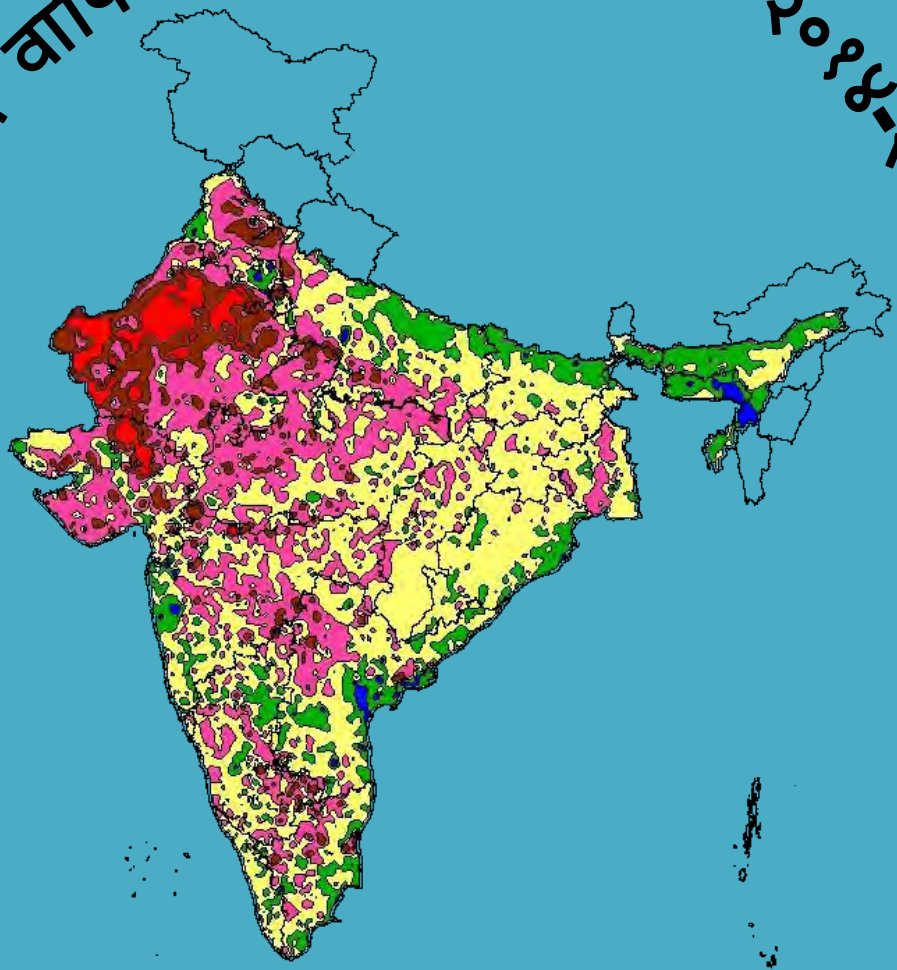
Ground Water Year Book - India 2014-15

भू-जल वार्षिक पत्रिका, भारत वर्ष २०१४-२०१५



Central Ground Water Board

केन्द्रीय भू-जल बोर्ड

Ministry of Water Resources, River Development and Ganga Rejuvenation

जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय

Government of India

भारत सरकार

Faridabad

फ़रीदाबाद

वार्षिकी

Year Book

२०१४-२०१५

Central Ground Water Board

केन्द्रीय भू-जल बोर्ड

Ministry of Water Resources, River Development and Ganga Rejuvenation

जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय

Government of India

भारत सरकार

Faridabad

फ़रीदाबाद

GROUND WATER YEAR BOOK- INDIA 2014-15

CONTENTS

Chapter	*Page No.*
1.0 Hydrogeological Setup of the Country	*1-4*
1.1 Ground Water Occurrence	
1.1.1 Porous Formations	
1.1.2 Fissured Formations (Consolidated Formations)	
1.2 Hydrogeological Units and their Ground Water Potential	
2.0 Ground Water Level Scenario	*4-37*
2.1 Introduction	
2.2 Depth to Water Level	
2.3 Annual Water Level Fluctuation	
2.4 Seasonal Water Level Fluctuation	
2.5 Decadal Water Level Fluctuation	
2.6 Rain Fall Variations	
3.0 Ground Water Resource Availability and Development Status	*37-45*
3.1 Dynamic Fresh Ground Water Resource	
3.2 Stage of Ground Water Development	
3.3 Categorization of Assessment Units	
LIST OF PLATES	***PLATE No.***
Hydrogeological Map of India	*I*
Location of Ground Water Monitoring Wells	*II*
Depth to Water Level at a glance	*III*
Depth to water level (Pre monsoon2014)	*IV*
Depth to water level (August 2014)	*V*
Depth to water level (Post monsoon2014)	*VI*
Depth to water level (January 2015)	*VII*

Annual water level fluctuation at a glance	*VIII*
Annual water level fluctuation (Pre monsoon 2014-2013)	*IX*
Annual water level fluctuation (August 2014-August 2013)	*X*
Annual water level fluctuation (November 2014-November 2013)	*XI*
Annual water level fluctuation (January 2015-January 2014)	*XII*
Seasonal water level fluctuation at glance	*XIII*
Seasonal water level fluctuation (August 2014-Pre monsoon 2014)	*XIV*
Seasonal water level fluctuation (Post monsoon2014-Pre monsoon 2014)	*XV*
Seasonal water level fluctuation (January 2015-Pre monsoon 2014)	*XVI*
Decadal water level fluctuation at a glance	*XVII*
Decadal water level fluctuation, Decadal mean pre monsoon (2004-2013) Vs pre monsoon 2014	*XVIII*
Decadal water level fluctuation, Decadal mean August (2004-2013) Vs August 2014	*XIX*
Decadal water level fluctuation, Decadal mean November (2004-2013) Vs November 2014	*XX*
Decadal water level fluctuation, Decadal mean January (2005-2014) Vs January 2015	*XXI*
Annual Rainfall Maps of India *XXII*	
Categorization of Ground Water Assessment Units	*XXIII*
Ground Water Resource Availability and Utilization in India	*XXIV*
LIST OF TABLES	*TABLE No.*
Major aquifer System In The Country	*1*
State Wise Status of GW Monitoring Wells	*2*
State Wise Ground water Resources Availability, Utilization and Stage of Development	*3*
Categorization of Ground Water Assessment Units	*4*
LIST OF ANNEXURES	*ANNEXURE No.*
State - Wise Distribution Of Percentage Of Observation Wells- 2014 Premonsoon	*I*
State - Wise Distribution Of Percentage Of Observation Wells - 2014 August	*II*
State - Wise Distribution Of Percentage Of Observation Wells- 2014 Post-Monsoon	

III	
State - Wise Distribution Of Percentage Of Observation Wells – 2015 January *IV*	
State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2014 Premonsoon To 2013 Premonsoon	*V*
State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2014 August To 2013 August	*VI*
State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2014 Post monsoon To 2013 Post monsoon	*VII*
State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2015 January To 2014 January	*VIII*
State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2014 Premonsoon To 2014 August	*IX*
State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2014 Premonsoon To 2014 November	*X*
State - Wise Fluctuation And Frequency Distribution From Different Ranges From 2014 Premonsoon To 2015 January	*XI*
State - Wise Fluctuation And Frequency Distribution With Decadal Mean (2004-2013) And 2014 Premonsoon	*XII*
State - Wise Fluctuation And Frequency Distribution With Decadal Mean (2004-2013) And 2014 August	*XIII*
State - Wise Fluctuation And Frequency Distribution With Decadal Mean (2004-2013) And 2014 November	*XIV*
State - Wise Fluctuation And Frequency Distribution With Decadal Mean (2005-2014) And 2015 January	*XV*

1. HYDROGEOLOGICAL SETUP OF THE COUNTRY

1.1 GROUND WATER OCCURRENCE

The ground water behavior in the Indian sub-continent is highly complicated due to the occurrence of diversified geological formations with considerable lithological and chronological variations, complex tectonic framework, climatological dissimilarities and various hydrochemical conditions. Studies carried out over the years have revealed that aquifer groups in alluvial / soft rocks even transcend the surface basin boundaries. Broadly two groups of rock formations have been identified depending on characteristically different hydraulics of ground water, Viz. Porous Formations and Fissured Formations.

1.1.1 POROUS FORMATION

Porous formations have been further subdivided into Unconsolidated and Semi-consolidated formations.

UNCONSOLIDATED FORMATIONS

The areas covered by alluvial sediments of river basins, coastal and deltaic tracts constitute the unconsolidated formations. These are by far the most significant ground water reservoirs for large scale and extensive development. The hydrogeological environment and ground water regime in the Indo-Ganga-Brahmaputra basin indicate the existence of potential aquifers having enormous fresh ground water reserve. Bestowed with high incidence of rainfall and covered by a thick pile of porous sediments, these ground water reservoirs get replenished every year and are being used heavily. In these areas, in addition to the Annual Replenishable Ground Water Resources available in the zone of water level fluctuation (Dynamic Ground Water Resource), there exists a huge ground water reserve in the deeper passive recharge zone below the zone of fluctuation as well as in the deeper confined aquifers which remains largely unexplored as yet. Although the mode of development of ground water is primarily through dug wells, dug cum bore well and cavity wells, thousands of tube wells have been constructed during last few decades.

SEMI-CONSOLIDATED FORMATIONS

The semi-consolidated formations normally occur in narrow valleys or structurally faulted basins. The Gondwanas, Lathis, Tipams, Cuddalore sandstones and their equivalents are the most extensive productive aquifers in this category. Under favorable situations, these formations give rise to free flowing wells. In selected tracts of northeastern India, these water-bearing formations are quite productive. The Upper Gondwanas, which are generally arenaceous, in general, constitute prolific aquifers.

1.1.2 FISSURED FORMATIONS (CONSOLIDATED FORMATIONS)

The consolidated formations occupy almost two-thirds of the country. These formations, except vesicular volcanic rocks have negligible primary porosity. From the hydrogeological point of view, fissured rocks are broadly classified into four types viz. Igneous and metamorphic rocks (excluding volcanic and carbonate rocks), volcanic rocks, consolidated sedimentary rocks and Carbonate rocks.

IGNEOUS AND METAMORPHIC ROCKS EXCLUDING VOLCANIC AND CARBONATE ROCKS

The most common rock types under this category are granites, gneisses, charnockites, khondalites, quartzites, schists and associated phyllites, slates, etc. These rocks possess negligible primary porosity but attain porosity and permeability due to fracturing and weathering.

Ground water yield also depends on the rock type and grade of metamorphism. Generally, the granites, Khondalites and biotite gneisses have better yield potential as compared to charnockites.

VOLCANIC ROCKS

The predominant types of volcanic rocks are the basaltic lava flows of Deccan Plateau. The highly variable water bearing properties of different flow units control ground water occurrence in Deccan Traps. The Deccan Traps have usually poor to moderate permeability depending on the presence of primary and secondary fractures.

CONSOLIDATED SEDIMENTARY ROCKS EXCLUDING CARBONATE ROCKS

Consolidated sedimentary rocks occur in Cuddapahs, Vindhyans and their equivalents. The formations consist of conglomerates, sandstones, shales. The presence of bedding planes, joints, contact zones and fractures controls the ground water occurrence, movement and yield potential.

CARBONATE ROCKS

Limestones in the Cuddapah, Vindhyan and Bijawar group of rocks dominates the carbonate rocks other than marbles and dolomites. In carbonate rocks, the circulation of water creates solution cavities thereby increasing the permeability of the aquifers. The solution activity leads to widely contrasting permeabilities within short distances.

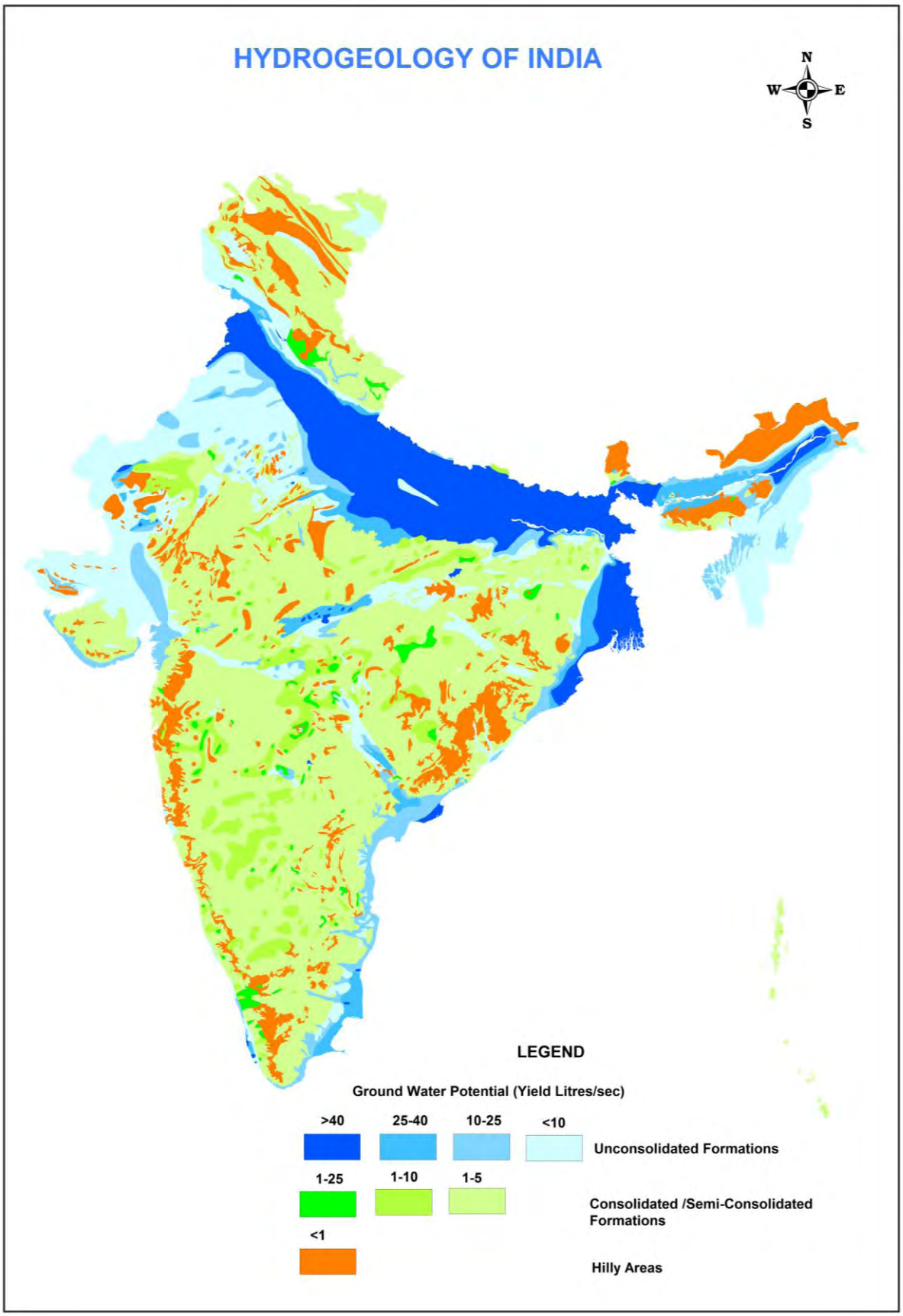
1.2 HYDROGEOLOGICAL UNITS AND THEIR GROUND WATER POTENTIAL

Hydrogeological map of India is depicted in Plate-I and the geographical distribution of hydrogeological units along with their Ground water potential is given in Table 1.

TABLE 1: AQUIFER SYSTEM IN THE COUNTRY

System	Coverage	Ground water potential
Unconsolidated formations - alluvial	Indo-Gangetic, Brahmaputra plains	Enormous reserves down to 600 m depth. High rain fall and hence recharge is ensured. Can support large-scale development through deep tube wells
	Coastal Areas	Reasonably extensive aquifers but risk of saline water intrusion
	Part of Desert area – Rajasthan and Gujarat	Scanty rainfall. Negligible recharge. Salinity hazards. Ground water Availability at great depths.
Consolidated/semi-consolidated formations - sedimentaries, basalts and crystalline rocks	Peninsular Areas	Availability depends on secondary porosity developed due to weathering, fracturing etc. Scope for GW availability at shallow depths (20-40 m) in some areas and deeper depths (100-200 m) in other areas. Varying yields.
Hilly	Hilly states	Low storage capacity due to quick runoff

PLATE - I


HYDROGEOLOGY OF INDIA
N
W
E
S
LEGEND
Ground Water Potential (Yield Litres/sec)
>40
25-40
10-25
<10
Unconsolidated Formations
1-25
1-10
1-5
Consolidated /Semi-Consolidated Formations
<1
Hilly Areas

2.0 GROUND WATER LEVEL SCENARIO

2.1 INTRODUCTION

Ground Water Year Book is prepared annually by CGWB depicting changes in ground water regime of the country through different seasons. It is an effort to obtain information on ground water levels through representative monitoring wells. The important attributes of ground water regime monitoring are ground water level.

The natural conditions affecting the regime involve climatic parameters like rainfall, evapotranspiration etc., whereas anthropogenic influences include pumpage from the aquifer, recharge due to irrigation systems and other practices like waste disposal etc.

Ground water levels are being measured by Central Ground Water Board four times a year during January, March/April/ May, August and November. The regime monitoring started in the year 1969 by Central Ground Water Board. A network of 20698 observation wells, as on 31.03.2014, located all over the country is being monitored. Ground water samples are collected from these observation wells once a year during the month of March/April/ May to obtain background information of ground water quality changes on regional scale. The database thus generated forms the basis for planning the ground water development and management programmes. The ground water level and quality monitoring is of particular importance in coastal as well inland saline environment to assess the changes in salt water/fresh water interface as also the gradual quality changes in the fresh ground water regime. This data is used for assessment of ground water resources and changes in the regime consequent to various development and management activities.

The premonsoon water level data is collected from all the monitoring stations during the months of March/ April/ May, depending on the climatological conditions of the region. For North eastern states premonsoon data is collected during March, since the onset of monsoon is normally observed in April. Similarly for Orissa, West Bengal and Kerala where monsoon appears early in May the monitoring is carried out during the month of April. For remaining states premonsoon monitoring month is May. Water levels during August are monitored to access the impact of monsoon on the ground water resources. Post monsoon data collected during November reflects the cumulative effect of ground water recharge and withdrawal of ground water for various purposes. January water level data indicates the effect of withdrawal for rabi crops.

The data is analyzed to know about the frequency distribution of water levels during different periods and seasonal, annual and decadal fluctuations in water levels. The water level and water level fluctuation maps are prepared for each monitoring period to study the spatial and temporal changes in ground water regime.

The State/UT-wise distribution of the ground water observation wells is given in table- 2 and depicted in Plate II.

PLATE - II

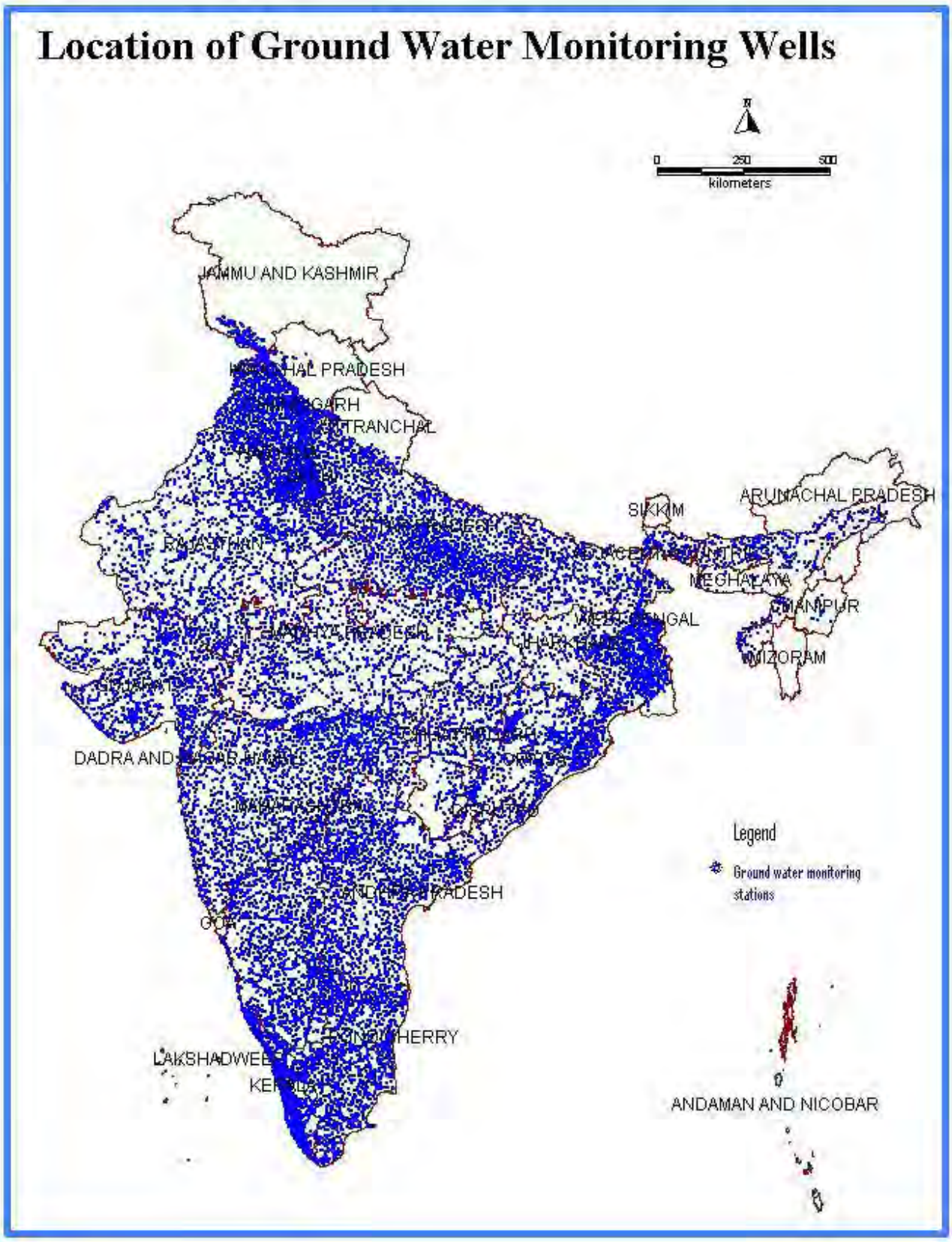


TABLE-2
STATE/UT -WISE STATUS OF GROUND WATER MONITORING WELLS
(AS ON 31.03.2014)

Status of Ground Water Monitoring Stations (March 2014)

Sl No	Name of the State/UTs	Number of Ground Water Monitoring Stations		
		DW	PZ	Total
1	**Andhra Pradesh**	1100	478	1578
2	**Arunachal Pradesh**	29	1	30
3	**Assam**	398	62	460
4	**Bihar**	507	37	544
5	**Chhattisgarh**	759	248	1007
6	**Delhi**	20	100	120
7	**Goa**	96	49	145
8	**Gujarat**	807	390	1197
9	**Haryana**	472	394	866
10	**Himachal Pradesh**	106	0	106
11	**Jammu & Kashmir**	256	32	288
12	**Jharkhand**	326	18	344
13	**Karnataka**	900	373	1273
14	**Kerala**	1252	266	1518
15	**Madhya Pradesh**	1068	352	1420
16	**Maharashtra**	1414	237	1651
17	**Manipur**	13	10	23
18	**Meghalaya**	57	7	64
19	**Nagaland**	26	5	31
20	**Orissa**	1405	125	1530
21	**Punjab**	141	614	755
22	**Rajasthan**	734	377	1111
23	**Tamil Nadu**	767	584	1351
24	**Tripura**	63	12	75
25	**Uttar Pradesh**	1011	298	1309
26	**Uttarakhand**	48	134	182

27	**West Bengal**	771	785	1556
	UT s			
1	**Andaman & Nicobar**	93	0	93
2	**Chandigarh**	1	24	25
3	**Dadra & Nagar Haveli**	12	0	12
4	**Daman & Diu**	11	5	16
5	**Pondicherry**	11	7	18
TOTAL		**14674**	**6024**	**20698**

2.2 DEPTH TO WATER LEVEL

DEPTH TO WATER LEVEL – PRE MONSOON 2014

The ground water level data for Premonsoon 2014 indicate that out of the total 14957 wells analysed, 891 (6 %) wells are showing water level less than 2 m bgl (metres below ground level), 4366 (29%) wells are showing water level in the depth range of 2-5 m bgl, 5908 (40 %) wells are showing water level in the depth range of 5-10 m bgl, 2849 (19%) wells are showing water level in the depth range of 10-20 m bgl, 713 (5%) wells are showing water level in the depth range of 20-40 m bgl and the remaining 230 (1 %) wells are showing water level more than 40 m bgl **(Annexure-I)**. The maximum depth to water level of 119.60 m bgl is observed in Rajasthan whereas the minimum is less than 1 m bgl.

