravel
104	118.75	14.75	Fine to medium sand
118.75	125	6.25	Clay, gray mixed with silt
125	162.5	37.5	Sand, medium to coarse grained, grey
162.5	187.5	25	Clay, sticky, hard

Unique ID			**Dima_10**
Village			**DIMAPUR STADIUM**
Taluka/Block			Dimapur sardar
District			Dimapur
Toposheet No			83G/9
Latitude			25.903
Longitude			93.702
RL (m amsl)			155
Drilled Depth (in metre)			143.5
Casing			44
SWL (mbgl)			4.5
Discharge (lps)			5.52
Date/year			AAP 2012-13
Depth range (mbgl)		**Thickness (m)**	**Litholog**
From	**To**		
0	6.25	6.25	surface soil, brown
6.25	18.75	12.5	Sand, fine grained mixed with little clay
18.75	31.25	12.5	Fine grained sand, grey
31.25	43.75	12.5	Sand , fine to medium grained
43.75	59.25	15.5	Clay, grey, sticky
59.25	77	17.75	Sandy clay, reddish brown
77	93.75	16.75	Sandy clay, grey in colour
93.75	112.5	18.75	Sand mixed with Kankar & clay
112.5	125	12.5	Clay, grey, sticky
125	137	12	Sandy clay
137	143.75	6.75	Fine to medium sand, brown

Unique ID			**Dima_11**
Village			**BAMUNPUKHURI-I VILLAGE**
Taluka/Block			Chumukedima
District			Dimapur
Toposheet No			83G/13
Latitude			25.923
Longitude			93.767
RL (m amsl)			135
Drilled Depth (in metre)			202.0
Casing			80
SWL (mbgl)			3.56
Discharge (lps)			4.75
Date/year			AAP 2012-13
Depth range (mbgl)		**Thickness (m)**	**Litholog**
From	**To**		
0	6.25	6.25	surface soil, brown
6.25	12.5	6.25	Surface soil mixed with sand matrix, brown

12.5	21.75	9.25	Fine grained sand, grey
21.75	34.5	12.75	Fine grained sand, grey with gravel matrix
34.5	40.75	6.25	Fine to medium sand
40.75	47	6.25	Fine sand mixed with clay
47	59.5	12.5	Sandy clay
59.5	62.5	3	Clay, gray
62.5	68	5.5	Fine to medium sand
68	78	10	Medium to coarse sand
78	93.75	15.75	Fine to medium sand with gravel matrix
93.75	97	3.25	Sandy clay
97	103.25	6.25	Clay, gray
103.25	109.5	6.25	Fine gained sand
109.5	128.25	18.75	Sandy clay
128.25	134.5	6.25	Fine sand mixed with clay
134.5	175	40.5	Sandy clay
175	187.5	12.5	Clay, gray
187.5	193.75	6.25	Fine grained sand with clay
193.75	202	8.25	Clay, gray

Unique ID	Village/ Location	Taluka/ Block	District	Toposheet No.	Lat	Long	Type of well (DW/BW /TW)	Depth (m)	Dia (mm)	Date of pumping Test	Draw down (m)	Transmissivity (m^2/day)	Storativity/ S.Yield	Specific Capacity (lpm/m of dd)	Source/ Agency
Dima_01	Purana Baazar	Dimapur Sardar	Dimapur	83G/9	26.92	93.76	TW	300/238	355.6 mm x41 m 203.2 mm x 197 m		11.5	301	1.54 X 10-3	89.13	CGWB
Dima_02	Lumithi Colony	Chumukedima	Dimapur	83G/14	25.89	93.73	TW	300/272	355.6 mm x54 m 203.2 mm x 218 m		24.9	4.75	3.8×10^{-4}	5.02	CGWB
Dima_03	Rangapahar	Chumukedima	Dimapur	83G/14	25.85	93.72	TW	301/189	304.8 mm x 60.5 m 152.4 mm x 129 m		3.5	14.45	3.18×10^{-4}	14.86	CGWB
Dima_04	Dhansirpar	Dhansirpar	Dimapur	83G/10	25.79	93.63	TW	301/281	304.8 mm x 55.5 m 152.4 mm x 226 m		30.2	75.98	1.14×10^{-3}	13.97	CGWB
Dima_05	Disagpho	Dhansirpar	Dimapur	83G/10	25.79	93.68	TW	285/189	304.8 mm x 40 m 152.4 mm x149 m		18.79	13.66	2.97×10^{-4}	14.1	CGWB
Dima_06	Diphupar	Chumukedima	Dimapur	83G/13	25.86	93.77	TW	300/85.43	304.8 mm x 40.86 m 152.4 mm x44.57 m		14.81	112.74	9.22×10^{-4}	43.95	CGWB
Dima_07	Tenyephe	Medziphema	Dimapur	83G/13	25.75	93.77	TW	100/60	355.6 mm x 40.5 m 152.4 mm x 20.09 m		28.91	8.9	3.02×10^{-4}	22.5	CGWB
Dima_08	Sewak	Medziphema	Dimapur	83G/13	25.9056	93.722	TW	104.35/94.3	304.8 mm x40 m 152.4 mm x 54.3m		8.99	45.01	2.54×10^{-4}	22.5	CGWB
Dima_09	Bade Village	Dhansirpar	Dimapur	83G/9	25.83	93.69	TW	187/161	203.2mm x 40 m 152.4 mm x 121 m	Yet to be conducted	N.A	N.A	N.A	N.A	CGWB
Dima_10	Dimapur stadium	Dimapur Sardar	Dimapur	83G/9	25.903	93.702	TW	144//44	101.6mm x 44 m	Yet to be conducted	N.A	N.A	N.A	N.A	CGWB
Dima_11	Bamunpukhri_I	Chumukedima	Dimapur	83G/13	25.923	93.767	TW	202/81	254 mm x 41 m 152.4 mm x 40 m	Yet to be conducted	N.A	N.A	N.A	N.A	CGWB

CHEMICAL QUALITY : SAMPLING STATIONS

Unique ID	Village/ Location	Block/Taluka	District	Toposheet No.	Lat	Long	Aquifer Type	Depth
Dim_01	Dhansipar	Dhansirpar	Dimapur	83G/10	25.79	93.63	I-unconsonsolidated	12.20
Dim_02	Doyapur DMC	Dhansirpar		83G/10	25.76	93.60	I-unconsonsolidated	10.00
Dim_03	Maibiram GH	Dhansirpar		83G/10	25.78	93.62	I-unconsonsolidated	11.00
Dim_04	Bade Bazar	Dhansirpar		83G/9	25.83	93.69	I-unconsonsolidated	10.00
Dim_05	Singrijan	Chumukedima		83G/9	25.84	93.72	I-unconsonsolidated	12.00
Dim_06	Thilaxu Blk-II	Chumukedima		83G/9	25.88	93.74	I-unconsonsolidated	14.00
Dim_07	3 Mile Bazar	Chumukedima		83G/13	25.88	93.76	I-unconsonsolidated	12.00
Dim_08	Surja colony	Chumukedima		83G/13	25.80	93.76	I-unconsonsolidated	9.00
Dim_09	Chumukedema Bamboo Factory	Chumukedima		83G/13	25.86	93.79	I-unconsonsolidated	12.00
Dim_10	7th Mile colony	Chumukedima		83G/13	25.84	93.77	I-unconsonsolidated	11.00
Dim_11	Diphupar	Chumukedima		83G/13	25.86	93.77	I-unconsonsolidated	9.00
Dim_12	Zakesatho colony	Dimapur Sardar		83G/9	25.92	93.73	I-unconsonsolidated	6.00
Dim_13	Natun Basti	Dimapur Sardar		83G/9	25.92	93.71	I-unconsonsolidated	14.00
Dim_14	Rilayan colony	Dimapur Sardar		83G/9	25.90	93.68	I-unconsonsolidated	28.00
Dim_15	Thilaxu Blk-III	Chumukedima		83G/9	25.88	93.74	I-unconsonsolidated	11.00
Dim_16	145, Oriental Colony	Dhansirpar		83G/9	25.87	93.70	I-unconsonsolidated	70.00
Dim_17	Circuit House	Dimapur Sardar		83G/9	25.90	93.74	I-unconsonsolidated	55.00
Dim_18	DGM	Dimapur Sardar		83G/9	25.91	93.70	I-unconsonsolidated	18.00