The depth to water level map of Premonsoon 2014 (**Plate IV**) for the country indicates that in general depth to water level ranges from 5 to 10 m bgl. Sub-Himalayan area, north of river Ganges, Uttar Pradesh, Bihar, Odisha, Assam, Andhra Pradesh and Tripura generally the depth to water level varies from 2-5 meter below ground level. In the states of Madhya Pradesh, Jharkhand, Maharashtra, Karnataka, Telangana, Kerala and West Bengal water level generally varies from 5 to 10 m bgl with small patches showing depth to water level between 2 to 5 m bgl.

In major parts of north-western states depth to water level generally ranges from 10-40 m bgl. In the western parts of the country deeper water level is recorded in the depth range of 20-40 m bgl and more than 40 m bgl. In some parts of Delhi and Rajasthan water level of more than 40 m bgl is recorded. Along the eastern & western coast water level is generally less than 10 m. Central part of West Bengal state recorded water level in the range of 10-20 m bgl. In Central India water level generally varies between 2 m bgl to 10 m bgl, except in isolated pockets where water level more than 10 m bgl has been observed. The peninsular part of country generally recorded a water level in the range of 5 to 20 m bgl depth range. Shallow water level less than 2 m bgl have also been observed as isolated patches in Assam, Maharashtra and Andhra Pradesh.

DEPTH TO WATER LEVEL – AUGUST 2014

Ground Water Level Scenario - August 2014

The ground water level data for August 2014 indicate that out of the total 14433 wells analysed, 4359 (30.20 %) wells are showing water level less than 2 m bgl (metres below ground level), 4667 (32%) wells are showing water level in the depth range of 2-5 m bgl, 3186 (22 %) wells are showing water level in the depth range of 5-10 m bgl, 1525 (11%) wells are showing water level in the depth range of 10-20 m bgl, 470 (3%) wells are showing water level in the depth range of 20-40 m bgl and the remaining 225 (2 %) wells are showing water level more than 40 m bgl, **(Annexure-II).** The maximum depth to water level of 112.60 m bgl is observed in Rajasthan whereas the minimum is less than 1 m bgl.

The depth to water level map of August 2014 (**Plate V**) for the country indicates that in general depth to water level ranges from 0 to 5 m bgl as observed at about more than 60% of the monitoring stations. Sub-Himalayan area, north of river Ganges, Uttar Pradesh, Bihar, Odisha, Assam, Andhra Pradesh and Tripura generally the depth to water level varies from 2-5 meter below ground level. Shallow water level of less than 2 m bgl is observed in the states of Assam, Chhatishgarh, Maharashtra, Orissa and Uttar Pradesh and also in isolated pockets in Madhya Pradesh. In the states of Madhya Pradesh, Jharkhand, Maharashtra, Karnataka, Telangana, Kerala and West Bengal water level generally varies from 5 to 10 m bgl with small patches showing depth to water level between 2 to 5 m bgl.

In major parts of north-western states depth to water level generally ranges from 10-40 m bgl. In the western parts of the country deeper water level is recorded in the depth range of 20-40 m bgl and more than 40 m bgl. In some parts of Delhi and Rajasthan water level of more than 40 m bgl is recorded. Along the eastern & western coast water level is generally less than 10 m. Central part of West Bengal state recorded water level in the range of 10-20 m bgl. In Central India water level generally varies between 2 m bgl to 10 m bgl, except in isolated pockets where water level more than 10 m bgl has been observed. The peninsular part of country generally recorded a water level in the range of 5 to 20 m bgl depth range.

DEPTH TO WATER LEVEL – POST MONSOON 2014

The ground water level data for November 2014 indicate that out of the total 14904 wells analysed, 2941 (20 %) wells are showing water level less than 2 m bgl (metres below ground level), 5765 (39%) wells are showing water level in the depth range of 2-5 m bgl, 3824 (26 %) wells are showing water level in the depth range of 5-10 m bgl, 1689 (11%) wells are showing water level in the depth range of 10-20 m bgl, 489 (3%) wells are showing water level in the depth range of 20-40 m bgl and the remaining 195 (1 %) wells are showing water level more than 40 m bgl. The maximum depth to water level of 115.08 m bgl is observed in Rajasthan (**Annexure- III).**

The depth to water level map of November 2014 (**Plate VI**) for the country indicates that in general depth to water level ranges from 2 to 10 m bgl. Sub-Himalayan area, north of river Ganges, Uttar Pradesh, Bihar, Odisha, Chhatishgarh, Assam, Andhra Pradesh, Maharashtra, and Tripura generally the depth to water level varies from 2-5 meter below ground level. Shallow water level of less than 2 m bgl is observed in the states of Assam, Andhra Pradesh, Chhatishgarh, Himachal Pradesh, Maharashtra, Odisha, Tripura and Uttar Pradesh and also in isolated pockets in Madhya Pradesh, Gujarat and Tamil Nadu. In the states of Madhya Pradesh, Jharkhand, Maharashtra, Karnataka, Tamil Nadu, Telangana, Kerala and West Bengal water level generally varies from 5 to 10 m bgl with small patches showing depth to water level between 2 to 5 m bgl.

In major parts of north-western states depth to water level generally ranges from 10-40 m bgl. In the western parts of the country deeper water level is recorded in the depth range of 20-40 m bgl

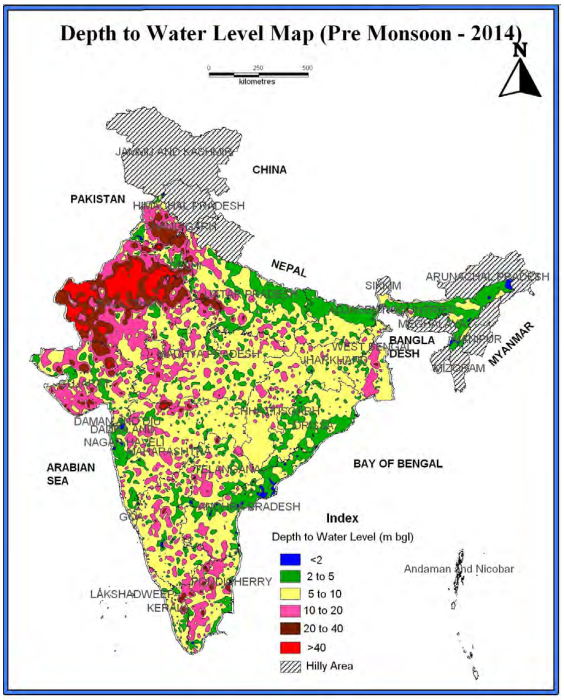
and more than 40 m bgl. In some parts of Haryana, and Delhi and almost major parts of Rajasthan, water level of more than 40 m bgl is recorded. Along the eastern & western coast water level is generally upto 10 mbgl. Central part of West Bengal recorded water level in the range of 5-20 m bgl. In Central India water level generally varies between 5 m bgl to 10 m bgl, except in isolated pockets where water level more than 10 m bgl has been observed. The peninsular part of country generally recorded a water level in the range of 5 to 20 m bgl depth range.

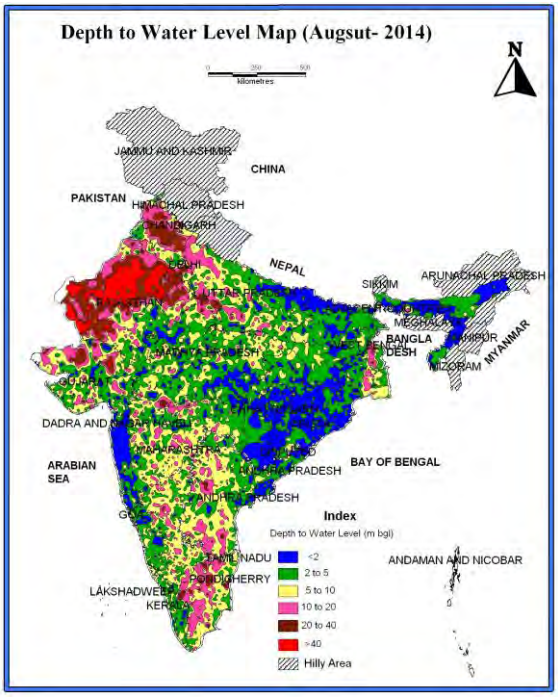
DEPTH TO WATER LEVEL – JANUARY 2015

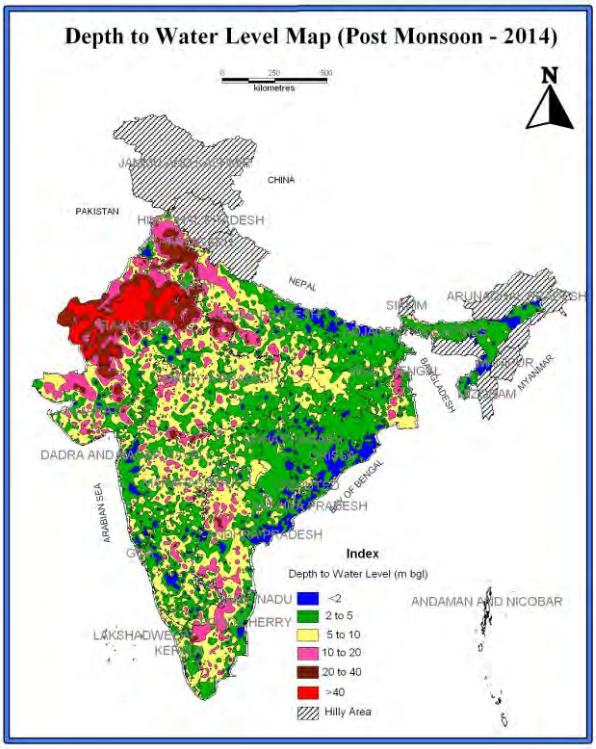
The ground water level data for January 2015 indicate that out of the total 15125 wells analysed, 1660(11 %) wells are showing water level less than 2 m bgl, 5577 (37%) wells are showing water level in the depth range of 2-5 m bgl, 4936 (33 %) wells are showing water level in the depth range of 5-10 m bgl, 2170 (14%) wells are showing water level in the depth range of 10-20 m bgl, 594 (4%) wells are showing water level in the depth range of 20-40 mbgl and the remaining 188 (1 %) wells are showing water level more than 40 m bgl. The maximum depth to water level of 115.25 m bgl is observed in Rajasthan whereas the minimum is less than 1 m bgl (**Annexure- IV).**

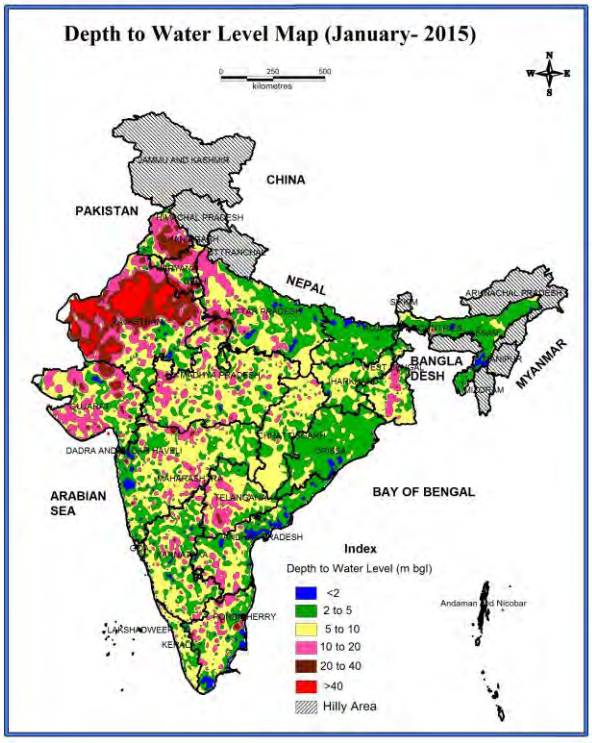
The depth to water level map of January 2015 (**Plate VII)** indicates that in Sub-Himalayan area, north of river Ganges in Uttar Pradesh, Assam, Bihar, Odisha and Coastal Tamil Nadu generally the depth to water level varies from 2-5 meter below ground level. Shallow water level less than 2 m bgl have also been observed as patches in Maharashtra, Andhra Pradesh, Assam, Northern Uttar Pradesh, Gujarat and Odisha. In major parts of north-western states depth to water level generally ranges from 10-40 m bgl. In the western parts of the country deeper water level is recorded in the depth range of 20-40 m bgl and more than 40 m bgl. In parts of Delhi and major parts of Rajasthan water level of more than 40 m bgl is recorded. Along the eastern & western coast water level is generally less than 10 m. Central part of West Bengal state recorded water level in the range of 10-20 m bgl. In Central India water level generally varies from 2 to 10 m bgl, and in few isolated pockets water level ranges from 10 to 20 m bgl. The peninsular part of country generally recorded a water level in the range of 5 to 20 m bgl depth range.

DEPTH TO WATER LEVEL AT A GLANCE









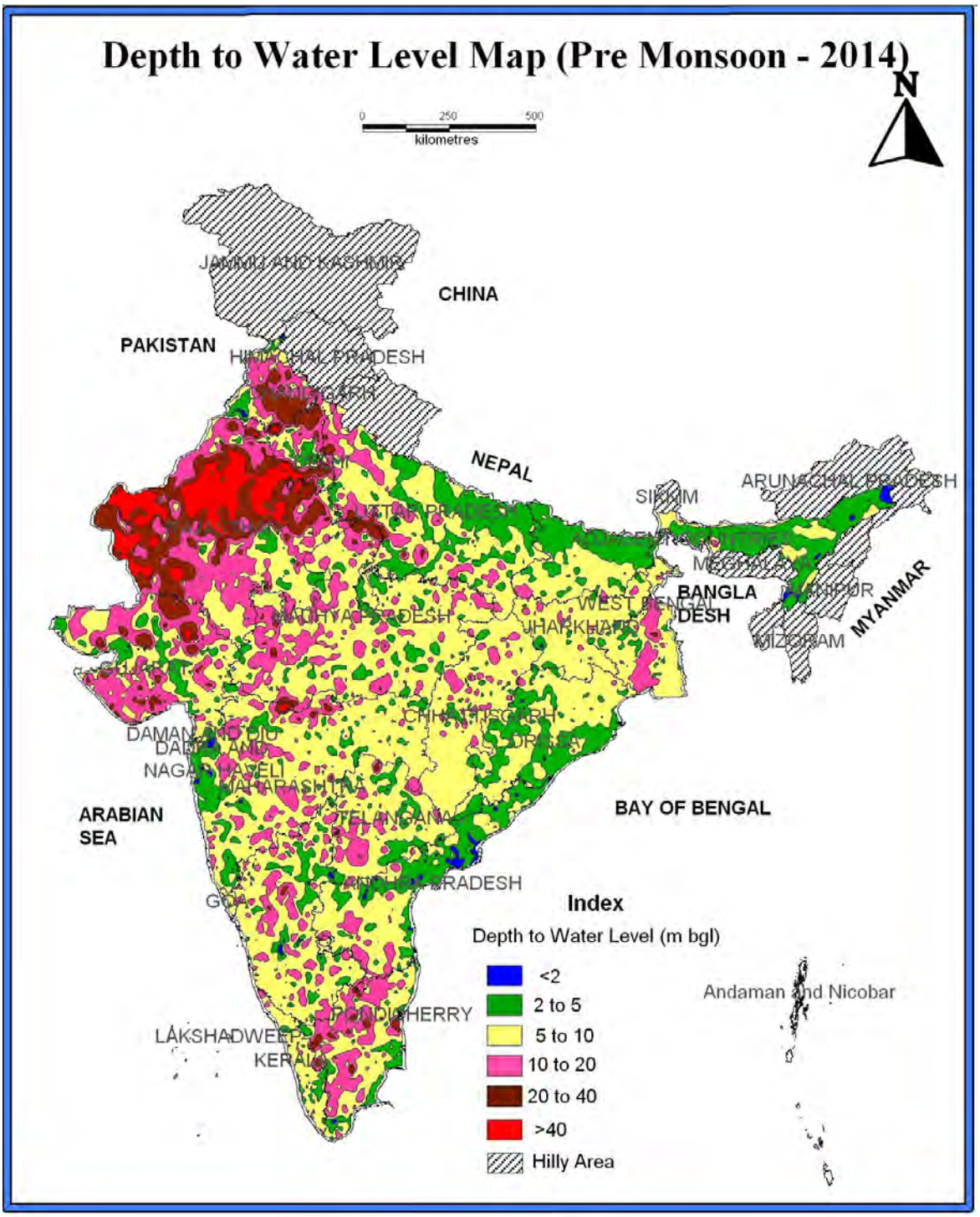
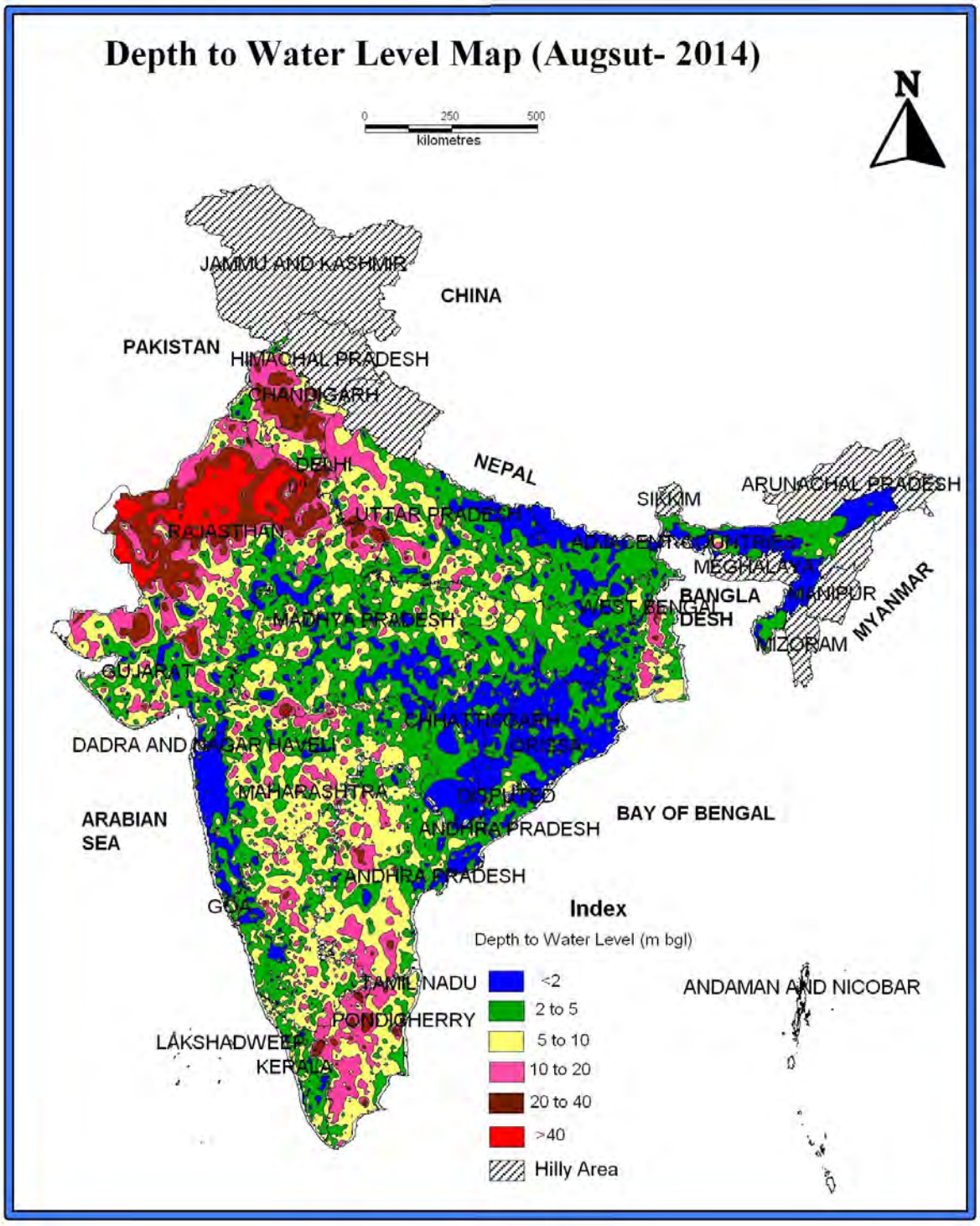
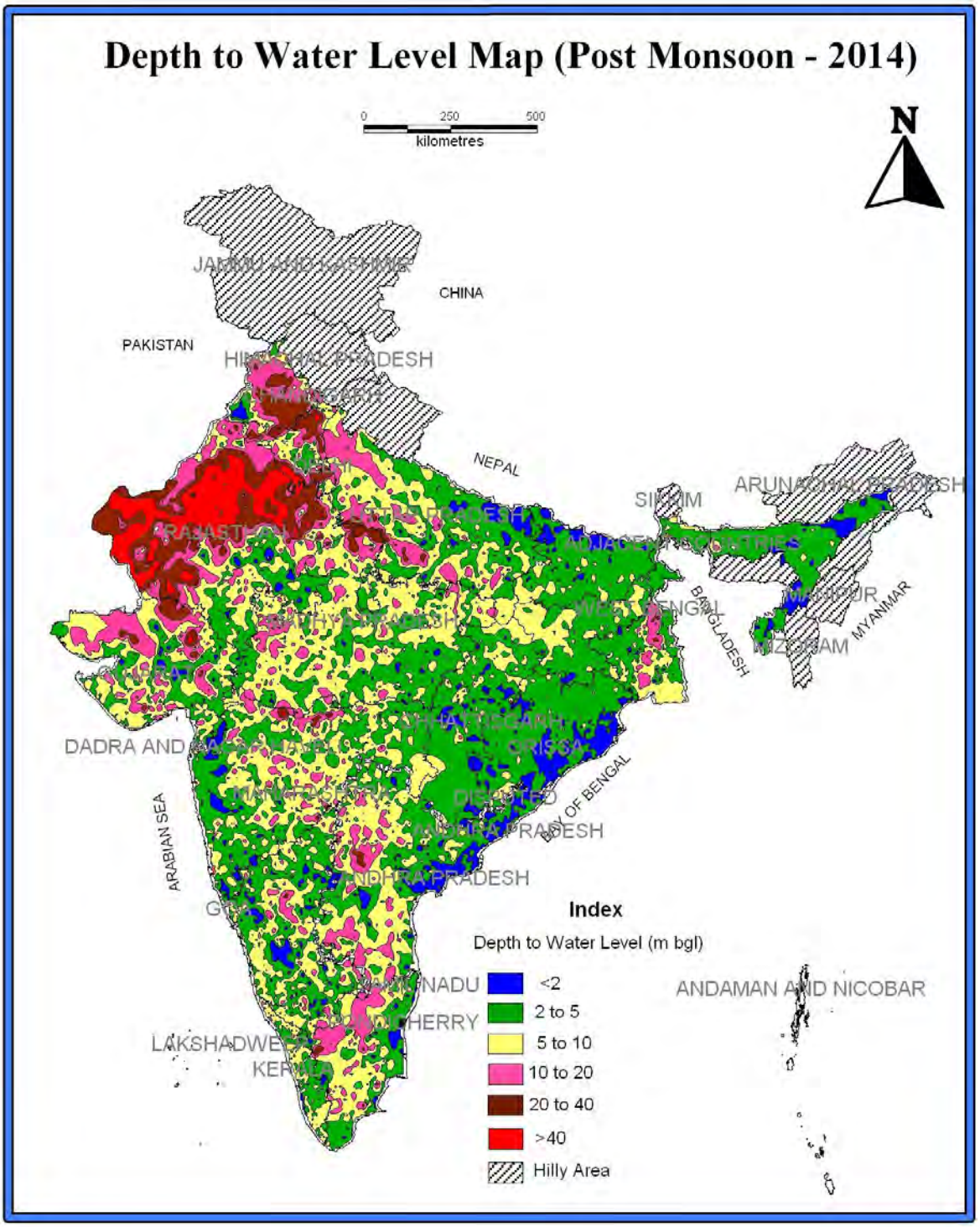
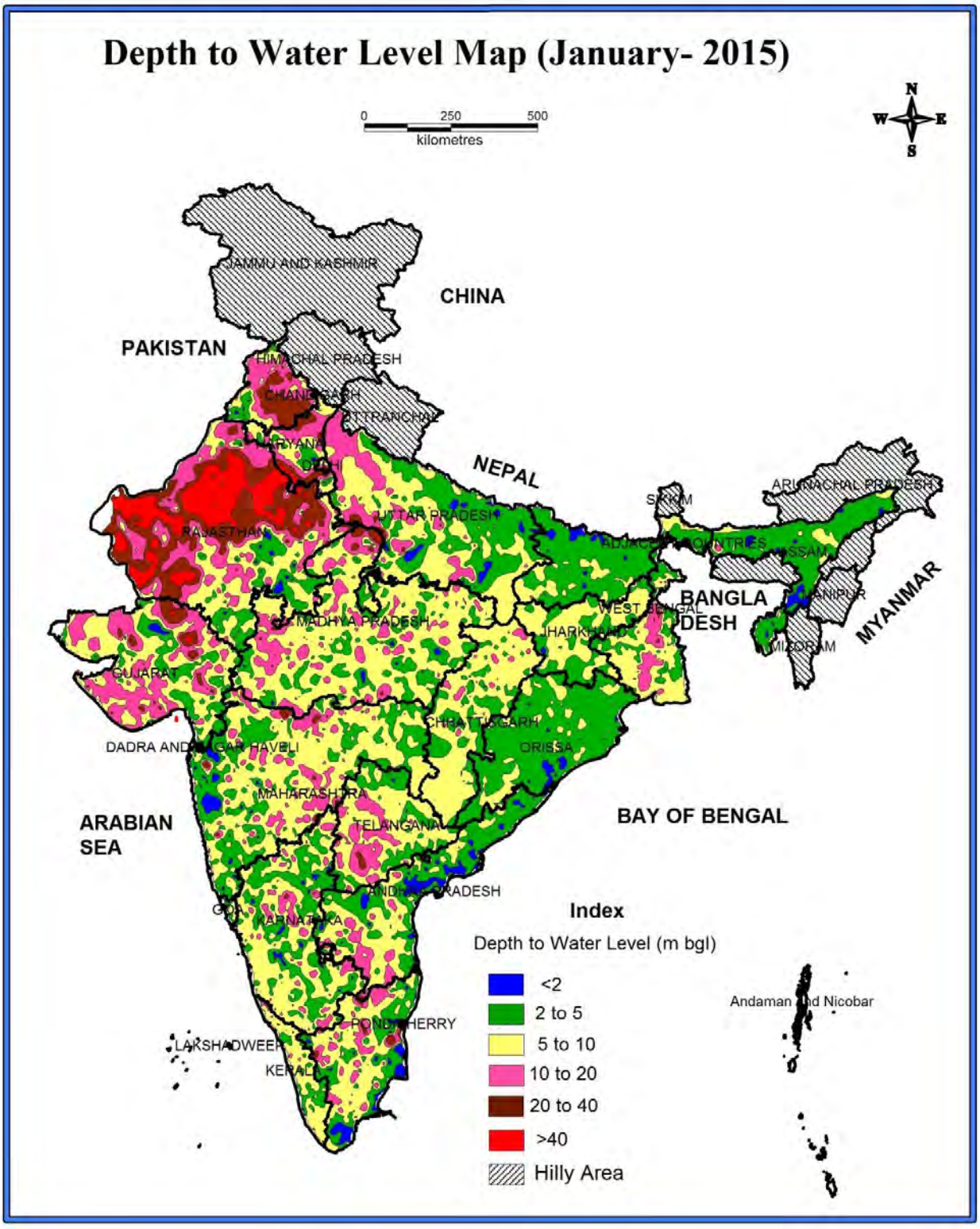