Unique ID	PH	EC (mS/cm)	TA (mg/L)	TDS (mg/L)	TH (mg/L)	Ca (mg/L)	Mg (mg/L)	Na(mg/L)	K (mg/L)	CO3(mg/L)	HCO3 (mg/L)	SO4 (mg/L)	NO3 (mg/L)	Cl- (mg/L)	F - (mg/L)	Fe (mg/L)
Dim_01	8.1	192	132	92.1	50	6.4	8.25	37.5	2.84	16	116	2.24	0.7	79.4	0.61	0.26
Dim_02	7.5	223	28	107	51	12.8	4.61	15	1.79	BDL	28	3.65	3	377	0.52	3.38
Dim_03	7.8	378	164	182	112	26	11.4	33.4	1.76	32	132	7.73	0.7	158	0.74	0.06
Dim_04	7.5	218	52	105	55	18	2.42	14.2	3.27	BDL	52	9.92	2	208	0.55	0.98
Dim_05	7.7	390	56	188	83	23.2	6.06	35.3	1.73	BDL	56	9.76	0.6	714	0.62	BDL
Dim_06	7.4	219	116	104	91	12.4	14.56	12.1	3.57	BDL	116	10.39	1.3	39.7	0.5	0.8
Dim_07	7.7	415	92	200	112	33.6	6.79	25.7	3.02	BDL	92	4.28	1.1	526	0.28	0.29
Dim_08	7.7	347	92	167	91	20.8	9.46	26	3.26	BDL	92	16.97	1.2	397	0.3	0.1
Dim_09	7.8	670	148	324	190	44.8	18.93	40.5	9.89	16	132	1.3	12.8	873	0.24	0.18
Dim_10	6.1	341	24	163	69	19.6	4.85	26.2	1.21	BDL	24	3.97	3.1	347	0.25	0.25
Dim_11	6.5	393	12	189	60	17.2	4.12	41.6	2.18	BDL	12	34.68	5.9	833	0.43	0.09
Dim_12	6.8	966	36	465	120	28.8	11.6	103	26.9	BDL	36	17.91	4.3	1866	0.66	1.69
Dim_13	7.6	707	100	339	133	43.2	6.06	61.6	11.7	BDL	100	4.59	8.6	1032	0.48	0.32
Dim_14	6.8	244	32	116	117	17.6	17.71	13.7	3.19	BDL	32	3.97	2.8	198	0.32	0.06
Dim_15	6.9	221	52	106	60	19.6	2.66	12.5	3.18	BDL	52	3.34	7.4	218	0.48	0.02
Dim_16	7.6	274	44	131	70	21.2	4.12	17.2	0.91	BDL	44	6.32	0.6	347	0.52	BDL
Dim_17	7.7	166	88	79.9	66	12.8	8.25	3.84	1.85	BDL	88	6.16	0.6	39.7	0.41	BDL
Dim_18	8.0	281	92	133	100	36	2.42	8.58	2.62	BDL	92	7.73	1.6	258	0.57	1.38

WATER LEVEL MONITORING

Water Level Monitoring Data Compilation											DTW		DTW	
											Nov-12		Mar-13	
Unique ID	Name of village/site	Latitude in degrees decimal	Longitude in degrees decimal	RL (mamsl)	Total depth of Pz/DW (mbgl)	Type (DW/Pz/Spring)	Aquifer group	Measuring point (magl)	Source /Agency	Any other information	(mbmp)	(mbgl)	(mbmp)	(mbgl)
Dim_01	Dhansipar	25.79	93.63	151	12.20	DUG	Unconsolidated (I-Aquifer)	0.80	CGWB		3.55	2.75	4.2	3.40
Dim_02	Doyapur DMC	25.76	93.60	165	10.00	DUG	Unconsolidated (I-Aquifer)	0.63	CGWB		7.38	6.75	8.0	7.37
Dim_03	Maibiram GH	25.78	93.62	157	11.00	DUG	Unconsolidated (I-Aquifer)	0.70	CGWB		7.12	6.42	10.1	9.40
Dim_04	Bade Bazar	25.83	93.69	145	10.00	DUG	Unconsolidated (I-Aquifer)	0.80	CGWB		3.00	2.20	7.00	6.20
Dim_05	Singrijan	25.84	93.72	147	12.00	DUG	Unconsolidated (I-Aquifer)	2.60	CGWB		5.90	3.30	6.22	3.62
Dim_06	Thilaxu Blk-II	25.88	93.74	139	14.00	DUG	Unconsolidated (I-Aquifer)	0.61	CGWB		11.00	10.39	9.12	8.51
Dim_07	Kacharigaon	25.89	93.69	149	12.00	DUG	Unconsolidated (I-Aquifer)	0.68	CGWB		5.00	4.32	7.86	7.18
Dim_08	Zion Hospital,NH-39	25.91	93.75	157	11.00	DUG	Unconsolidated (I-Aquifer)	0.85	CGWB		9.73	8.88	10.12	9.27
Dim_09	3 Mile Bazar	25.88	93.76	163	12.00	DUG	Unconsolidated (I-Aquifer)	0.90	CGWB		9.76	8.86	10.0	9.10
Dim_10	Surja colony	25.80	93.76	170	9.00	DUG	Unconsolidated (I-Aquifer)	0.61	CGWB		6.60	5.99	6.87	6.26
Dim_11	Chumukedema Bamboo Factory	25.86	93.79	180	12.00	DUG	Unconsolidated (I-Aquifer)	0.61	CGWB		4.78	4.17	9.20	8.59
Dim_12	7th Mile colony	25.84	93.77	178	11.00	DUG	Unconsolidated (I-Aquifer)	0.70	CGWB		15.24	14.54	10.5	9.80
Dim_13	Diphupar	25.86	93.77	149	9.00	DUG	Unconsolidated (I-Aquifer)	0.85	CGWB		1.89	1.04	3.50	2.65
Dim_1	Zakesatho	25.92	93.73	123	6.00	DUG	Unconsolidated (I-	0.85	CGW		4.55	3.70	6.73	5.88

4	colony						Aquifer)		B					
Dim_15	Natun Basti	25.92	93.71	155	14.00	DUG	Unconsolidated (I-Aquifer)	0.67	CGWB		11.25	10.58	9.20	8.53
Dim_16	Rilayan colony	25.90	93.68	165	28.00	DUG	Unconsolidated (I-Aquifer)	1.19	CGWB		17.9	16.66	19.6	18.41
Dim_17	Divine Hostel, Kuda	25.90	93.73	136	12.00	DUG	Unconsolidated (I-Aquifer)	0.79	CGWB		7.62	6.83	8.80	8.01
Dim_18	Thilaxu Blk-III	25.88	93.74	147	11.00	DUG	Unconsolidated (I-Aquifer)	1.06	CGWB		7.50	6.44	9.10	8.04
Dim_19	DGM	25.91	93.70	179	18.00	DUG	Unconsolidated (I-Aquifer)	0.85	CGWB		15.0	14.15	15.4	14.55
Dim_20	District Hospital	25.90	93.73	135	6.00	DUG	Unconsolidated (I-Aquifer)	0.97	CGWB		4.00	3.03	4.23	3.26
Dim_21	Chumukedima F.O	25.80	93.80	179	12.00	DUG	Unconsolidated (I-Aquifer)	0.85	CGWB		4.65	3.80	6.92	6.07
Dim_22	Industrial Estate	25.90	93.70	156	14.00	DUG	Unconsolidated (I-Aquifer)	0.90	CGWB		6.4	5.50	9.22	8.32
Dim_23	Marwari Colony	25.90	93.73	155	9.00	DUG	Unconsolidated (I-Aquifer)	0.76	CGWB		4.55	3.79	5.27	4.51
Dim_24	Wild life Office	25.91	93.75	148	14.00	DUG	Unconsolidated (I-Aquifer)	0.70	CGWB		7.8	7.10	9.06	8.36
Dim_25	Lomithi Colony	25.90	93.76	154	272.00	pZ	Unconsolidated (II-Aquifer)	0.52	CGWB		6.4	5.88	8.51	7.99
Dim_26	DGM colony, Dimapur	25.91	93.72	155	56.00	pZ	Unconsolidated (II-Aquifer)	0.23	CGWB		4.52	5.06	19.11	18.88
Dim_27	ISBT (Old),Purana Bazar	25.92	93.75	157	238.00	pZ	Unconsolidated (II-Aquifer)	0.50	CGWB		6.26	5.76	8.80	8.30
Dim_28	Dhansirpar	25.79	93.63	151	281.00	DTW	Unconsolidated (II-Aquifer)	0.20	CGWB		1.20	1.00	1.24	1.04
Dim_29	Ganeshnagar	25.75	93.58	166	76.00	DTW	Unconsolidated (II-Aquifer)	1.20	CGWB		12	10.80	12.55	11.35
Dim_30	145, Oriental Colony	25.87	93.70	145	70.00	DTW	Unconsolidated (II-Aquifer)	1.06	CGWB		12.44	11.38	13.0	11.94
Dim_31	Circuit House	25.90	93.74	151	55.00	DTW	Unconsolidated (II8-Aquifer)	1.02	CGWB		11.21	10.19	12.0	10.98