Depth to Water Level Map (Pre Monsoon - 2014)
N
0
250
500
kilometres
JAMMU AND KASHMIR
CHINA
PAKISTAN
HIMACHAL PRADESH
NEPAL
SIKKIM
ARUNACHAL PRADESH
MEGHALAYA
BANGLA DESH
MYANMAR
MIZORAM
WEST BENGAL
JHARKHAND
CHHATTISGARH
ORISSA
DAMAN AND DIU
DADRA AND NAGAR HAVELI
MAHARASHTRA
TELANGANA
ANDHRA PRADESH
GOA
PONDICHERRY
LAKSHADWEEP
KERALA
ARABIAN SEA
BAY OF BENGAL
Andaman and Nicobar
Index
Depth to Water Level (m bgl)
<2
2 to 5
5 to 10
10 to 20
20 to 40
>40
Hilly Area

PLATE - V


Depth to Water Level Map (Augsut- 2014)
N
0
250
500
kilometres
JAMMU AND KASHMIR
CHINA
PAKISTAN
HIMACHAL PRADESH
CHANDIGARH
DELHI
NEPAL
SIKKIM
ARUNACHAL PRADESH
UTTAR PRADESH
RAJASTHAN
MEGHALAYA
BANGLA DESH
MANIPUR
MYANMAR
WEST BENGAL
MADHYA PRADESH
MIZORAM
GUJARAT
CHHATTISGARH
DADRA AND NAGAR HAVELI
ORISSA
MAHARASHTRA
DISPUTED
BAY OF BENGAL
ARABIAN SEA
ANDHRA PRADESH
ANDHRA PRADESH
GOA
Index
Depth to Water Level (m bgl)
TAMIL NADU
<2
2 to 5
5 to 10
10 to 20
20 to 40
>40
Hilly Area
ANDAMAN AND NICOBAR
PONDICHERRY
LAKSHADWEEP
KERALA


Depth to Water Level Map (Post Monsoon - 2014)
0 250 500
kilometres
N
CHINA
PAKISTAN
NEPAL
SIKKIM
BANGLADESH
MYANMAR
DADRA AND
ARABIAN SEA
BAY OF BENGAL
ANDAMAN AND NICOBAR
LAKSHADWEEP
Index
Depth to Water Level (m bgl)
<2
2 to 5
5 to 10
10 to 20
20 to 40
>40
Hilly Area


Depth to Water Level Map (January- 2015)
0
250
500
kilometres
N
W
E
S
JAMMU AND KASHMIR
CHINA
PAKISTAN
HIMACHAL PRADESH
CHANDIGARH
UTTRANCHAL
HARYANA
DELHI
NEPAL
SIKKIM
ARUNACHAL PRADESH
UTTAR PRADESH
RAJASTHAN
ASSAM
BANGLA DESH
MANIPUR
WEST BENGAL
MADHYA PRADESH
JHARKHAND
MYANMAR
MIZORAM
GUJARAT
CHHATTISGARH
DADRA AND NAGAR HAVELI
ORISSA
MAHARASHTRA
ARABIAN SEA
BAY OF BENGAL
TELANGANA
ANDHRA PRADESH
GOA
KARNATAKA
PONDICHERRY
LAKSHADWEEP
KERALA
Andaman and Nicobar
Index
Depth to Water Level (m bgl)
<2
2 to 5
5 to 10
10 to 20
20 to 40
>40
Hilly Area

2.3 ANNUAL WATER LEVEL FLUCTUATION

ANNUAL WATER LEVEL FLUCTUATION (PREMONSOON 2013-PREMONSOON 2014)

A comparison of depth to water level of Premonsoon 2014 to Premonsoon 2013 reveals that in general, there is rise in the water level in almost entire country, especially in the states of Uttar Pradesh, Madhya Pradesh, Bihar, West Bengal, Odisha, Andhra Pradesh, Karnataka, Maharashtra, Haryana, Gujarat and north western parts of Rajasthan. There is a fall in water level mostly in the range of 0-2 m spread over most parts of the country as patches. Fall in water level of more than 2 m has been observed in small pockets in the states of Assam, Tamil Nadu, Haryana, Rajasthan and Gujarat **(Plate- IX).**

The water level fluctuation of **Premonsoon 2013 to Premonsoon 2014** shows that out of 11851 wells analysed, 7638 (64%) are showing rise and 3764 (32%) are showing fall in water level. Remaining 449 (4%) stations analysed do not show any change in water level. About 47% wells are showing rise in the water level in the range of less than 2 m. About 10% wells are showing rise in water level in 2-4 m range and 7 % wells showing rise in water level more than 4 m range. About 32% wells are showing decline in water level, out of which 25% wells are showing decline in water level in less than 2 m range. About 4 % wells are showing decline in water level in 2-4 m range. Only 3% wells are showing decline in water level more than 4 m range. Majority of the wells showing rise/decline falls in the range of 0-2 m

ANNUAL WATER LEVEL FLUCTUATION (AUGUST 2013-AUGUST 2014)

A comparison of depth to water level of August 2014 with August 2013 **(Plate-X)** reveals that in general, there is fall in water level in almost the entire country, except few states such as Assam, Bihar, Jharkhand, Orissa, West Bengal and parts of Maharashtra and Tamil Nadu. Fall is mostly in the range of 0-2 m, although fall in the range of more than 2 m is also prevalent in all the states in patches. Rise in water level of more than 4 m has been observed in small pockets in the states of Assam, Tamil Nadu, Bihar, Maharashtra, Rajasthan and Gujarat.

About 43% of the wells analysed are showing rise and 55% are showing fall in water level. Remaining 2% wells analysed do not show any change in water level. About 33% wells are showing rise in the water level in the range of less than 2 m. About 7% wells are showing rise in water level in 2-4 m range and 3 % wells showing rise in water level more than 4 m range. About 55% wells are showing decline in water level, out of which 37% wells are showing decline in water level in less than 2 m range. About 10 % wells are showing decline in water level in 2-4 m range. About 8% wells are showing decline in water level more than 4 m range. Majority of the wells showing rise/decline falls in the range of 0-2 m.

ANNUAL WATER LEVEL FLUCTUATION (NOVEMBER 2013- NOVEMBER 2014)

A comparison of depth to water level of November 2014 with November 2013 **(Plate-XI)** reveals that in general, there is fall in water level in almost the entire country, except in few states such as Assam, Bihar, Chhatishgarh, Karnataka, Kerala,Tamil Nadu. Fall is mostly in the range of 0-2 m, although fall in the range of more than 2 m is also prevalent in all the states in small patches.

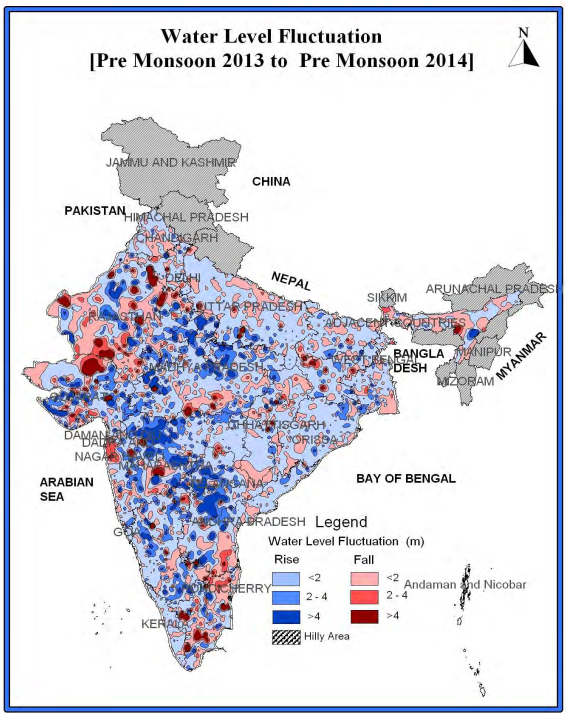
The water level fluctuation of November 2013 to November 2014 reveals that 33% of the wells analysed are showing rise and 65% are showing fall in water level. Remaining 2% stations analysed do not show any change in water level. About 28% wells are showing rise in the water level in the range of less than 2 m. About 4% wells are showing rise in water level in 2-4 m range and 2 % wells showing rise in water level more than 4 m range. About 65% wells are showing decline in water level, out of which 47% wells are showing decline in water level in less than 2 m range. About 11 % wells are showing decline in water level in 2-4 m range. About 7% wells are showing decline in water level more than 4 m range. Majority of the wells showing rise/decline falls in the range of 0-2 m.

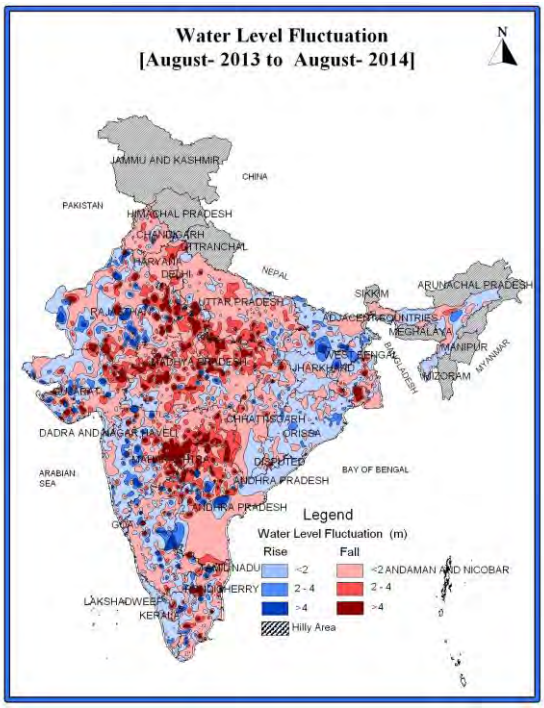
ANNUAL WATER LEVEL FLUCTUATION (JANUARY 2015- JANUARY 2014)

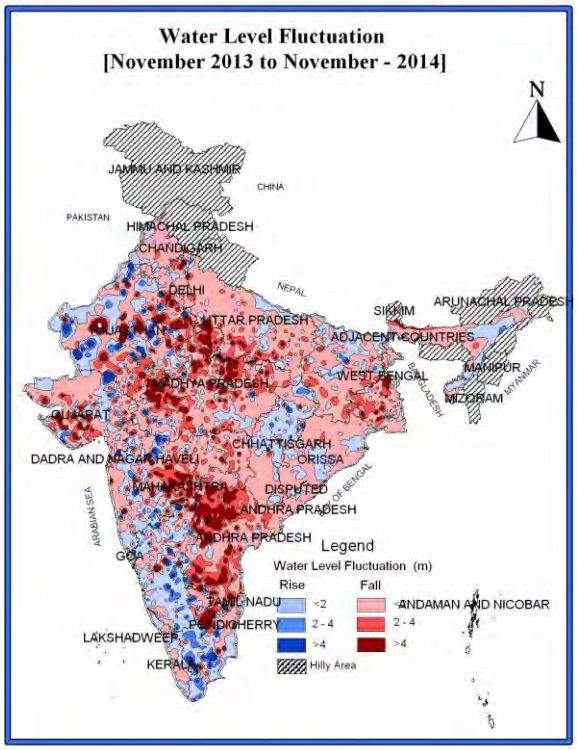
The water level fluctuation of January 2015 to January 2014 shows that out of 12822 wells analysed, 4592 (36%) wells are showing rise and 7960 (62%) are showing fall in water level. Remaining 270 (2%) wells analysed do not show any change in water level. About 29% wells are showing rise in the water level in the range of less than 2 m. About 4% wells are showing rise in water level in 2-4 m range and 3 % wells showing rise in water level more than 4 m range. About 62% wells are showing decline in water level, out of which 47% wells are showing decline in water level in less than 2 m range. About 10 % wells are showing decline in water level in 2-4 m range. Only 5 % wells are showing decline in water level more than 4 m range. (Annexure – VIII).

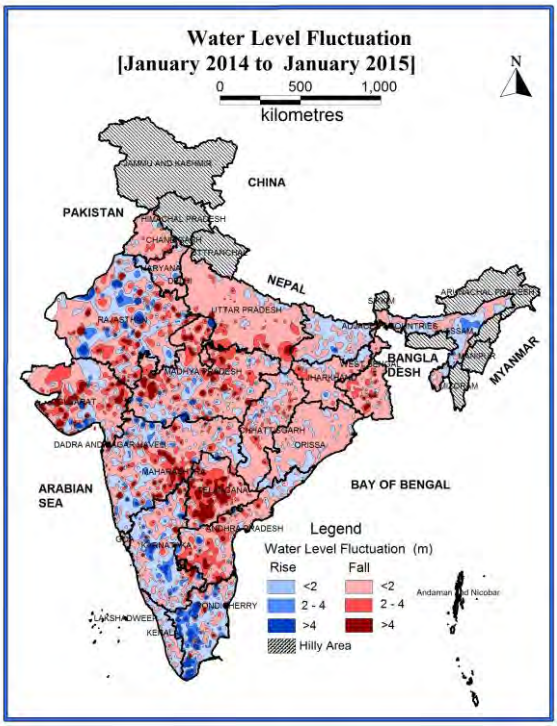
A comparison of depth to water level of January 2015 to January 2014 presented in the form of water level fluctuation map **(Plate- XII)** reveals that in general, there is decline in the water level in almost the entire country, especially in the states of Uttar Pradesh, Jharkhand, West Bengal, Chhattisgarh, Orissa, Telangana, Andhra Pradesh, Gujarat, Punjab & Haryana. Fall in water level is recorded mostly in the range of 0-2 m covering most parts of the country. Fall in water level of more than 2 m has been observed in small pockets in the states of Andhra Pradesh, Telangana, West Bengal, Madhya Pradesh, Gujarat, Rajasthan & Uttar Pradesh. Fall of more than 4 m observed in small pockets in the states of Telangana, Maharashtra, Madhya Pradesh, Gujarat & Rajasthan (Plate-IV).

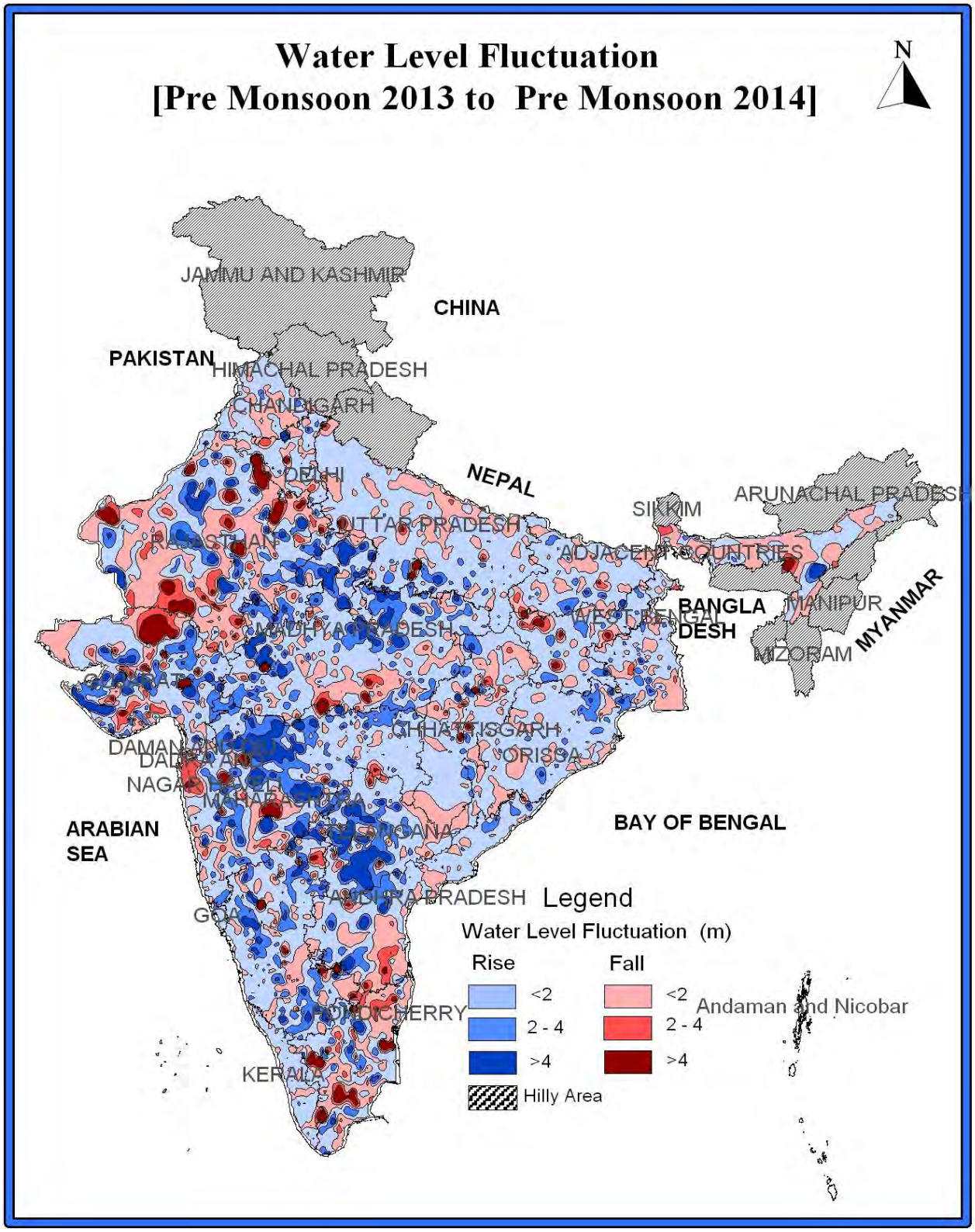
ANNUAL WATER LEVEL FLUCTUATION AT A GLANCE










Water Level Fluctuation
[Pre Monsoon 2013 to Pre Monsoon 2014]
N
JAMMU AND KASHMIR
CHINA
PAKISTAN
HIMACHAL PRADESH
CHANDIGARH
DELHI
NEPAL
SIKKIM
ARUNACHAL PRADESH
UTTAR PRADESH
RAJASTHAN
ADJACENT COUNTRIES
BANGLA DESH
MANIPUR
MYANMAR
MIZORAM
CHHATTISGARH
ORISSA
DAMAN AND DIU
NAGAR HAVELI
MAHARASHTRA
ARABIAN SEA
BAY OF BENGAL
ANDHRA PRADESH
GOA
PONDICHERRY
KERALA
Andaman and Nicobar
Legend
Water Level Fluctuation (m)
Rise
Fall
<2
2 - 4
>4
<2
2 - 4
>4
Hilly Area

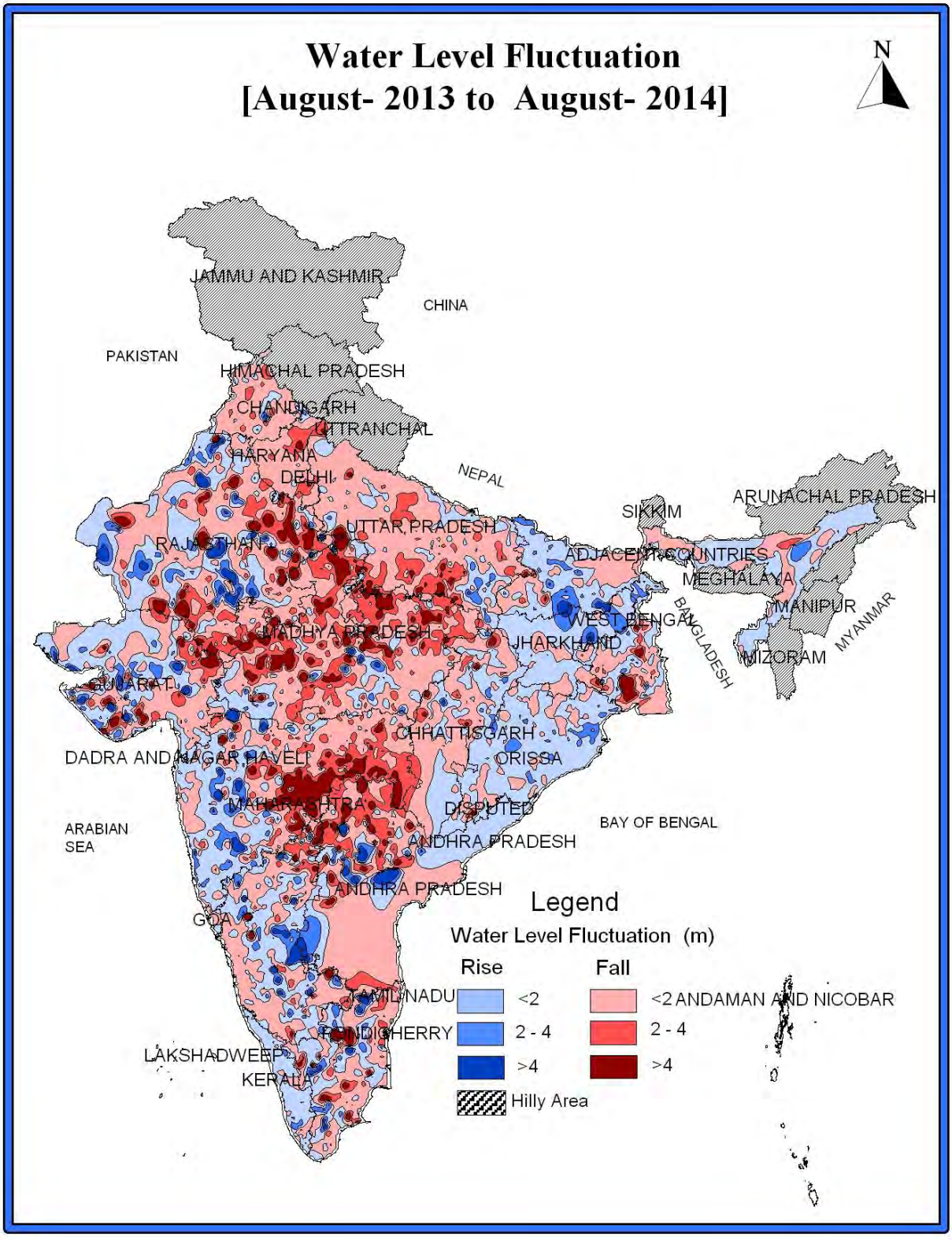
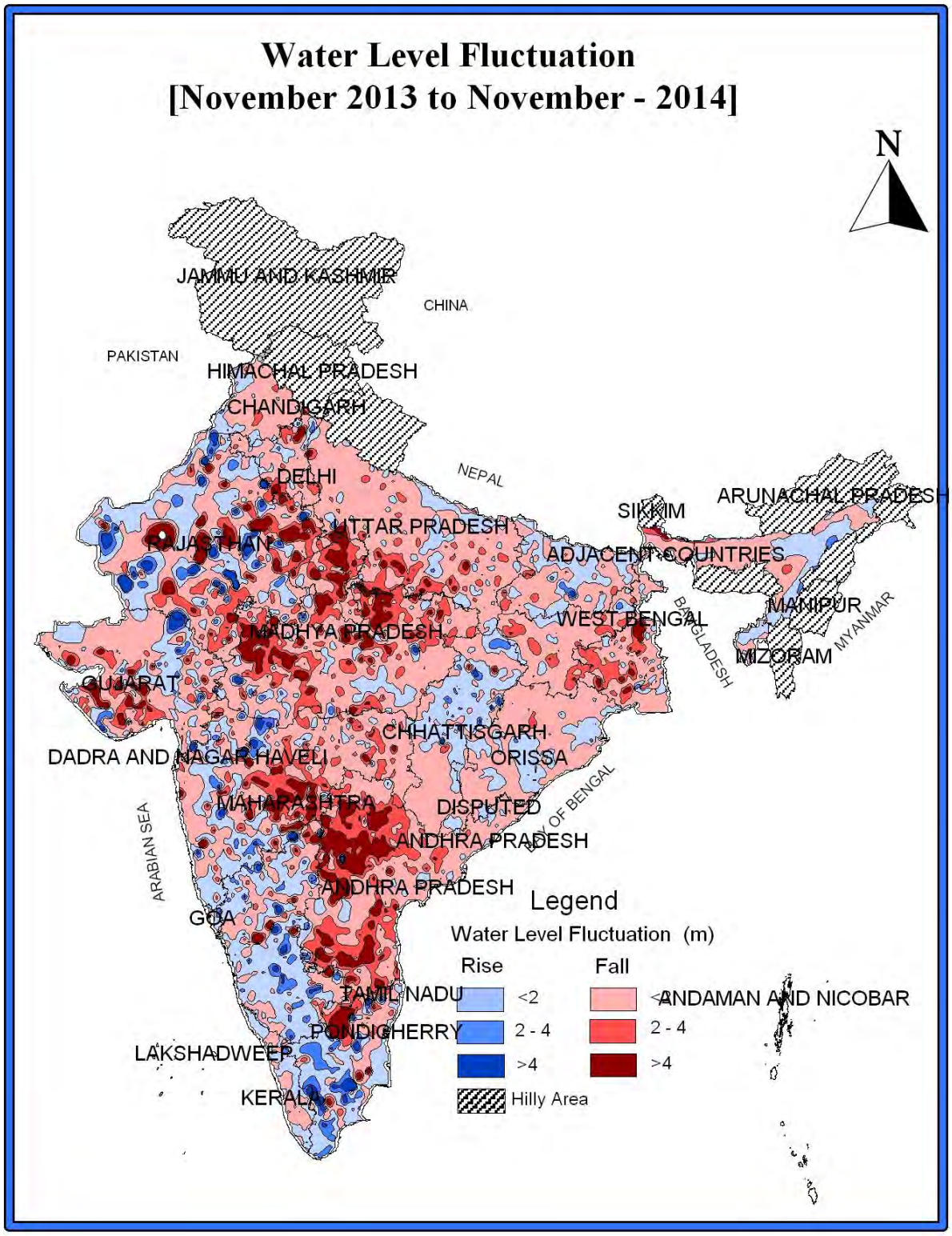
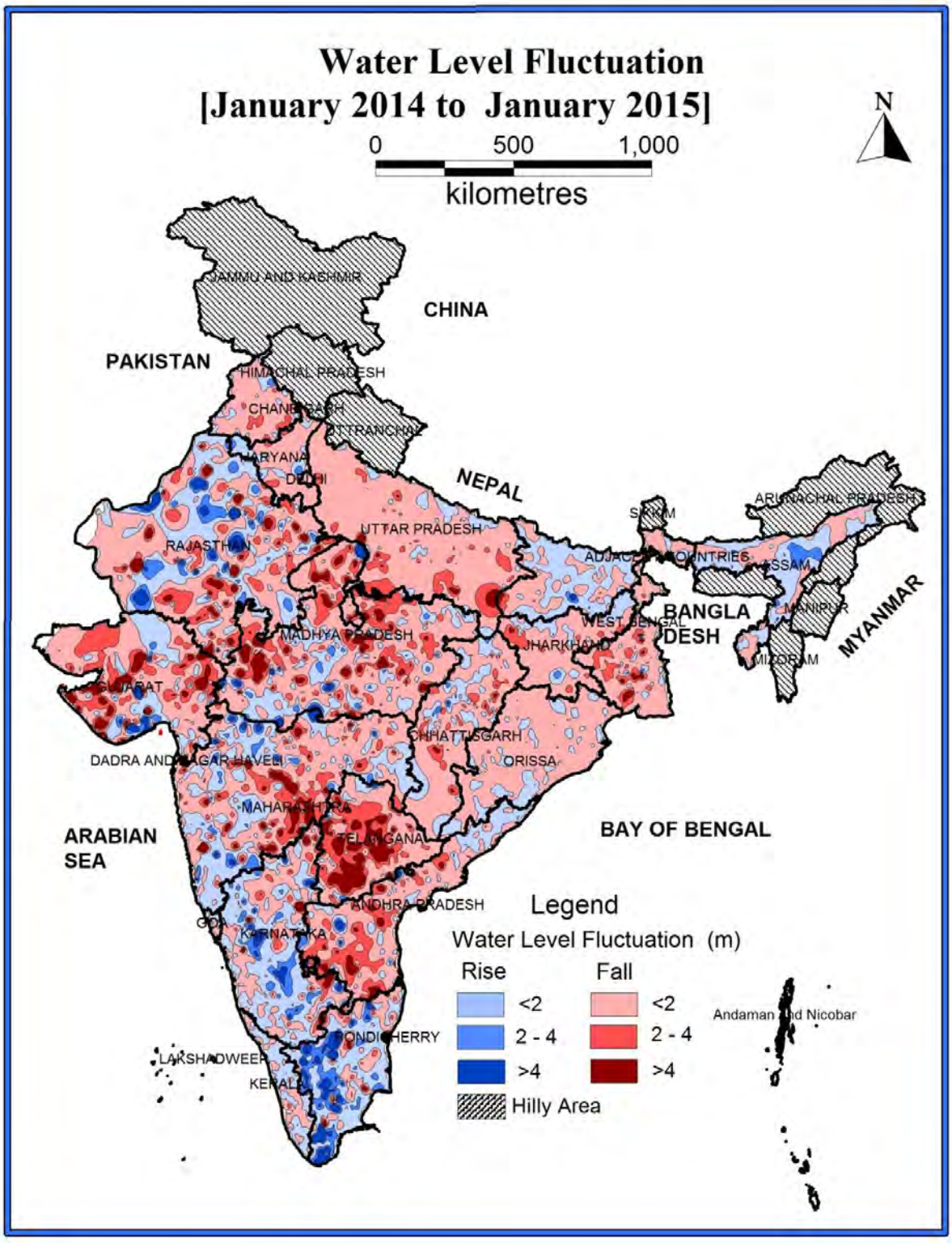

Water Level Fluctuation
[August- 2013 to August- 2014]
N
JAMMU AND KASHMIR
CHINA
PAKISTAN
HIMACHAL PRADESH
CHANDIGARH
UTTRANCHAL
HARYANA
DELHI
NEPAL
SIKKIM
ARUNACHAL PRADESH
UTTAR PRADESH
RAJASTHAN
ADJACENT COUNTRIES
MEGHALAYA
MANIPUR
WEST BENGAL
BANGLADESH
MYANMAR
MADHYA PRADESH
JHARKHAND
MIZORAM
GUJARAT
CHHATTISGARH
DADRA AND NAGAR HAVELI
ORISSA
MAHARASHTRA
DISPUTED
BAY OF BENGAL
ARABIAN SEA
ANDHRA PRADESH
ANDHRA PRADESH
GOA
Legend
Water Level Fluctuation (m)
Rise
Fall
TAMIL NADU
<2
<2
ANDAMAN AND NICOBAR
PONDICHERRY
2 - 4
2 - 4
LAKSHADWEEP
>4
>4
KERALA
Hilly Area

PLATE – XI


Water Level Fluctuation
[November 2013 to November - 2014]
N
JAMMU AND KASHMIR
CHINA
PAKISTAN
HIMACHAL PRADESH
CHANDIGARH
DELHI
NEPAL
SIKKIM
ARUNACHAL PRADESH
UTTAR PRADESH
RAJASTHAN
ADJACENT COUNTRIES
WEST BENGAL
BANGLADESH
MANIPUR
MYANMAR
MIZORAM
MADHYA PRADESH
GUJARAT
CHHATTISGARH
DADRA AND NAGAR HAVELI
ORISSA
BAY OF BENGAL
MAHARASHTRA
DISPUTED
ARABIAN SEA
ANDHRA PRADESH
ANDHRA PRADESH
GOA
Legend
Water Level Fluctuation (m)
Rise
Fall
TAMIL NADU
<2
<2
ANDAMAN AND NICOBAR
PONDICHERRY
2 - 4
2 - 4
LAKSHADWEEP
>4
>4
KERALA
Hilly Area


Water Level Fluctuation
[January 2014 to January 2015]
0 500 1,000
kilometres
N
JAMMU AND KASHMIR
CHINA
PAKISTAN
HIMACHAL PRADESH
CHANDIGARH
UTTRANCHAL
HARYANA
DELHI
NEPAL
UTTAR PRADESH
RAJASTHAN
SIKKIM
ARUNACHAL PRADESH
ADJACENT COUNTRIES
ASSAM
MANIPUR
MYANMAR
BANGLA DESH
WEST BENGAL
JHARKHAND
MADHYA PRADESH
MIZORAM
GUJARAT
CHHATTISGARH
DADRA AND NAGAR HAVELI
ORISSA
MAHARASHTRA
ARABIAN SEA
BAY OF BENGAL
TELANGANA
ANDHRA PRADESH
GOA
KARNATAKA
PONDICHERRY
LAKSHADWEEP
KERALA
Andaman and Nicobar
Legend
Water Level Fluctuation (m)
Rise
Fall
<2
2 - 4
>4
<2
2 - 4
>4
Hilly Area

2.4 SEASONAL WATER LEVEL FLUCTUATIONS

SEASONAL WATER LEVEL FLUCTUATION (PREMONSOON 2014 - AUGUST 2014)

A comparison of depth to water level of August 2014 with Premonsoon 2014 indicate that about 81% of wells are showing rise in water levels, out of which 32% wells are showing rise of less than 2 m range. About 25% wells are showing rise in water level in the range of 2-4 m and another 24 % wells are showing rise in water in range of more than 4 m. Only 17 % wells are showing decline in water level, out of which 13 % wells are showing decline in water in the range of 0-2 m. Rise in water level more than 4 m is mostly prominent in the states of Bihar, Chhattisgarh, Dadra & Nagar Haveli, Gujarat, Jharkhand, Karnataka, and Kerala **(Plate – XIV)**

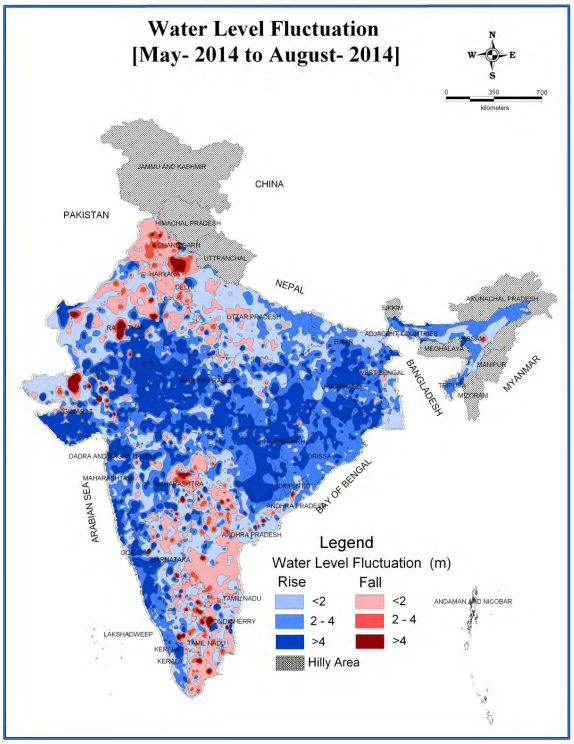
SEASONAL WATER LEVEL FLUCTUATION (PREMONSOON 2014-NOVEMBER 2014)

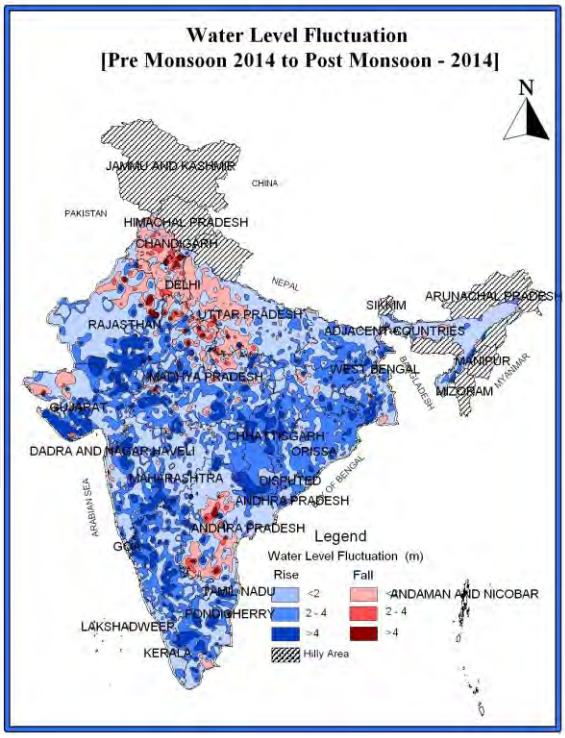
A comparison of depth to water level during Pre Monsoon 2014 with November 2014 **(Plate-XV)** indicates that about 80% of wells are showing rise in water levels, out of which 41% wells are showing rise of less than 2 m range. About 24% wells are showing rise in water level in the range of 2-4 m and another 15 % wells are showing rise in water in range of more than 4 m. Only 18 % wells are showing decline in water level, out of which 14 % wells are showing decline in water in the range of 0-2 m. Rise in water level is prominent in all the states of the country except in few states such as Chandigarh, Delhi, Haryana and Punjab. Rise in water level of more than 4 m is prominent in the states of Chhatishgarh, Gujarat, Karnataka, Madhya Pradesh, Pondicherry, Rajasthan and Tamil Nadu. There is rise in water level in almost the entire country, except in few states such as Chandigarh, Delhi, Haryana and Punjab. Fall is mostly in the range of 0-2 m.

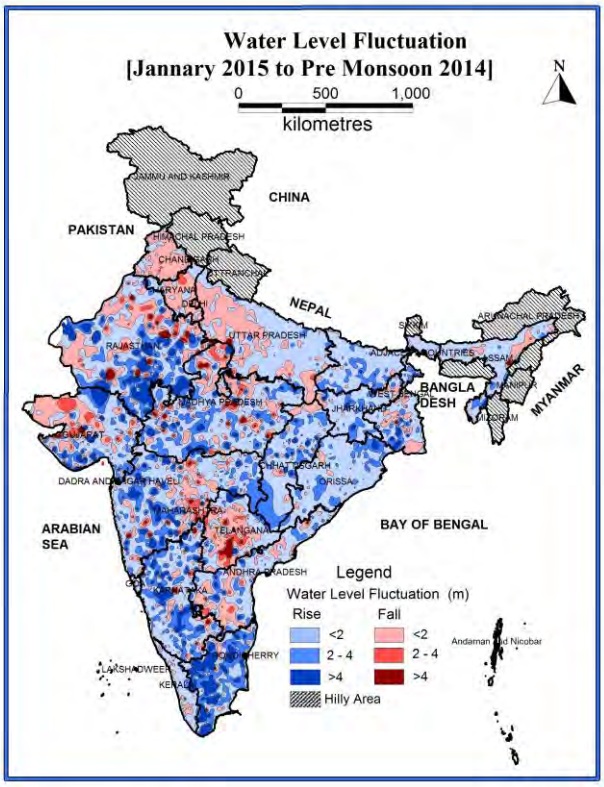
SEASONAL WATER LEVEL FLUCTUATION (JANUARY 2015 TO PREMONSOON 2014)