RAINFALL DATA

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	**TOTAL**
2003	NA	NA	NA	NA	NA	129	105.3	440	245.3	137.7	8.2	19.3	**1084.8**
2004	7.9	0	15.2	229.4	18.8	186	368	91	224.4	158.2	6.6	0	**1305.5**
2005	15.2	12.4	69.2	59.8	79.2	113.4	169.4	288.1	89.6	143	0	2.6	**1041.9**
2006	15.2	12.4	69.2	59.8	79.2	113.4	169.4	288.1	89.6	143	0	2.6	**1041.9**
2007	0	113.8	3.4	121.6	187	177	128.5	346	188	154.4	46.7	10.2	**1476.6**
2008	8.9	0.3	49.7	32.6	95.4	322	186.6	78.5	284	81.2	0	0	**1139.2**
2009	0	0	7.3	15.1	66.1	167.9	167.6	93	79.8	26.8	0	0	**623.6**
2010	2.4	13	60.9	84.1	98.9	329.3	451.6	516.8	228.5	73.7	1	21.2	**1881.4**
2011	8.9	5.2	43	34.3	211.6	164.2	199.6	153.5	215.1	27.4	0	0	**1062.8**
2012	22.6	6.8	29.1	48.6	101.4	242	242.7	173.3	141.1	93.3	30.6	0	**1131.5**
2013	0	17.2	54.7	81	283.3	247.6	391	265.5	178.3	99.5	0	1.9	**1620**

		GEOPHYSICAL DATA : VES DATA	
Unique ID	**Dimapur VES 01 /Old**	**Date/year**	**CGWB**
Village	**Disagpho**	**Nearby DW/DCBW/BW Depth**	
Talluka/block	**Dhansirpar**	**Yield/Discharge**	
District	**Dimapur**	**Whether BH was drilled at this point? If Yes,**	
Toposheet No.	**83G/10**	**Depth drilled**	
Lattitudes	**25.79**	**Discharge (lps)**	
Longitudes	**93.68**	**Transmissivity**	
RL(m)	**176**	**Storativity**	
Depth range (mbgl)		**Layer Resistivity in Ohm m**	**Inferred subsurface geology**
From	**To**		
G.L.	4.27	90.00	Top soil sand mixed with clays
4.27	28.90	9.00	Fine to medium sand with pebble mixed
28.90	Below 28.90	140.00	