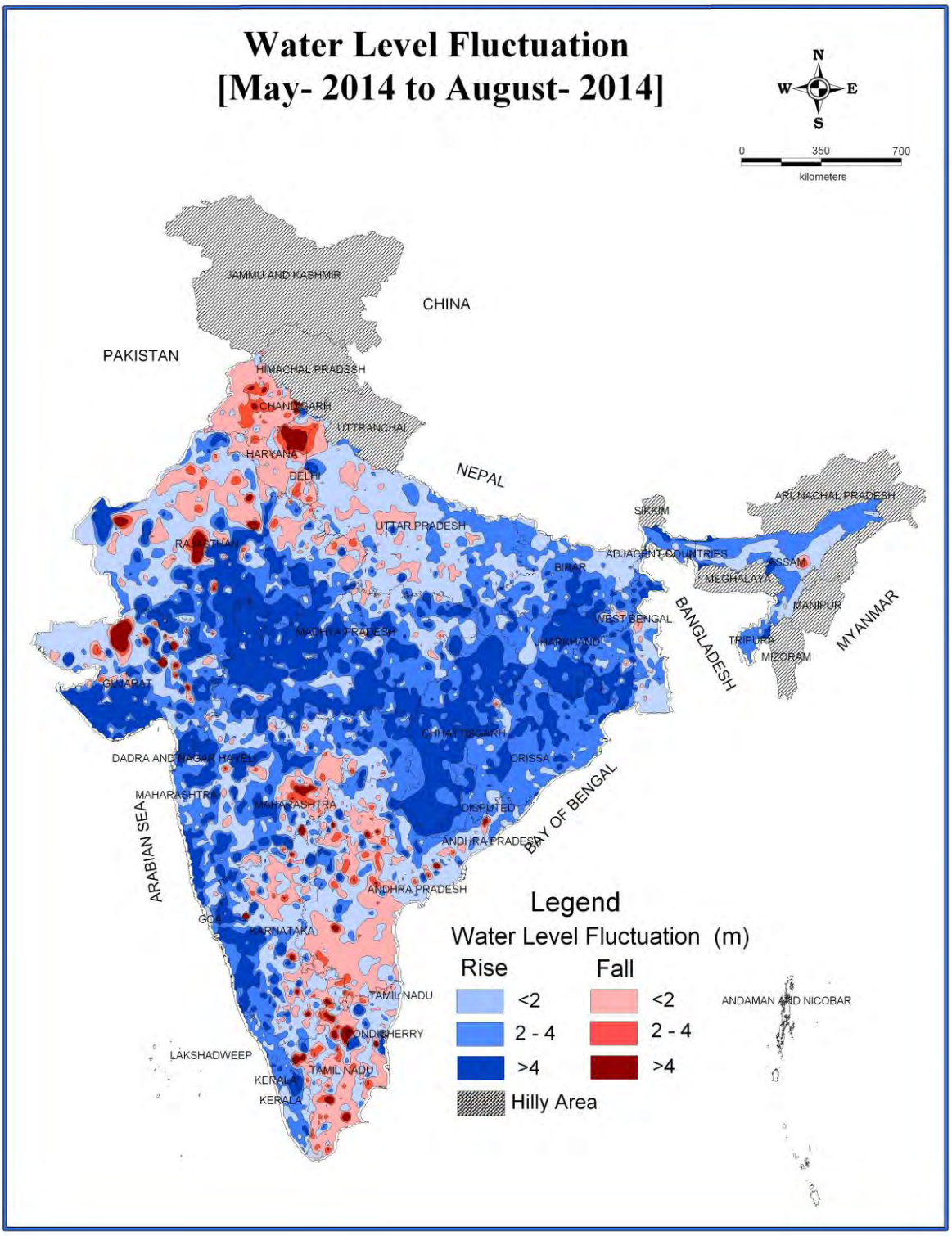
A comparison of depth to water level during January 2015 with Pre Monsoon 2014 reveals that in general, there is rise in the water level in 71% wells, out of which 47% are showing rise in range of 0-2 m, 16% and 8 % shows rise in the range of 2-4 m and more than 4m respectively. There is a decline in 27% wells, out of which 21% of the wells are showing fall in the range of 0-2 m. Rise in water level in the range of 0-2 m and 2-4 m range is observed in the entire country, covering almost all the states, except Punjab, Haryana and Telangana. Decline in water level in the range of 0-2 m and 2-4 m is observed mainly in Punjab, Haryana, Gujarat, Chandigarh, Rajasthan, Uttar Pradesh, Maharashtra and also in small pockets in West Bengal , Assam, & Madhya Pradesh. Decline in water level in the range of more than 4 m is observed in pockets in Telangana & Rajasthan (Plate- XVI)

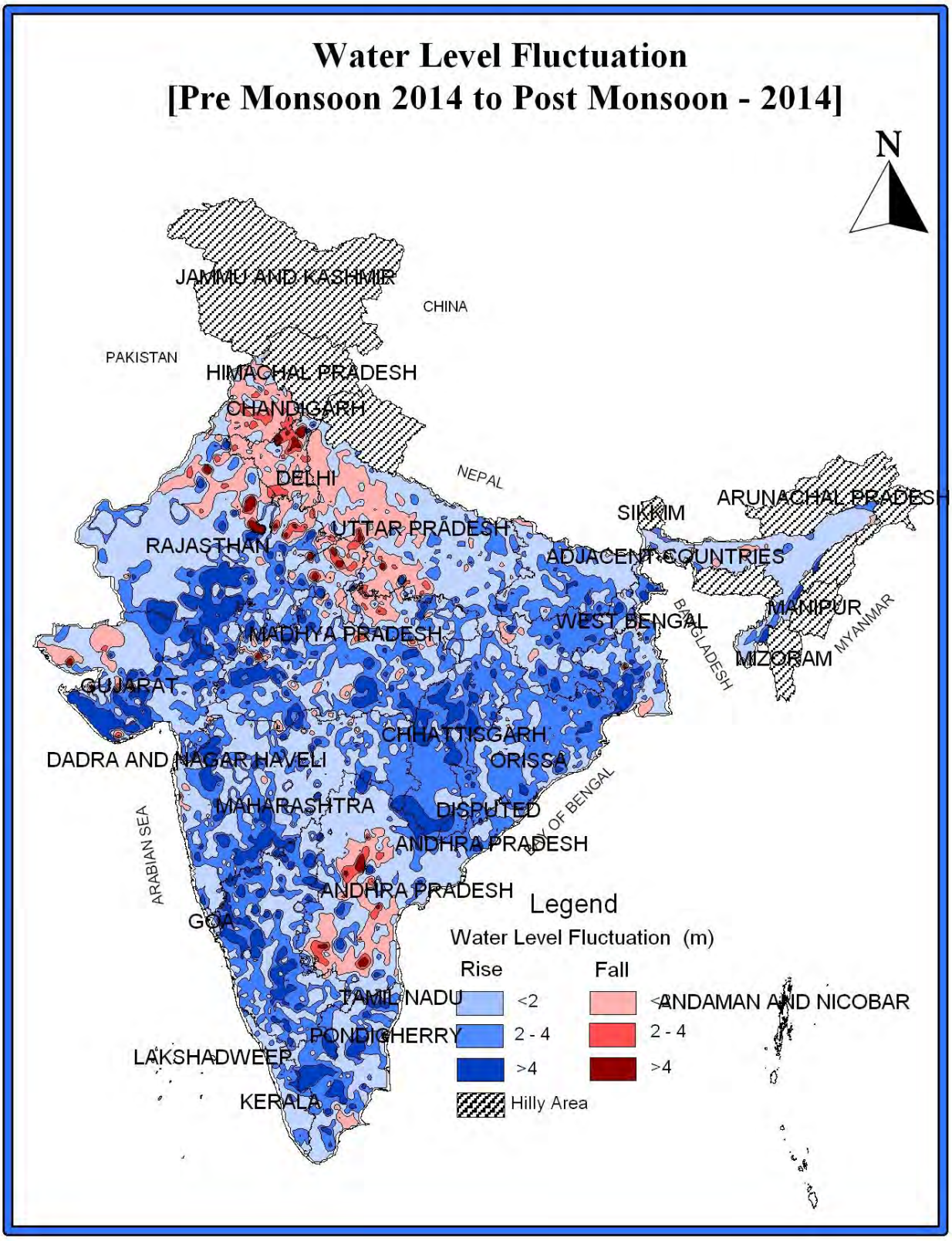
SEASONAL WATER LEVEL FLUCTUATION AT A GLANCE

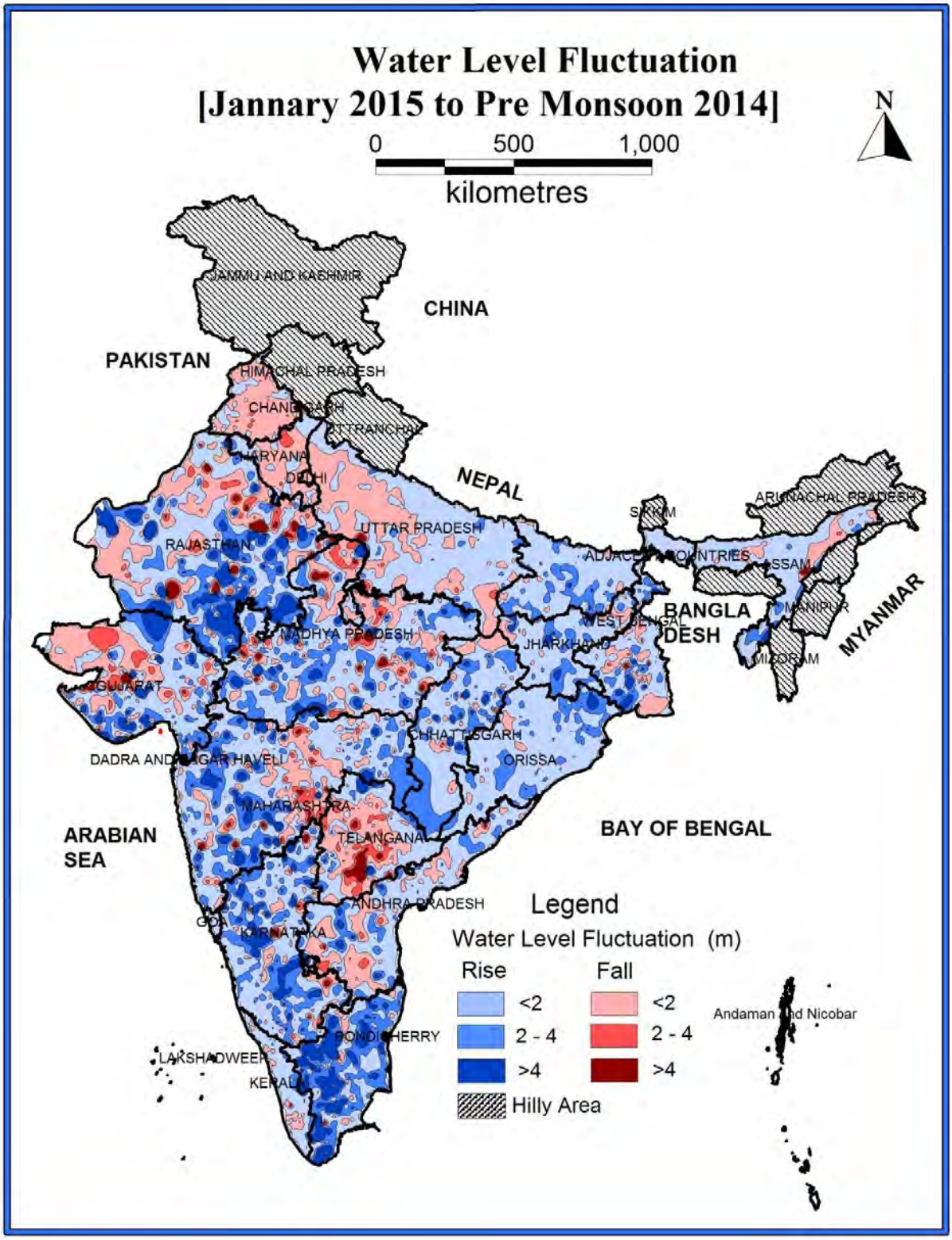







Water Level Fluctuation
[May- 2014 to August- 2014]
N
W
E
S
0
350
700
kilometers
JAMMU AND KASHMIR
CHINA
PAKISTAN
HIMACHAL PRADESH
CHANDIGARH
UTTRANCHAL
HARYANA
DELHI
NEPAL
SIKKIM
ARUNACHAL PRADESH
UTTAR PRADESH
RAJASTHAN
ADJACENT COUNTRIES
BIHAR
ASSAM
MEGHALAYA
MANIPUR
WEST BENGAL
BANGLADESH
MYANMAR
MADHYA PRADESH
JHARKHAND
TRIPURA
MIZORAM
GUJARAT
CHHATTISGARH
DADRA AND NAGAR HAVELI
ORISSA
MAHARASHTRA
MAHARASHTRA
DISPUTED
ARABIAN SEA
BAY OF BENGAL
ANDHRA PRADESH
ANDHRA PRADESH
GOA
KARNATAKA
Legend
Water Level Fluctuation (m)
Rise
Fall
<2
2 - 4
>4
<2
2 - 4
>4
Hilly Area
TAMIL NADU
PONDICHERRY
LAKSHADWEEP
TAMIL NADU
KERALA
KERALA
ANDAMAN AND NICOBAR


Water Level Fluctuation
[Pre Monsoon 2014 to Post Monsoon - 2014]
N
JAMMU AND KASHMIR
CHINA
PAKISTAN
HIMACHAL PRADESH
CHANDIGARH
DELHI
NEPAL
SIKKIM
ARUNACHAL PRADESH
UTTAR PRADESH
RAJASTHAN
ADJACENT COUNTRIES
WEST BENGAL
MANIPUR
BANGLADESH
MYANMAR
MADHYA PRADESH
MIZORAM
GUJARAT
CHHATTISGARH
DADRA AND NAGAR HAVELI
ORISSA
BAY OF BENGAL
MAHARASHTRA
DISPUTED
ARABIAN SEA
ANDHRA PRADESH
ANDHRA PRADESH
Legend
GOA
Water Level Fluctuation (m)
Rise
Fall
TAMIL NADU
<2
<2
ANDAMAN AND NICOBAR
PONDICHERRY
2 - 4
2 - 4
LAKSHADWEEP
>4
>4
KERALA
Hilly Area


Water Level Fluctuation
[Jannary 2015 to Pre Monsoon 2014]
N
0
500
1,000
kilometres
JAMMU AND KASHMIR
CHINA
PAKISTAN
HIMACHAL PRADESH
CHANDIGARH
UTTRANCHAL
HARYANA
DELHI
NEPAL
SIKKIM
ARUNACHAL PRADESH
UTTAR PRADESH
RAJASTHAN
ADJACENT COUNTRIES
ASSAM
BANGLA DESH
MANIPUR
MYANMAR
WEST BENGAL
MADHYA PRADESH
JHARKHAND
MIZORAM
GUJARAT
CHHATTISGARH
DADRA AND NAGAR HAVELI
ORISSA
MAHARASHTRA
ARABIAN SEA
BAY OF BENGAL
TELANGANA
ANDHRA PRADESH
GOA
KARNATAKA
Legend
Water Level Fluctuation (m)
Rise
Fall
<2
2 - 4
>4
<2
2 - 4
>4
Hilly Area
Andaman and Nicobar
PONDICHERRY
LAKSHADWEEP
KERALA

2.5 DECADAL WATER LEVEL FLUCTUATION

WATER LEVEL FLUCTUATION WITH DECADAL MEAN (PREMONSOON-2004 TO PREMONSOON-2013) TO PREMONSOON-2014

A comparison of depth to water level of Premonsoon 2014 with decadal mean of Premonsoon (2004-2013) indicate that 7980 (about 60%) of wells are showing rise in water levels, out of which 43% wells are showing rise of less than 2 m. About 11% wells are showing rise in water in the range of 2-4 m and about 6 % wells are showing rise in water level in the range of more than 4 m. 5132 (about 39%) wells are showing decline in water level, out of which 28% wells are showing decline in water in the range of 0-2 m. 6% wells are showing decline in water level in 2-4 m range and remaining 5% are in the range of more than 4 m. Decline in water level of more than 4 m is mostly prominent in the states of Delhi, Gujarat, Haryana, Karnataka, Punjab, Rajasthan and Tamil Nadu. Rise in water level of more than 4 m is observed mostly in the states of Andhra Pradesh, Telangana, Gujarat, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh. Remaining 97 (1%) stations analysed do not show any change in water level.

Maximum fall is observed in and around parts of Punjab, Rajasthan and Tamil Nadu. A rise in water level is observed in almost all parts of the country. In states of Punjab, Kerala and Tamil Nadu rise in water level is observed as patches.

WATER LEVEL FLUCTUATION WITH DECADAL MEAN (AUGUST-2004 TO AUGUST-2013) TO AUGUST-2014

A comparison of depth to water level of August 2014 with decadal mean of August (2004-2013) indicate that about 49% of wells are showing rise in water level, out of which 39% wells are showing rise of less than 2 m. About 8% wells are showing rise in water in the range of 2-4 m and about 3 % wells are showing rise in water level in the range of more than 4 m. About 50% wells are showing decline in water level, out of which 35% wells are showing decline in water in the range of 0-2 m. 9% wells are showing decline in water level in 2-4 m range and remaining 6% are in the range of more than 4 m. Decline in water level of more than 4 m is mostly prominent in the states of Andhra Pradesh, Chandigarh, Delhi, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Telangana and Tamil Nadu. Rise in water level of more than 4 m is observed mostly in the states of Chandigarh, Gujarat, Himachal Pradesh and Rajasthan. Remaining 53 (less than 1%) stations analysed do not show any change in water level.

Maximum fall is observed in and around parts of Punjab, Rajasthan and Tamil Nadu. A rise in water level is observed in almost all parts of the country. In states of Punjab, Kerala and Tamil Nadu rise in water level is observed as patches.

WATER LEVEL FLUCTUATION WITH DECADAL MEAN (NOV-2004 TO NOV-2013) TO NOV-2014

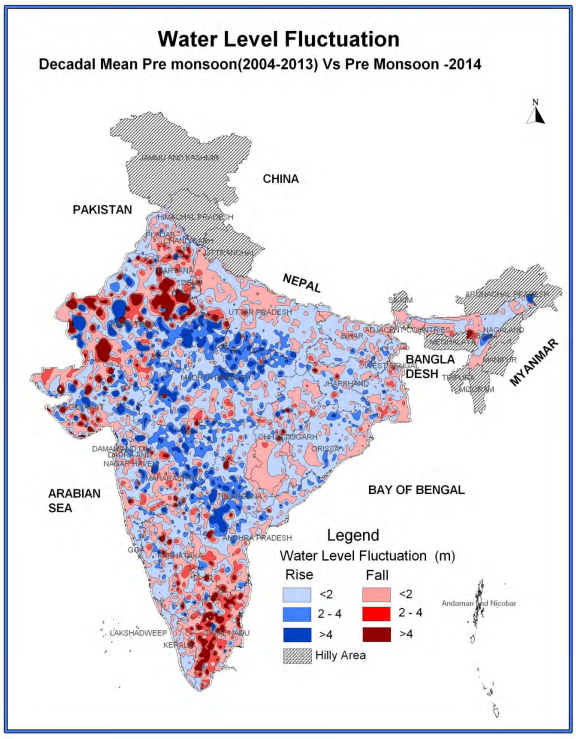
A comparison of depth to water level of November 2014 with decadal mean of November (2004-2013) indicate that about 43% of wells are showing rise in water level, out of which 36% wells are showing rise of less than 2 m. About 5% wells are showing rise in water level in the range of 2-4 m and about 2% wells are showing rise in water level in the range of more than 4 m. About 56% wells are showing decline in water level, out of which 42% wells are showing decline in water in the range of 0-2 m. 9% wells are showing decline in water level in 2-4 m range and remaining 6% are in the range of more than 4 m. Decline in water level of more than 4 m is mostly prominent in the states of Andhra Pradesh, Delhi, Gujarat, Haryana, , Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Telangana ,Tamil Nadu and Uttarakhand. Rise in water level of more than 4 m is observed mostly in the states of Gujarat, Himachal Pradesh and Rajasthan. Remaining 1% stations analysed do not show any change in water level.

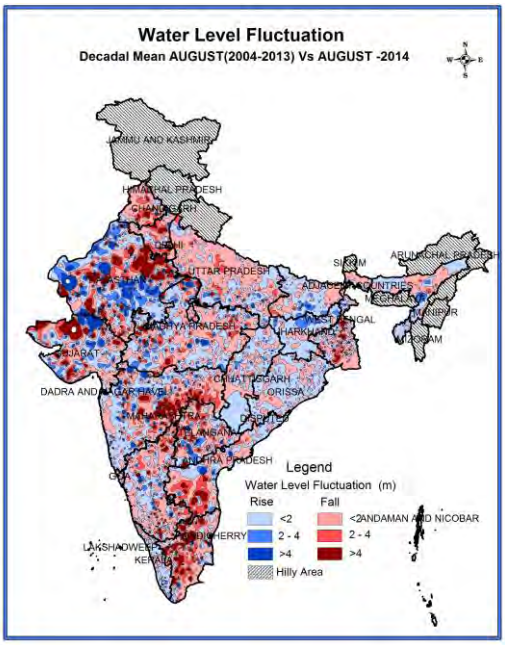
Maximum fall is observed in and around parts of Punjab, Rajasthan, Gujarat, Karnataka, Uttar Pradesh, Assam and Tamil Nadu. A rise in water level is observed in almost all parts of the country but occurs sporadically.

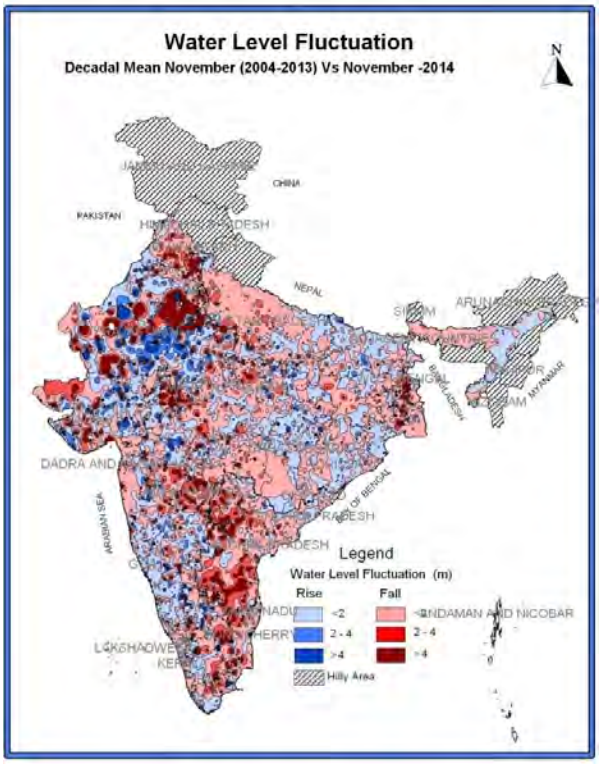
WATER LEVEL FLUCTUATION WITH DECADAL MEAN (JAN 2005 TO JAN 2014) TO JAN 2015

A comparison of depth to water level of January 2015 with decadal mean of January (2005-2014) (Plates- XXI) indicate that 46% of wells are showing rise in water levels, out of which 38% wells are showing rise of less than 2 m (Annexure-XV). About 6% wells are showing rise in water in the range of 2-4 m and only 3 % wells are showing rise in water level in the range of more than 4 m. About 54% wells are showing decline in water level, out of which 39% wells are showing decline in water level in the range of 0-2 m. 8% wells are showing decline in water level in 2-4 m range and remaining 6% are in the range of more than 4 m. Decline in water level of more than 4 m is mostly prominent in the states of Delhi, Gujarat, Haryana, Telangana, Punjab, Rajasthan, Andhra Pradesh and Tamil Nadu. Rise in water level of more than 4 m is observed mostly in the states of Gujarat, Himachal Pradesh, Madhya Pradesh and Rajasthan.