Unique ID	**Dimapur VES 02 /Old**	**Date/year**	**CGWB**
Village	**Lumithi Colony**	**Nearby DW/DCBW/BW Depth**	
Talluka/block	**Chumukedima**	**Yield/Discharge**	
District	**Dimapur**	**Whether BH was drilled at this point? If Yes,**	
Toposheet No.	**83G/14**	**Depth drilled**	
Lattitudes	**25.89**	**Discharge (lps)**	
Longitudes	**93.73**	**Transmissivity**	
RL(m)	**152**	**Storativity**	
Depth range (mbgl)		**Layer Resistivity in Ohm m**	**Inferred subsurface geology**
From	**To**		
G.L.	4.19	230	Top soil with clays etc.
4.19	7.61	46	sands etc.
7.61	11	125	Hard Clays with sands etc.
11	Below 11	48	Intercalation of sands & clays

Unique ID	**Dimapur VES 03 /Old**	**Date/year**	**CGWB**
Village	**Purana Bazar**	**Nearby DW/DCBW/BW Depth**	
Talluka/block	**Dimapur Sardar**	**Yield/Discharge**	
District	**Dimapur**	**Whether BH was drilled at this point? If Yes,**	
Toposheet No.	**83G/9**	**Depth drilled**	
Lattitudes	**25.91**	**Discharge (lps)**	
Longitudes	**93.76**	**Transmissivity**	
RL(m)	**145**	**Storativity**	
Depth range (mbgl)			
From	**To**	**Layer Resistivity in Ohm m**	**Inferred subsurface geology**
G.L.	6.96	179.00	Top soil with hard clays
6.96	21.00	28.00	Clays etc. With sands
21.00	24.60	540.00	Sands with hard clays etc.
25.00	Below 25	43.00	sands with clays etc.

Unique ID	**Dimapur VES 04 /Old**	**Date/year**	**CGWB**
Village	**Rangapahar**	**Nearby DW/DCBW/BW Depth**	
Talluka/block	**Chumukedima**	**Yield/Discharge**	
District	**Dimapur**	**Whether BH was drilled at this point? If Yes,**	
Toposheet No.	**83G/14**	**Depth drilled**	
Lattitudes	**25.85**	**Discharge (lps)**	
Longitudes	**93.72**	**Transmissivity**	
RL(m)	**159**	**Storativity**	
Depth range (mbgl)		**Layer Resistivity in Ohm m**	**Inferred subsurface geology**
From	**To**		
G.L	6	260	Top soil with clays etc.
6	15	52	clays etc.
15	Below 15	40	Sands with clays

Unique ID	**Dimapur VES 05 /old**	**Date/year**	**CGWB**
Village	**Diphupar**	**Nearby DW/DCBW/BW Depth**	
Talluka/block	**Chumukedima**	**Yield/Discharge**	
District	**Dimapur**	**Whether BH was drilled at this point? If Yes,**	
Toposheet No.	**83G/13**	**Depth drilled**	
Lattitudes	**25.75**	**Discharge (lps)**	
Longitudes	**93.77**	**Transmissivity**	
RL(m)	**149**	**Storativity**	
Depth range (mbgl)			
From	**To**	**Layer Resistivity in Ohm m**	**Inferred subsurface geology**
G.L.	3.00	30.00	Top soil with clays
3.00	13.10	22.00	Clays etc.
13.10	Below 13.10	98.00	Sands with hard clays etc.

Unique ID	**Dimapur VES 06 /Old**	**Date/year**	**CGWB**
Village	**Teneyphe**	**Nearby DW/DCBW/BW Depth**	
Talluka/block	**Medziphema**	**Yield/Discharge**	
District	**Dimapur**	**Whether BH was drilled at this point? If Yes,**	
Toposheet No.	**83G/13**	**Depth drilled**	
Lattitudes	**25.75**	**Discharge (lps)**	
Longitudes	**93.77**	**Transmissivity**	
RL(m)	**189**	**Storativity**	
Depth range (mbgl)			
From	**To**	**Layer Resistivity in Ohm m**	**Inferred subsurface geology**
G.L.	13	60	Top soil with clays etc.
13	70	30	sands with clays etc.
70	Below 70	18	Intercalations of clays with sands etc.