DECADAL WATER LEVEL FLUCTUATION AT A GLANCE







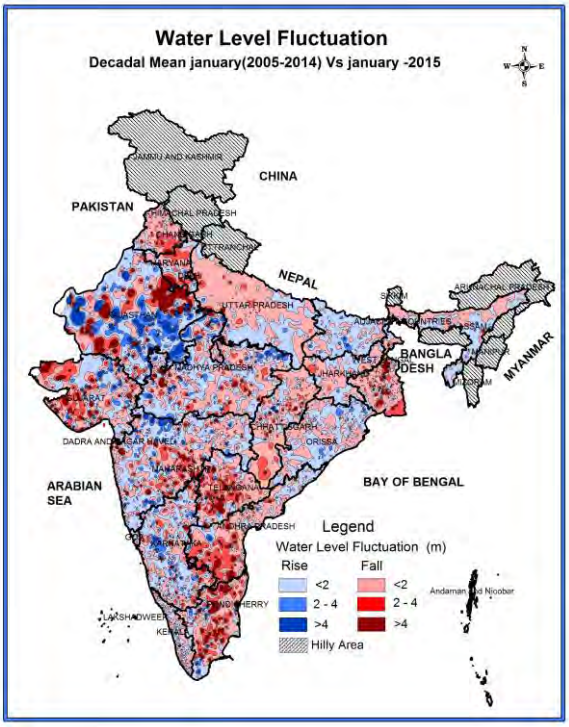


PLATE – XVIII

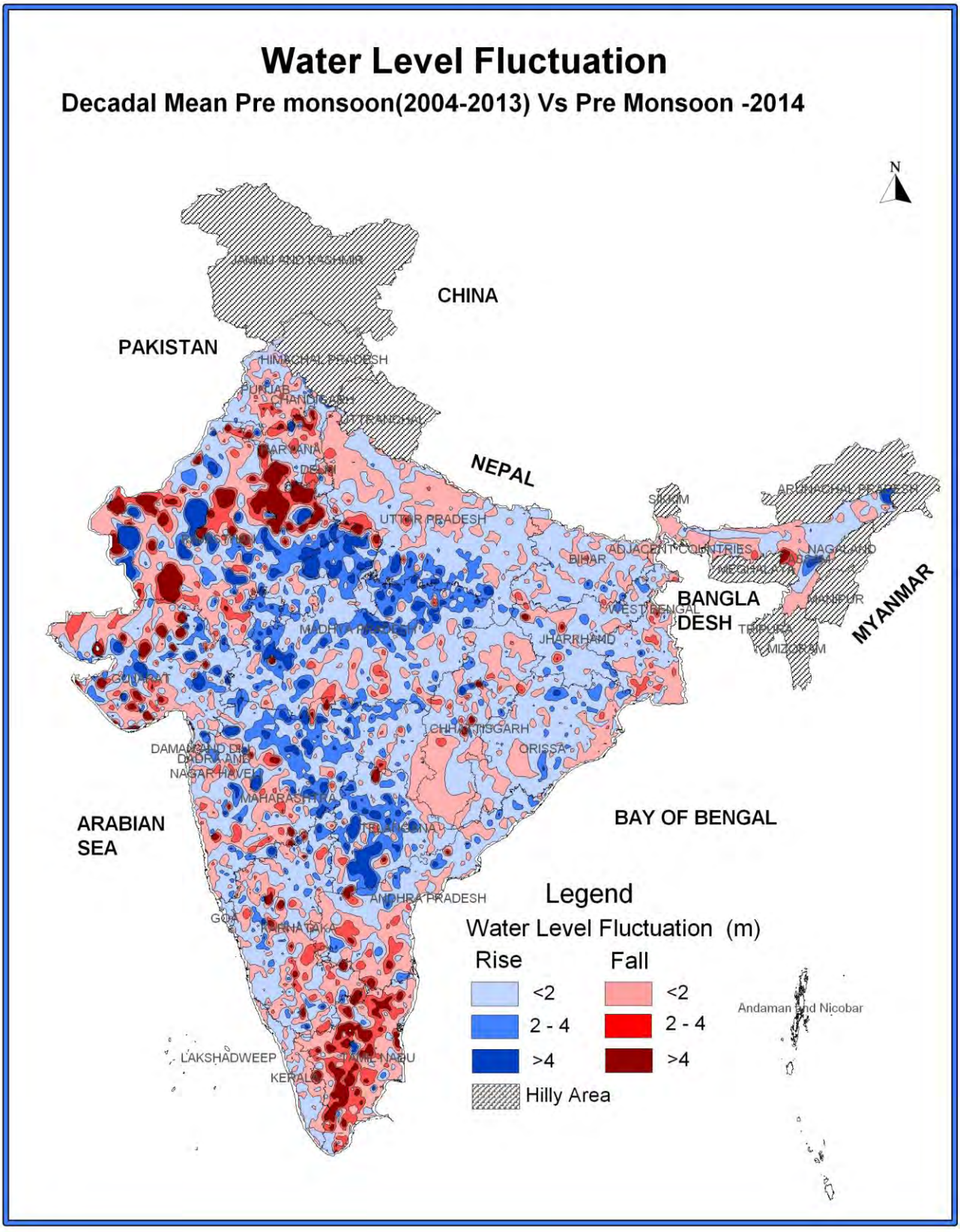
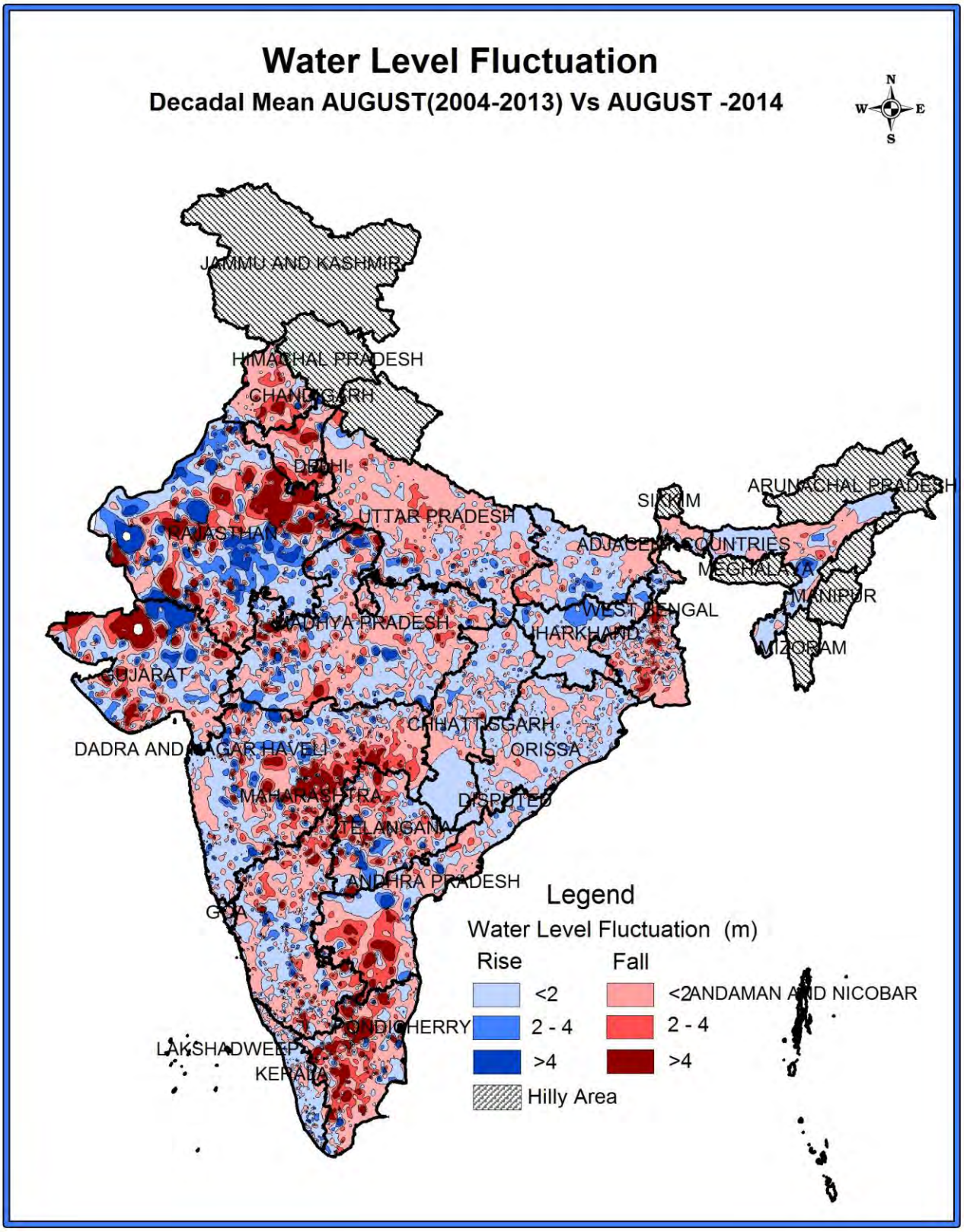
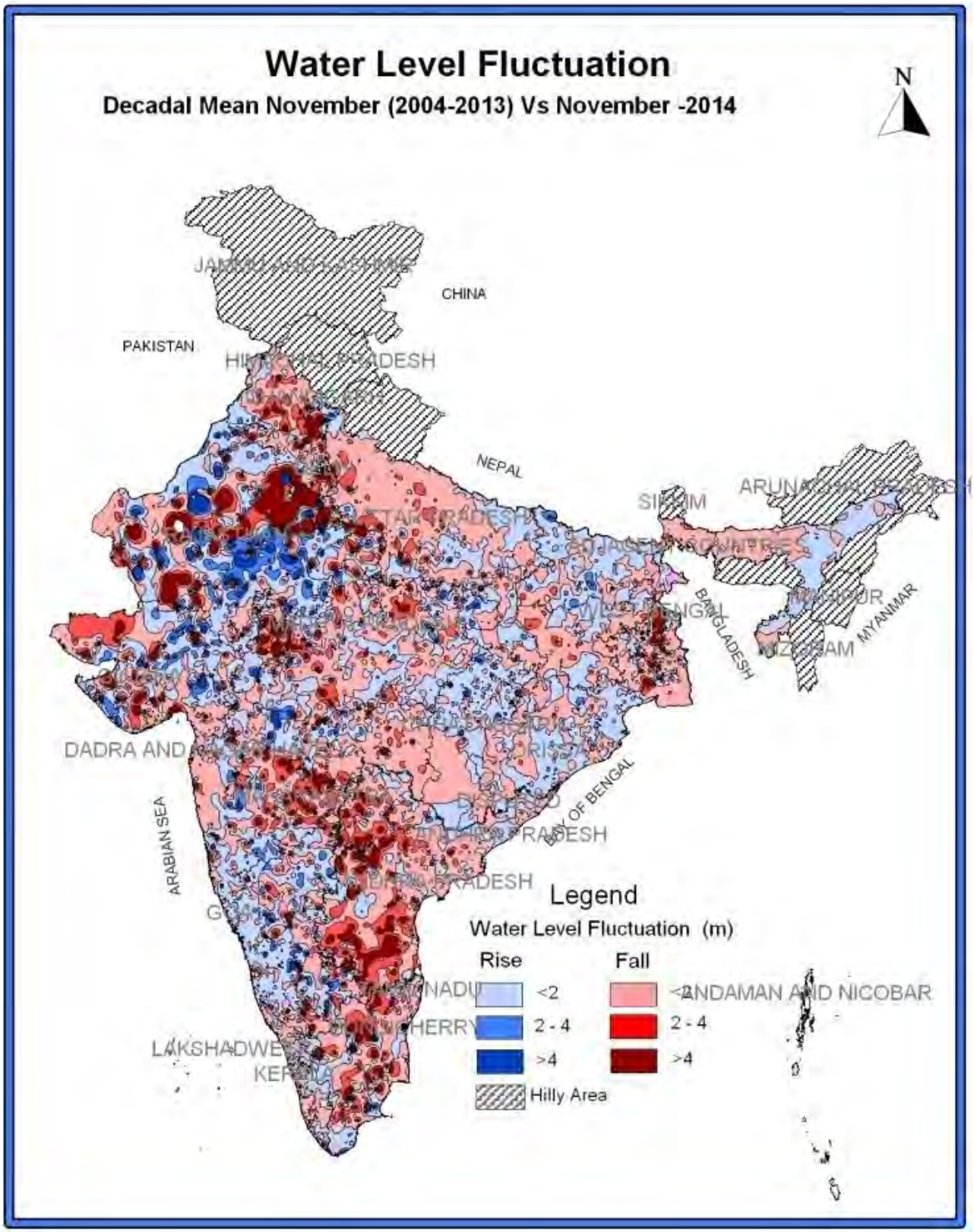
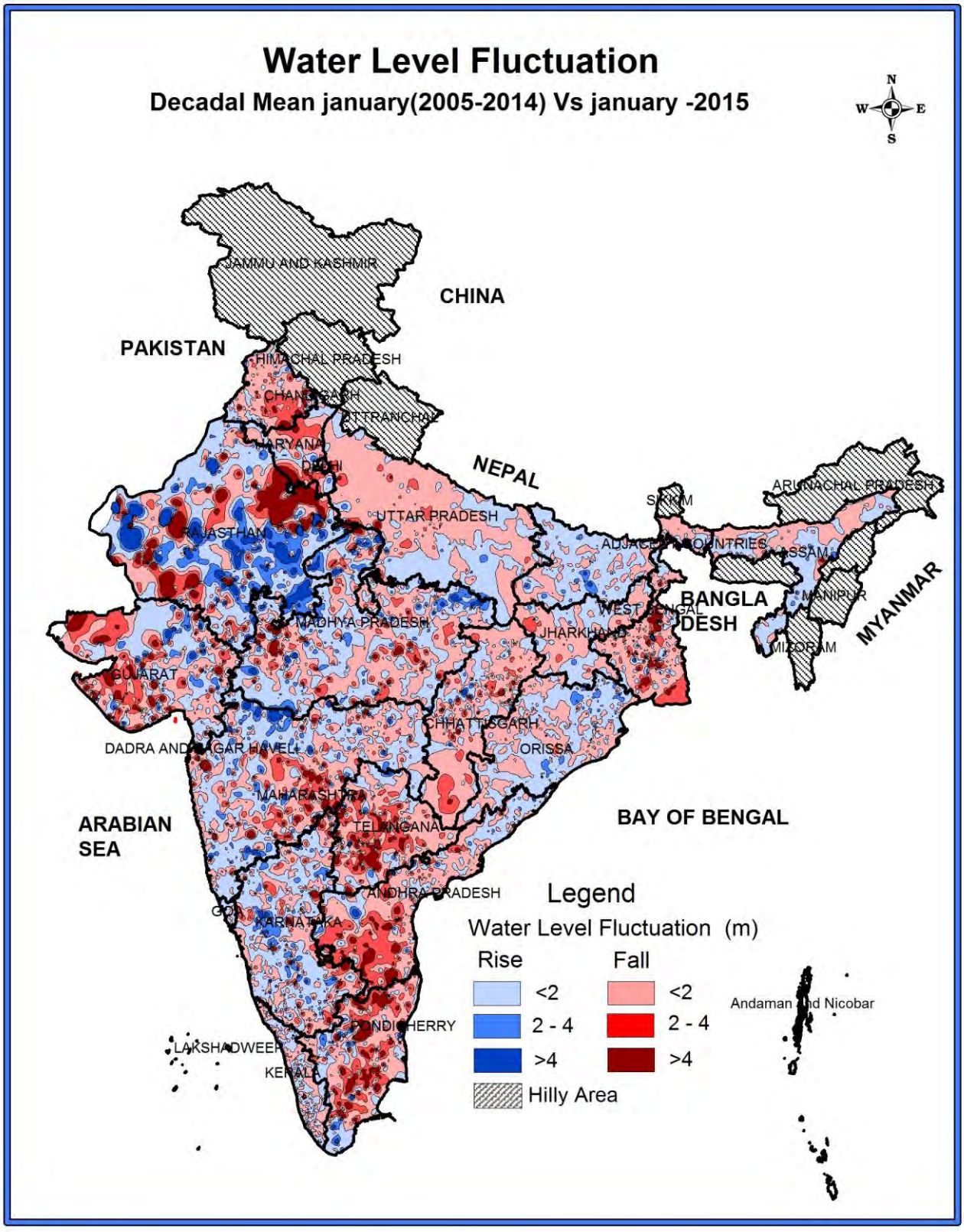

Water Level Fluctuation
Decadal Mean Pre monsoon(2004-2013) Vs Pre Monsoon -2014
N
JAMMU AND KASHMIR
CHINA
PAKISTAN
HIMACHAL PRADESH
PUNJAB
CHANDIGARH
UTTARANCHAL
HARYANA
DELHI
NEPAL
UTTAR PRADESH
SIKKIM
ARUNACHAL PRADESH
ADJACENT COUNTRIES
BIHAR
NAGALAND
MEGHALAYA
BANGLA DESH
WEST BENGAL
MANIPUR
TRIPURA
MYANMAR
MIZORAM
JHARKHAND
GUJARAT
CHHATTISGARH
ORISSA
DAMAN AND DIU
DADRA AND NAGAR HAVELI
MAHARASHTRA
ARABIAN SEA
BAY OF BENGAL
TELANGANA
ANDHRA PRADESH
GOA
KARNATAKA
LAKSHADWEEP
TAMIL NADU
KERALA
Andaman and Nicobar
Legend
Water Level Fluctuation (m)
Rise
Fall
<2
<2
2 - 4
2 - 4
>4
>4
Hilly Area

PLATE – XIX


Water Level Fluctuation
Decadal Mean AUGUST(2004-2013) Vs AUGUST -2014
N
W
E
S
JAMMU AND KASHMIR
HIMACHAL PRADESH
CHANDIGARH
DELHI
UTTAR PRADESH
RAJASTHAN
SIKKIM
ARUNACHAL PRADESH
ADJACENT COUNTRIES
MEGHALAYA
MANIPUR
WEST BENGAL
MADHYA PRADESH
JHARKHAND
MIZORAM
GUJARAT
CHHATTISGARH
DADRA AND NAGAR HAVELI
ORISSA
MAHARASHTRA
DISPUTED
TELANGANA
ANDHRA PRADESH
GOA
Legend
Water Level Fluctuation (m)
Rise
Fall
<2
<2
2 - 4
2 - 4
>4
>4
Hilly Area
ANDAMAN AND NICOBAR
PONDICHERRY
LAKSHADWEEP
KERALA


Water Level Fluctuation
Decadal Mean November (2004-2013) Vs November -2014
N
CHINA
PAKISTAN
NEPAL
SIKKIM
BANGLADESH
MYANMAR
DADRA AND
ARABIAN SEA
BAY OF BENGAL
LAKSHADWE
ANDAMAN AND NICOBAR
Legend
Water Level Fluctuation (m)
Rise
Fall
<2
2 - 4
>4
Hilly Area


Water Level Fluctuation
Decadal Mean january(2005-2014) Vs january -2015
N
W
E
S
JAMMU AND KASHMIR
CHINA
PAKISTAN
HIMACHAL PRADESH
CHANDIGARH
UTTRANCHAL
HARYANA
DELHI
NEPAL
SIKKIM
ARUNACHAL PRADESH
UTTAR PRADESH
RAJASTHAN
ADJACENT COUNTRIES
ASSAM
BANGLA DESH
MANIPUR
WEST BENGAL
MADHYA PRADESH
JHARKHAND
MYANMAR
MIZORAM
GUJARAT
CHHATTISGARH
DADRA AND NAGAR HAVELI
ORISSA
MAHARASHTRA
ARABIAN SEA
TELANGANA
BAY OF BENGAL
ANDHRA PRADESH
GOA
KARNATAKA
PONDICHERRY
LAKSHADWEEP
KERALA
Andaman and Nicobar
Legend
Water Level Fluctuation (m)
Rise
Fall
<2
<2
2 - 4
2 - 4
>4
>4
Hilly Area

2.6 Rainfall Variations

Rain gauge stations are established and maintained by different departments and Undertakings of Central and State governments and also by private parties to cater their particular data need. India Meteorological Department (IMD) has 559 observatories (both departmental and part time).

Though the period of seasons varies from place to place, for Climatological purposes especially for rainfall, year at all the places is uniformly divided into 4 parts, called seasons. The seasons are: Winter (January and February), Pre monsoon (March to May), South West Monsoon (June to September) and Post Monsoon season (October to December).

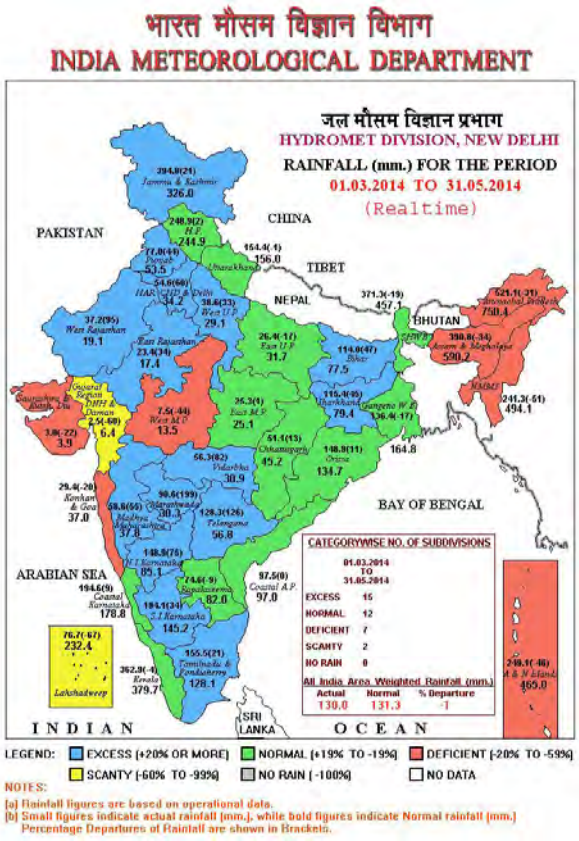
For the purpose of compiling the rainfall data and draw the inferences India is divided into 36 meteorological homogeneous regions.During the season, out of the total 36 meteorological subdivisions, 23 subdivisions constituting 67.3% of the total area of the country received normal season rainfall and the remaining 12 subdivisions (30% of the total area of the country) received deficient season rainfall. One subdivision (south Interior Karnataka) constituting 3% of the total area of the country received excess rainfall. The Subdivisions having positive percentage departure values are Jammu and Kashmir, Orissa, south Interior Karnataka, coastal Karnataka and Kerala.

During the monsoon season, all the months, except September, rainfall was below its LPA value. The rainfall deficiency was highest during the month of June with 58% LPA value. The rainfall during July and August was below normal (90% of LPA) respectively. The second half of the season rainfall was 2% below its LPA values (90% of LPA during August and 108% during September). During July, majority of the subdivisions from central India and west peninsula received excess (3 subdivisions) or normal rainfall (17 subdivisions). The excess rainfall subdivisions are Konkan & Goa, south Interior Karnataka and Odisha. The large rainfall deficiency was observed over north and northeast India, region close to Himalayas and interior & southeast Peninsula. During August, majority of the subdivisions from Peninsula, east and northeast India received normal / excess rainfall. On the other hand, majority of the subdivisions from northwest India and neighboring central India received deficient/ scanty rainfall. During September, the rainfall activity over many parts of the country showed significant increase and 23 subdivisions received excess or normal rainfall. However, 13 subdivisions mainly from north India along the plains of Himalayan region and north peninsula received deficient rainfall.

The main observed anomaly features in the monthly and seasonal rainfall patterns can be summarized as; (i) normal seasonal rainfall was received over most parts of the country, however only 5 subdivisions have positive percentage 29 departure, (ii) The country received very large rainfall deficiency during June and above normal rainfall in September, (iii) Only one subdivision (south Interior Karnataka) received excess season rainfall.

PLATE – XXII

Source: IMD- Sub-division-wise rainfall distribution over India during various parts of the year 2014-15.



3.0 GROUND WATER RESOURCE AVAILABILITY AND DEVELOPMENT STATUS

3.1 DYNAMIC FRESH GROUND WATER RESOURCE

The dynamic ground water resources of the States and Union Territories have been assessed jointly by the CGWB and State Ground Water Departments under the supervision of the State level Committees. The base year of computation of the resources is 2010-11. The ground water resources in some of the State/Union Territory/Islands viz. Sikkim, Andaman & Nicobar, Dadra & Nagar Haveli, and Lakshadweep have been estimated by CGWB in absence of active participation of State Govt. The ground water assessment figures computed at the State Level are presented in the following compilation.

The dynamic ground water resources are also known as Annual Replenishable Ground Water Resources since it gets replenished/ recharged every year. The Annual Replenishable Ground Water Resource for the entire country has been assessed as 433 billion cubic meter (bcm). The major source of ground water recharge is the monsoon rainfall. About 58% of the annual replenishable resources i.e. 253 bcm are contributed by monsoon rainfall recharge. The overall contribution of rainfall to country's Annual Replenishable Ground Water Resource is 68% and the share of other sources viz. canal seepage, return flow from irrigation, recharge from tanks, ponds, and water conservations structures taken together is 32%. State-wise Ground Water Resources of India as on March, 2011 is given in Table 3 and Plate XXIV presents the overall scenario of ground water resource utilization and availability of the country. The contribution from other sources such as canal seepage , return flow from irrigation, seepage from water bodies etc in Annual Replenishable Ground Water Resource is more than of 33% in the states of Andhra Pradesh, Delhi, Haryana, Gujarat, Goa, Jammu & Kashmir, Karnataka, Punjab, Tamil Nadu, Uttar Pradesh, and UT of Puducherry. South-west monsoon being the most prevalent contributor of rainfall in the country, about 73 % of country's Annual Ground Water Recharge takes place during the Kharif period of cultivation. Keeping 35 bcm for natural discharge, the Net Annual Ground Water Availability for the entire country is 398 bcm.

Volumetric estimates are dependent on the areal extent of the assessment unit. Thus, relative comparison of ground water resource of different assessment units based on volumetric estimates is not possible. Hence volumetric estimates of annual replenishable ground water resources have been divided by the area of the assessment unit to arrive at estimates per unit area (in meter). Replenishable Groundwater resource is significantly high in the Indus–Ganga–Bramhputra alluvial belt in the North, East and North East India covering the states of Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal and valley areas of North Eastern States, where rainfall is plenty and thick piles of unconsolidated alluvial formations are conducive for recharge. Annual Replenishable Ground Water Resource in these regions varies from 0.25 to more than 0.5 m. The coastal alluvial

belt particularly Eastern Coast also has relatively high replenishable ground water resources, in the range 0.25 to more than 0.5 m. In western India, particularly Rajasthan and parts of northern Gujarat which have arid climate, the annual replenishable ground water resources are scanty, mostly up to 0.025 m. Similarly, in major parts of the southern peninsular India covered with hard rock terrains, annual replenishable ground water recharge is less, only up to 0.10 m. This is primarily because of comparatively low infiltration and storage capacity of the rock formations prevailing in the region. The remaining part of Central India is mostly characterized by moderate recharge in the range of 0.10–0.25 m.

The overall estimate of annual replenishable ground water resources of the entire country shows a marginal increase in the present estimate as compared to the 2009 by about 2 bcm. However there are significant variations in the recharge estimates of some of the States. The main reasons for this can be attributed to changing ground water regime, widespread implementation of rainwater harvesting and water conservation measures, changes in rainfall pattern, adoption of revised values of parameters like Specific Yield which were estimated based on subsequent field studies and availability of improved database which helped in refinements in assessment.

3.2 STAGE OF GROUND WATER DEVELOPMENT

The overall stage of ground water development in the country is 62%. The status of ground water development is very high in the states of Delhi, Haryana, Punjab and Rajasthan, where the Stage of Ground Water Development is more than 100%, which implies that in the states the annual ground water consumption is more than annual ground water recharge. In the states of Himachal Pradesh, Tamil Nadu and Uttar Pradesh and UTs of Daman & Diu, and Puducherry, the stage of ground water development is 70% and above. In rest of the states / UTs the stage of ground water development is below 70%. The ground water development activities have increased generally in the areas where future scope for ground water development existed. This has resulted in increase in stage of ground water development from 61% (2009) to 62% (2011).

3.3 CATEGORIZATION OF ASSESSMENT UNITS

Out of 6607 numbers of assessed administrative units (Blocks/ Taluks/ Mandals/ Districts), 1071 units are Over-exploited, 217 units are Critical, 697 units are Semi-critical, and 4530 units are Safe. Apart from these, there are 92 assessment units which are completely Saline (Annexure – III). Number of Over-exploited and Critical administrative units are significantly higher (more than 15% of the total assessed units) in Delhi, Haryana, Himachal Pradesh, Karnataka, Punjab, Rajasthan and Tamil Nadu, Uttar Pradesh and also the UTs of Daman & Diu and Puducherry (Plate XXIII).

PLATE – XXIII

Categorization of Ground Water Assessment Units

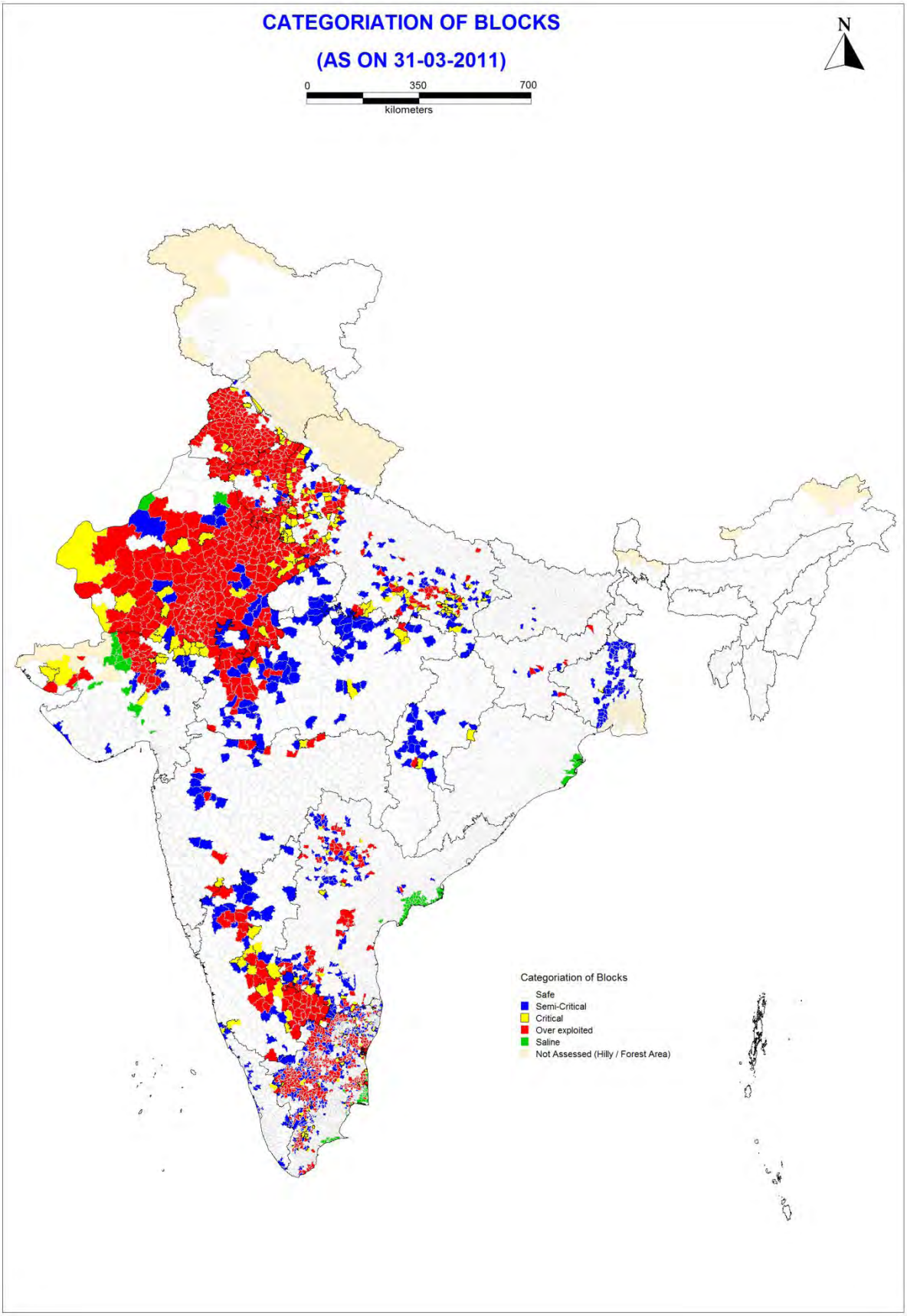


Table – 3 STATE-WISE GROUND WATER RESOURCES AVAILABILITY, UTILIZATION AND STAGE OF DEVELOPMENT

INDIA (As on 2011)

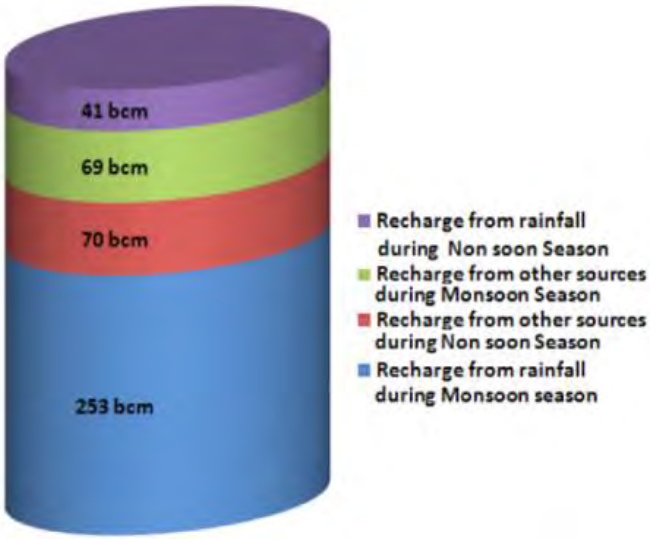
(in bcm)

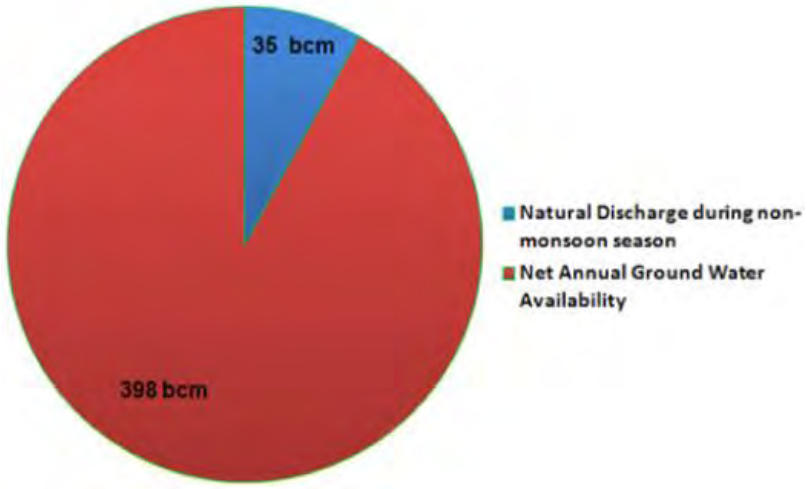
Sl. No.	States / Union Territories	Annual Replenishable Ground Water Resource					Natural Discharge during non-monsoon season	Net Annual Ground Water Availability	Annual Ground Water Draft			Projected demand for Domestic and Industrial uses upto 2025	Ground Water Availability for future irrigation use	Stage of Ground Water Development (%)
		Monsoon Season		Non-monsoon Season		Total			Irrigation	Domestic and industrial uses	Total			
		Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	States													
1	Andhra Pradesh	17.25	6.29	5.38	6.97	35.89	3.32	32.57	13.18	1.33	14.51	2.81	16.97	45
2	Arunachal Pradesh	3.36	0.00	1.15	0.00	4.51	0.45	4.06	0.002	0.001	0.003	0.01	4.05	0.08
3	Assam	17.90	1.64	8.64	0.34	28.52	2.73	25.79	2.86	0.64	3.49	0.78	22.14	14
4	Bihar	19.54	3.95	3.40	2.44	29.34	2.47	26.86	10.25	1.70	11.95	2.51	14.10	44
5	Chhattisgarh	9.90	0.70	0.87	0.94	12.42	0.79	11.63	3.43	0.62	4.05	0.76	7.44	35
6	Delhi	0.11	0.10	0.02	0.08	0.31	0.02	0.29	0.14	0.25	0.39	0.26	0.01	137
7	Goa	0.16	0.008	0.01	0.07	0.24	0.10	0.145	0.01	0.03	0.04	0.04	0.10	28
8	Gujarat	12.79	2.55	0.00	3.23	18.57	0.98	17.59	10.75	1.11	11.86	1.48	5.87	67
9	Haryana	3.65	2.77	1.01	3.35	10.78	0.99	9.79	12.35	0.71	13.06	0.76	-3.31	133
10	Himachal Pradesh	0.39	0.02	0.10	0.05	0.56	0.03	0.53	0.25	0.13	0.38	0.13	0.15	71
11	Jammu & Kashmir	1.45	2.06	0.36	0.37	4.25	0.43	3.83	0.20	0.61	0.81	0.76	2.87	21
12	Jharkhand	4.75	0.13	1.06	0.36	6.31	0.55	5.76	1.31	0.55	1.86	0.76	3.69	32
13	Karnataka	6.81	4.17	2.67	3.38	17.03	2.22	14.81	8.59	0.82	9.41	1.06	6.53	64
14	Kerala	4.85	0.06	0.63	1.15	6.69	0.61	6.07	1.30	1.53	2.84	1.71	3.07	47

15	Madhya Pradesh	28.22	1.17	0.79	4.87	35.04	1.75	33.29	17.48	1.35	18.83	1.91	13.90	57
16	Maharashtra	22.36	1.68	1.84	8.07	33.95	1.80	32.15	16.15	1.03	17.18	1.97	14.48	53
17	Manipur	0.23	0.01	0.19	0.01	0.44	0.04	0.40	0.0033	0.0007	0.004	0.05	0.35	1.02
18	Meghalaya	1.68	0.03	0.07	0.005	1.78	0.18	1.60	0.0015	0.0002	0.0017	0.232	1.37	0.08
19	Mizoram	0.0257	Negligible	0.005	Negligible	0.030	0.003	0.027	0.00	0.001	0.001	0.002	0.025	3.52
20	Nagaland	0.40	Negligible	0.21	Negligible	0.62	0.062	0.55	0.00	0.03	0.03	0.04	0.51	6.13
21	Odisha	11.29	2.53	1.33	2.63	17.78	1.09	16.69	3.81	0.92	4.73	1.24	11.64	28
22	Punjab	5.82	10.64	1.33	4.74	22.53	2.21	20.32	34.17	0.71	34.88	0.98	-14.83	172
23	Rajasthan	8.78	0.68	0.28	2.20	11.94	1.11	10.83	13.13	1.71	14.84	1.89	0.91	137
24	Sikkim		-	-	-	-	-	0.044	0.003	0.009	0.011	0.01	0.031	26
25	Tamil Nadu	7.38	10.28	1.69	2.18	21.53	2.15	19.38	13.17	1.76	14.93	1.82	4.39	77
26	Tripura	1.248	0.000	0.740	0.598	2.587	0.229	2.358	0.093	0.069	0.163	0.200	2.065	7
27	Uttar Pradesh	42.13	11.57	5.15	18.34	77.19	5.53	71.66	48.74	4.04	52.78	6.55	19.64	74
28	Uttarakhand	1.09	0.26	0.20	0.49	2.04	0.04	2.00	1.10	0.03	1.13	0.09	0.80	57
29	West Bengal	18.53	5.72	1.42	3.58	29.25	2.67	26.58	9.72	0.97	10.69	1.48	15.38	40
	Total States	**252.11**	**68.99**	**40.56**	**70.44**	**432.11**	**34.55**	**397.60**	**222.21**	**22.66**	**244.86**	**32.28**	**154.34**	**62**
	Union Territories													
1	Andaman & Nicobar	0.262	Nil	0.046	Nil	0.308	0.022	0.286	0.001	0.012	0.013	0.014	0.272	4.44
2	Chandigarh	0.015	0.001	0.005	0.001	0.022	0.002	0.019	0.000	0.000	0.000	0.000	0.000	0
3	Dadara & Nagar Haveli	0.043	0.003	0.009	0.007	0.062	0.003	0.059	0.007	0.006	0.013	0.010	0.042	22
4	Daman & Diu	0.014	0.002	0.000	0.002	0.018	0.001	0.017	0.014	0.002	0.016	0.003	0.000	97
5	Lakshdweep	0.000	0.000	0.000	0.000	0.011	0.007	0.0035	0.000	0.0023	0.0023	0.000	0.000	67
6	Puducherry	0.089	0.060	0.008	0.032	0.189	0.019	0.170	0.124	0.029	0.153	0.032	0.057	90
	Total Uts	**0.42**	**0.07**	**0.07**	**0.04**	**0.61**	**0.05**	**0.56**	**0.15**	**0.05**	**0.20**	**0.06**	**0.37**	**36**
	Grand Total	**252.53**	**69.06**	**40.63**	**70.48**	**432.72**	**34.60**	**398.16**	**222.36**	**22.71**	**245.06**	**32.34**	**154.71**	**62**

PLATE – XXIV

Ground Water Resource Availability and Utilization





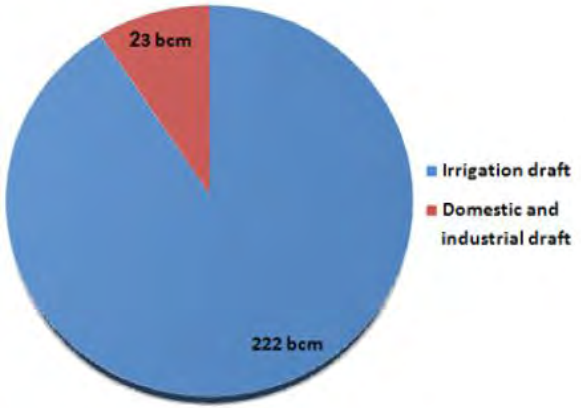


TABLE 4 CATEGORIZATION OF BLOCKS/ MANDALS/ TALUKAS IN INDIA (2011)

Sl.No.	States / Union Territories	Total No. of Assessed Units	Safe		Semi-critical		Critical		Over-exploited		Saline	
			Nos.	%	Nos.	%	Nos.	%	Nos.	%	Nos.	%
	States											
1	Andhra Pradesh	1110	877	79	97	9	15	1	83	7	38	3
2	Arunachal Pradesh	11	11	100	0	0	0	0	0	0	0	0
3	Assam	27	27	100	0	0	0	0	0	0	0	0
4	Bihar	533	522	98	11	2	0	0	0	0	0	0
5	Chhattisgarh	146	125	86	18	12	2	1	1	1	0	0
6	Delhi	27	2	7	5	19	2	7	18	67	0	0
7	Goa	20	20	100	0	0	0	0	0	0	0	0
8	Gujarat	223	171	77	13	6	5	2	24	11	10	4
9	Haryana	116	23	20	7	6	15	13	71	61	0	0
10	Himachal Pradesh	8	5	63	0	0	2	25	1	13	0	0
11	Jammu & Kashmir	14	14	100	0	0	0	0	0	0	0	0
12	Jharkhand	210	199	95	5	2	0	0	6	3	0	0
13	Karnataka	270	152	56	34	13	21	8	63	23	0	0
14	Kerala	152	126	83	23	15	2	1	1	1	0	0
15	Madhya Pradesh	313	218	70	67	21	4	1	24	8	0	0
16	Maharashtra	353	325	92	16	5	2	1	10	3	0	0
17	Manipur	8	8	100	0	0	0	0	0	0	0	0

18	Meghalaya	7	7	100	0	0	0	0	0	0	0	0
19	Mizoram	22	22	100	0	0	0	0	0	0	0	0
20	Nagaland	8	8	100	0	0	0	0	0	0	0	0
21	Orissa	314	308	98	0	0	0	0	0	0	6	2
22	Punjab	138	22	16	2	1	4	3	110	80	0	0
23	Rajasthan	243	25	10	20	8	24	10	172	71	2	1
24	Sikkim	4	4	100	0	0	0	0	0	0	0	0
25	Tamil Nadu	1129	437	39	235	21	48	4	374	33	35	3
26	Tripura	39	39	100	0	0	0	0	0	0	0	0
27	Uttar Pradesh	820	559	68	82	10	68	8	111	14	0	0
28	Uttaranchal	18	11	61	5	28	2	11	0	0	0	0
29	West Bengal	271	217	80	53	20	1	0.37	0	0	0	0
	Total States	**6554**	**4484**	**68**	**693**	**11**	**217**	**3**	**1069**	**16**	**91**	**1**
	Union Territories											
1	Andaman & Nicobar	36	36	100	0	0	0	0	0	0	0	0
2	Chandigarh	1	1	100	0	0	0	0	0	0	0	0
3	Dadra & Nagar Haveli	1	1	100	0	0	0	0	0	0	0	0
4	Daman & Diu	2	0	0	1	50	0	0	1	50	0	0
5	Lakshdweep	9	6	67	3	33	0	0	0	0	0	0
6	Pondicherry	4	2	50	0	0	0	0	1	25	1	25
	Total UTs	**53**	**46**	**87**	**4**	**8**	**0**	**0**	**2**	**4**	**1**	**2**
	Grand Total	**6607**	**4530**	**69**	**697**	**11**	**217**	**3**	**1071**	**16**	**92**	**1**

Note

Blocks- Bihar, Chattisgarh, Haryana, Jharkhand, Kerala, M.P., Manipur, Mizoam, Orissa, Punjab, Rajasthan, Tripura, UP, UttaraKhand, WB

Taluks (Command/Non-Command) -Karnataka

Mandal - Andhra Pradesh

Taluks - Goa, Gujarat, Maharashtra

Districts (Valley) - Arunachal Pradesh, Assam, Himachal Pradesh, Jammu & Kashmir, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura

Islands - Lakshdweep, Andaman & Nicobar Islands

Firka-Tamil Nadu

Region - Puducherry

UT - Chandigarh, Dadar & Nagar Haveli, Daman & Diu

Tehsil - NCT Delhi

Annexure-I

State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of Pre Monsoon-2014

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
1	Andaman & Nicobar	108	0.20	14.34	26	24	77	71	4	4	1	1	0	0	0	0.00
2	Andhra Pradesh	740	0.09	23.78	121	16.35	333	45.00	228	30.81	53	7.16	5	0.68	0	0.00
3	Arunachal Pradesh	13	1.48	11.09	1	7.69	8	61.54	2	15.38	2	15.38	0	0.00	0	0.00
4	Assam	164	0.00	16.44	24	14.63	102	62.20	35	21.34	3	1.83	0	0.00	0	0.00
5	Bihar	367	0.44	15.80	14	3.81	188	51.23	152	41.42	13	3.54	0	0.00	0	0.00
6	Chandigarh	16	2.80	44.41	0	0.00	4	25.00	3	18.75	4	25.00	4	25.00	1	6.25
7	Chhattisgarh	557	0.00	60.40	23	4.13	125	22.44	290	52.06	104	18.67	12	2.15	3	0.54
8	Dadra & Nagar Haveli	10	2.55	10.81	0	0.00	3	30.00	6	60.00	1	10.00	0	0.00	0	0.00
9	Daman & Diu	12	3.38	19.10	0	0.00	4	33.33	7	58.33	1	8.33	0	0.00	0	0.00
10	Delhi	116	1.19	74.41	4	3.45	28	24.14	32	27.59	26	22.41	14	12.07	12	10.34
11	Goa	77	0.80	18.72	7	9.09	28	36.36	30	38.96	12	15.58	0	0.00	0	0.00
12	Gujarat	779	0.55	61.20	21	2.70	166	21.31	271	34.79	225	28.88	84	10.78	12	1.54

State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of Pre Monsoon-2014

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
13	Haryana	351	0.00	71.78	23	6.55	77	21.94	74	21.08	102	29.06	64	18.23	11	3.13
14	Himachal Pradesh	105	0.20	20.71	11	10.48	42	40.00	26	24.76	24	22.86	2	1.90	0	0.00
15	Karnataka	1384	0.05	31.50	120	8.67	352	25.43	545	39.38	351	25.36	16	1.16	0	0.00
16	Kerala	1105	0.17	53.00	103	9.32	323	29.23	475	42.99	188	17.01	15	1.36	1	0.09
17	Madhya Pradesh	1322	0.83	49.40	14	1.06	270	20.42	653	49.39	338	25.57	45	3.40	2	0.15
18	Maharashtra	1339	0.05	53.07	50	3.73	359	26.81	662	49.44	239	17.85	27	2.02	2	0.15
19	Meghalaya	20	1.16	7.78	2	10.00	13	65.00	5	25.00	0	0.00	0	0.00	0	0.00
20	Nagaland	7	3.70	17.30	0	0.00	2	28.57	4	57.14	1	14.29	0	0.00	0	0.00
21	Orissa	1324	0.37	14.16	106	8.01	596	45.02	596	45.02	26	1.96	0	0.00	0	0.00
22	Pondicherry	4	1.67	5.35	1	25.00	2	50.00	1	25.00	0	0.00	0	0.00	0	0.00
23	Punjab	568	0.03	40.60	25	4.40	81	14.26	134	23.59	204	35.92	122	21.48	2	0.35
24	Rajasthan	862	0.02	119.60	12	1.39	75	8.70	217	25.17	231	26.80	157	18.21	170	19.72
25	Tamil Nadu	641	0.25	68.60	35	5.46	136	21.22	250	39.00	162	25.27	46	7.18	12	1.87

State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of Pre Monsoon-2014

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
26	**Telangana**	543	0.00	40.03	21	3.87	160	29.47	228	41.99	117	21.55	16	2.95	1	0.18
27	**Tripura**	18	1.15	7.76	2	11.11	7	38.89	9	50.00	0	0.00	0	0.00	0	0.00
28	**Uttar Pradesh**	928	0.13	38.50	21	2.26	361	38.90	352	37.93	163	17.56	31	3.34	0	0.00
29	**Uttaranchal**	37	2.25	46.05	0	0.00	13	35.14	13	35.14	7	18.92	3	8.11	1	2.70
30	**West Bengal**	954	0.02	26.90	40	4.19	272	28.51	395	41.40	208	21.80	39	4.09	0	0.00
	Total	**14957**	**0.00**	**119.60**	**891**	**5.96**	**4366**	**29.19**	**5908**	**39.50**	**2849**	**19.05**	**713**	**4.77**	**230**	**1.54**

Annexure-II

State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of August-2014

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (mbgl)		Number & Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
1	**Andhra Pradesh**	764	0.00	39.50	251	32.85	271	35.47	176	23.04	60	7.85	6	0.79	0	0.00
2	**Arunachal Pradesh**	4	0.69	1.07	4	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
3	**Assam**	146	0.00	15.97	113	77.40	24	16.44	7	4.79	2	1.37	0	0.00	0	0.00
4	**Bihar**	388	0.00	10.99	183	47.16	176	45.36	25	6.44	4	1.03	0	0.00	0	0.00
5	**Chandigarh**	14	2.62	88.21	0	0.00	4	28.57	1	7.14	3	21.43	4	28.57	2	14.29
6	**Chhattisgarh**	604	0.00	32.10	338	55.96	198	32.78	48	7.95	18	2.98	2	0.33	0	0.00
7	**Dadra & Nagar Haveli**	11	0.20	5.83	7	63.64	3	27.27	1	9.09	0	0.00	0	0.00	0	0.00
9	**Delhi**	118	1.09	76.00	8	6.78	22	18.64	30	25.42	29	24.58	17	14.41	12	10.17
10	**Goa**	79	0.08	16.65	30	37.97	30	37.97	14	17.72	5	6.33	0	0.00	0	0.00
11	**Gujarat**	615	0.00	56.98	156	25.37	185	30.08	161	26.18	80	13.01	30	4.88	3	0.49
12	**Haryana**	114	0.45	61.25	8	7.02	26	22.81	33	28.95	27	23.68	16	14.04	4	3.51
13	**Himachal**	100	0.03	28.21	29	29.00	40	40.00	14	14.00	13	13.00	4	4.00	0	0.00

State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of August-2014

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (mbgl)		Number & Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
	Pradesh															
14	Jammu & Kashmir	238	0.00	31.66	81	34.03	102	42.86	36	15.13	10	4.20	9	3.78	0	0.00
15	Jharkhand	238	0.45	11.08	71	29.83	119	50.00	45	18.91	3	1.26	0	0.00	0	0.00
16	Karnataka	1396	0.03	39.02	291	20.85	479	34.31	424	30.37	189	13.54	13	0.93	0	0.00
17	Kerala	1295	0.00	55.00	366	28.26	469	36.22	374	28.88	80	6.18	5	0.39	1	0.08
18	Madhya Pradesh	1328	0.00	49.00	376	28.31	495	37.27	324	24.40	110	8.28	21	1.58	1	0.08
19	Maharashtra	1431	0.01	57.00	434	30.33	453	31.66	370	25.86	154	10.76	19	1.33	1	0.07
20	Meghalaya	6	0.75	2.62	5	83.33	1	16.67	0	0.00	0	0.00	0	0.00	0	0.00
21	Orissa	1343	0.01	12.30	913	67.98	389	28.97	40	2.98	1	0.07	0	0.00	0	0.00
22	Pondicherry	7	1.54	5.80	1	14.29	5	71.43	1	14.29	0	0.00	0	0.00	0	0.00
23	Punjab	219	0.00	39.45	15	6.85	39	17.81	46	21.00	62	28.31	57	26.03	0	0.00
24	Rajasthan	943	0.02	112.60	62	6.57	163	17.29	194	20.57	173	18.35	163	17.29	188	19.94
25	Tamil Nadu	584	0.40	74.64	28	4.79	132	22.60	230	39.38	150	25.68	32	5.48	12	2.05

State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of August-2014

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (mbgl)		Number & Percentage of Wells Showing Depth to Water Level (mbgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
26	Telangana	544	0.00	43.35	70	12.87	165	30.33	199	36.58	89	16.36	20	3.68	1	0.18
27	Tripura	28	0.00	6.21	15	53.57	12	42.86	1	3.57	0	0.00	0	0.00	0	0.00
28	Uttar Pradesh	861	0.06	35.14	182	21.14	297	34.49	228	26.48	131	15.21	23	2.67	0	0.00
29	Uttaranchal	44	0.10	29.20	8	18.18	15	34.09	14	31.82	4	9.09	3	6.82	0	0.00
30	West Bengal	971	0.04	31.03	314	32.34	353	36.35	150	15.45	128	13.18	26	2.68	0	0.00
	Total	**14433**	**0.00**	**112.60**	**4359**	**30.20**	**4667**	**32.34**	**3186**	**22.07**	**1525**	**10.57**	**470**	**3.26**	**225**	**1.56**

Annexure-III

State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of November-2014

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
1	Andaman & Nicobar Island	103	0.1	4.54	76	73.79	27	26.21	0	0.00	0	0.00	0	0.00	0	0.00
2	Andhra Pradesh	801	0.00	27.85	322	40.20	272	33.96	152	18.98	53	6.62	2	0.25	0	0.00
3	Arunachal Pradesh	12	1.35	6.53	2	16.67	7	58.33	3	25.00	0	0.00	0	0.00	0	0.00
4	Assam	171	0.04	16.09	54	31.58	104	60.82	11	6.43	2	1.17	0	0.00	0	0.00
5	Bihar	388	0.39	12.06	95	24.48	231	59.54	59	15.21	3	0.77	0	0.00	0	0.00
6	Chandigarh	14	2.79	38.97	0	0.00	3	21.43	3	21.43	5	35.71	3	21.43	0	0.00
7	Chhattisgarh	620	0.18	19.70	155	25.00	332	53.55	108	17.42	25	4.03	0	0.00	0	0.00
8	Dadra & Nagar Haveli	12	1.80	8.90	1	8.33	7	58.33	4	33.33	0	0.00	0	0.00	0	0.00
9	Daman & Diu	8	1.92	6.60	1	12.50	5	62.50	2	25.00	0	0.00	0	0.00	0	0.00
10	Delhi	116	1.82	63.63	3	2.59	27	23.28	30	25.86	28	24.14	18	15.52	10	8.62
11	Goa	44	0.13	16.56	13	29.55	20	45.45	7	15.91	4	9.09	0	0.00	0	0.00

State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of November-2014

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
12	Gujarat	773	0.03	57.65	97	12.55	273	35.32	242	31.31	119	15.39	40	5.17	2	0.26
13	Haryana	347	0.02	75.72	25	7.20	71	20.46	80	23.05	95	27.38	61	17.58	15	4.32
14	Himachal Pradesh	89	0.21	27.95	22	24.72	32	35.96	16	17.98	15	16.85	4	4.49	0	0.00
15	Jammu & Kashmir	233	0.00	32.10	70	30.04	113	48.50	30	12.88	14	6.01	6	2.58	0	0.00
16	Jharkhand	243	0.80	15.03	16	6.58	130	53.50	93	38.27	4	1.65	0	0.00	0	0.00
17	Karnataka	1387	0.05	29.80	357	25.74	512	36.91	375	27.04	136	9.81	7	0.50	0	0.00
18	Kerala	1320	0.00	56.50	252	19.09	439	33.26	508	38.48	113	8.56	7	0.53	1	0.08
19	Madhya Pradesh	1341	0.21	49.00	103	7.68	494	36.84	507	37.81	200	14.91	35	2.61	1	0.07
20	Maharashtra	1480	0.05	56.00	192	12.97	644	43.51	456	30.81	162	10.95	24	1.62	2	0.14
21	Meghalaya	14	0.40	6.35	6	42.86	6	42.86	2	14.29	0	0.00	0	0.00	0	0.00
22	Nagaland	10	0.85	16.75	4	40.00	5	50.00	0	0.00	1	10.00	0	0.00	0	0.00
23	Orissa	1344	0.14	11.50	573	42.63	677	50.37	92	6.85	2	0.15	0	0.00	0	0.00

State-wise Depth to water Level and Distribution of Percentage of Wells for the Period of November-2014

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
24	**Pondicherry**	4	0.45	5.24	2	50.00	1	25.00	1	25.00	0	0.00	0	0.00	0	0.00
25	**Punjab**	248	0.00	37.90	14	5.65	45	18.15	51	20.56	75	30.24	63	25.40	0	0.00
26	**Rajasthan**	897	0.00	115.08	77	8.58	163	18.17	184	20.51	163	18.17	149	16.61	161	17.95
27	**Tamil Nadu**	458	0.01	55.18	84	18.34	154	33.62	127	27.73	81	17.69	10	2.18	2	0.44
28	**Telangana**	577	0.00	45.01	57	9.88	172	29.81	222	38.47	110	19.06	15	2.60	1	0.17
29	**Tripura**	28	0.76	5.61	8	28.57	18	64.29	2	7.14	0	0.00	0	0.00	0	0.00
30	**Uttar Pradesh**	839	0.45	36.05	118	14.06	316	37.66	236	28.13	141	16.81	28	3.34	0	0.00
31	**Uttaranchal**	43	0.83	18.15	4	9.30	17	39.53	15	34.88	7	16.28	0	0.00	0	0.00
32	**West Bengal**	940	0.17	30.60	138	14.68	448	47.66	206	21.91	131	13.94	17	1.81	0	0.00
	Total	**14904**	**0.00**	**115.08**	**2941**	**19.73**	**5765**	**38.68**	**3824**	**25.66**	**1689**	**11.33**	**489**	**3.28**	**195**	**1.31**

Annexure – IV

State-wise Depth to water Level Distribution and Percentage of Wells for the Period of January-2015

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
1	**Andhra Pradesh**	797	0.00	20.70	218	27.35	348	43.66	171	21.46	59	7.40	1	0.13	0	0.00
2	**Arunachal Pradesh**	13	1.50	10.07	1	7.69	8	61.54	3	23.08	1	7.69	0	0.00	0	0.00
3	**Assam**	186	0.01	19.21	26	13.98	130	69.89	27	14.52	3	1.61	0	0.00	0	0.00
4	**Bihar**	477	0.62	11.89	55	11.53	316	66.25	102	21.38	4	0.84	0	0.00	0	0.00
5	**Chandigarh**	15	2.47	43.86	0	0.00	5	33.33	2	13.33	3	20.00	4	26.67	1	6.67
6	**Chhattisgarh**	610	0.20	49.40	33	5.41	207	33.93	304	49.84	58	9.51	7	1.15	1	0.16
7	**Dadra & Nagar Haveli**	12	2.00	9.20	1	8.33	6	50.00	5	41.67	0	0.00	0	0.00	0	0.00
8	**Daman & Diu**	8	2.13	6.53	0	0.00	6	75.00	2	25.00	0	0.00	0	0.00	0	0.00
9	**Delhi**	119	0.00	64.00	10	8.40	22	18.49	31	26.05	28	23.53	19	15.97	9	7.56
10	**Goa**	70	0.38	15.34	14	20.00	31	44.29	19	27.14	6	8.57	0	0.00	0	0.00
11	**Gujarat**	790	0.24	60.52	46	5.82	211	26.71	271	34.30	198	25.06	59	7.47	5	0.63

State-wise Depth to water Level Distribution and Percentage of Wells for the Period of January-2015

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
12	**Haryana**	95	0.45	37.10	5	5.26	25	26.32	30	31.58	24	25.26	11	11.58	0	0.00
13	**Himachal Pradesh**	88	0.35	28.75	15	17.05	31	35.23	19	21.59	17	19.32	6	6.82	0	0.00
14	**Jammu & Kashmir**	196	0.45	32.80	43	21.94	102	52.04	34	17.35	8	4.08	9	4.59	0	0.00
15	**Jharkhand**	230	0.50	15.48	7	3.04	75	32.61	140	60.87	8	3.48	0	0.00	0	0.00
16	**Karnataka**	1462	0.03	29.25	211	14.43	528	36.11	507	34.68	205	14.02	11	0.75	0	0.00
17	**Kerala**	1396	0.00	60.00	180	12.89	427	30.59	596	42.69	181	12.97	11	0.79	1	0.07
18	**Madhya Pradesh**	1271	0.00	41.38	86	6.77	378	29.74	554	43.59	221	17.39	30	2.36	2	0.16
19	**Maharashtra**	1523	0.10	81.00	143	9.39	537	35.26	609	39.99	206	13.53	25	1.64	3	0.20
20	**Meghalaya**	15	0.57	7.69	2	13.33	11	73.33	2	13.33	0	0.00	0	0.00	0	0.00
21	**Nagaland**	7	3.34	7.27	0	0.00	4	57.14	3	42.86	0	0.00	0	0.00	0	0.00
22	**Orissa**	1373	0.26	13.22	207	15.08	911	66.35	247	17.99	8	0.58	0	0.00	0	0.00

State-wise Depth to water Level Distribution and Percentage of Wells for the Period of January-2015

S. No.	Name of State	No. of wells Analysed	Depth to Water Level (m bgl)		Number & Percentage of Wells Showing Depth to Water Level (m bgl) in the Range of											
					0-2		2-5		5-10		10-20		20-40		> 40	
			Min	Max	No	%	No	%	No	%	No	%	No	%	No	%
23	**Pondicherry**	6	1.15	4.70	3	50.00	3	50.00	0	0.00	0	0.00	0	0.00	0	0.00
24	**Punjab**	652	0.12	42.80	28	4.29	98	15.03	137	21.01	225	34.51	162	24.85	2	0.31
25	**Rajasthan**	875	0.08	115.25	52	5.94	143	16.34	198	22.63	177	20.23	149	17.03	156	17.83
26	**Tamil Nadu**	597	0.02	150.40	111	18.59	193	32.33	162	27.14	102	17.09	21	3.52	8	1.34
27	**Telangana**	579	0.00	37.90	30	5.18	155	26.77	227	39.21	147	25.39	20	3.45	0	0.00
28	**Tripura**	27	1.06	5.87	7	25.93	16	59.26	4	14.81	0	0.00	0	0.00	0	0.00
29	**Uttar Pradesh**	653	0.00	36.25	63	9.65	269	41.19	205	31.39	98	15.01	18	2.76	0	0.00
30	**Uttaranchal**	47	1.15	28.49	4	8.51	18	38.30	13	27.66	11	23.40	1	2.13	0	0.00
31	**West Bengal**	936	0.33	26.85	59	6.30	363	38.78	312	33.33	172	18.38	30	3.21	0	0.00
Total		**15125**			**1660**	**10.98**	**5577**	**36.87**	**4936**	**32.63**	**2170**	**14.35**	**594**	**3.93**	**188**	**1.24**

Annexure – V

State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from Pre Monsoon 2014 to Pre Monsoon 2013

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m					
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andaman & Nicobar	88	0.01	6.82	0.06	5.01	12	14.00	1	1.00	1	1.00	46	52.00	22	25.00	5	6.00	14	16.00	73	83.00
2	Andhra Pradesh	549	0.01	17.80	0.01	10.72	269	49.00	61	11.00	22	4.00	140	26.00	26	5.00	7	1.00	352	64.00	173	32.00
3	Arunachal Pradesh	10	0.39	3.02	0.25	1.55	5	50.00	2	20.00	0	0.00	3	30.00	0	0.00	0	0.00	7	70.00	3	30.00
4	Assam	135	0.01	17.76	0.02	6.56	54	40.00	5	4.00	3	2.00	61	45.00	6	4.00	2	1.00	62	46.00	69	51.00
5	Bihar	328	0.01	9.08	0.01	4.76	185	56.00	18	5.00	8	2.00	96	29.00	6	2.00	3	1.00	211	64.00	105	32.00
6	Chandigarh	16	0.09	3.45	0.22	6.05	7	44.00	3	19.00	0	0.00	5	31.00	0	0.00	1	6.00	10	63.00	6	38.00
7	Chhattisgarh	539	0.01	18.49	0.01	13.69	235	44.00	41	8.00	22	4.00	142	26.00	26	5.00	21	4.00	298	55.00	189	35.00
8	Dadra & Nagar Haveli	5	0.80	0.80	0.60	2.51	1	20.00	0	0.00	0	0.00	3	60.00	1	20.00	0	0.00	1	20.00	4	80.00
9	Daman & Diu	7	0.18	5.16	0.95	9.50	2	29.00	0	0.00	1	14.00	2	29.00	1	1.00	1	14.00	3	43.00	4	57.00
10	Delhi	114	0.01	4.53	0.04	3.34	69	61.00	11	10.00	1	1.00	30	26.00	3	3.00	0	0.00	81	71.00	33	29.00

State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from Pre Monsoon 2014 to Pre Monsoon 2013

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m					
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
11	Goa	72	0.08	8.76	0.03	3.79	48	67.00	7	10.00	1	1.00	11	15.00	3	4.00	0	0.00	56	78.00	14	19.00
12	Gujarat	654	0.01	14.10	0.03	17.42	229	35.00	95	15.00	86	13.00	125	19.00	36	6.00	37	6.00	410	63.00	198	30.00
13	Haryana	302	0.02	24.95	0.01	11.25	166	55.00	28	9.00	7	2.00	87	29.00	6	2.00	6	2.00	201	67.00	99	33.00
14	Himachal Pradesh	89	0.01	10.32	0.02	3.77	53	60.00	9	10.00	5	6.00	20	22.00	2	2.00	0	0.00	67	75.00	22	25.00
15	Jammu & Kashmir	219	0.01	11.68	0.01	4.46	128	58.00	12	5.00	13	6.00	56	26.00	4	2.00	1	0.00	153	70.00	61	28.00
16	Jharkhand	142	0.03	6.67	0.01	8.82	68	48.00	18	13.00	6	4.00	35	25.00	4	3.00	8	6.00	92	65.00	47	33.00
17	Karnataka	1106	0.01	18.50	0.01	17.80	465	42.00	149	13.00	110	10.00	183	17.00	52	5.00	31	3.00	724	65.00	266	24.00
18	Kerala	861	0.01	8.75	0.01	7.85	501	58.00	46	5.00	20	2.00	263	31.00	19	2.00	5	1.00	567	66.00	287	33.00
19	Madhya Pradesh	1054	0.01	22.56	0.01	18.10	435	41.00	168	16.00	145	14.00	199	19.00	42	4.00	23	2.00	748	71.00	264	25.00
20	Maharashtra	977	0.01	24.20	0.02	14.00	454	46.00	159	16.00	119	12.00	163	17.00	37	4.00	27	3.00	732	75.00	227	23.00

State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from Pre Monsoon 2014 to Pre Monsoon 2013

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m					
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
21	Meghalaya	16	0.05	2.05	0.01	4.25	4	25.00	1	6.00	0	0.00	10	63.00	0	0.00	1	6.00	5	31.00	11	69.00
22	Nagaland	5	0.05	3.78	0.39	2.47	1	20.00	1	20.00	0	0.00	2	40.00	1	20.00	0	0.00	2	40.00	3	60.00
23	Orissa	1055	0.01	11.6	0.01	5.34	578	55.00	78	7.00	36	3.00	318	30.00	18	2.00	3	0.00	692	66.00	339	32.00
24	Pondicherry	4	0.17	0.17	0.25	1.70	1	25.00	0	0.00	0	0.00	3	75.00	0	0.00	0	0.00	1	25.00	3	75.00
25	Punjab	242	0.01	6.38	0.01	5.92	140	58.00	14	6.00	3	1.00	77	32.00	5	2.00	2	1.00	157	65.00	84	35.00
26	Rajasthan	745	0.02	15.27	0.02	22.70	209	28.00	58	8.00	66	9.00	249	33.00	70	9.00	47	6.00	333	45.00	366	49.00
27	Tamil Nadu	376	0.03	16.92	0.02	18.30	137	36.00	40	11.00	23	6.00	108	29.00	28	7.00	25	7.00	200	53.00	161	43.00
28	Telangana	449	0.01	18.94	0.03	17.68	197	44.00	88	20.00	69	15.00	61	14.00	10	2.00	12	3.00	354	79.00	83	18.00
29	Tripura	13	0.04	1.41	0.12	1.21	6	46.00	0	0.00	0	0.00	6	46.00	0	0.00	0	0.00	6	46.00	6	46.00
30	Uttar Pradesh	780	0.01	7.70	0.01	14.96	461	59.00	60	8.00	10	1.00	219	28.00	14	2.00	8	1.00	531	68.00	241	31.00
31	Uttaranchal	33	0.05	4.65	0.10	3.49	12	36.00	3	9.00	2	6.00	15	45.00	1	3.00	0	0.00	17	52.00	16	48.00
32	West Bengal	866	0.01	15.32	0.01	12.85	439	51.00	74	9.00	38	4.00	247	29.00	44	5.00	16	2.00	551	64.00	307	35.00

State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from Pre Monsoon 2014 to Pre Monsoon 2013

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m					
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
	Total	11851					5571	47.00	1250	11.00	817	7.00	2985	25.00	487	4.00	292	2.00	7638	64.00	3764	32.00

449 monitoring wells (4%) show no change in Water Level.

Annexure – VI

State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from Aug 2014 to Aug 2013

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Arunachal Pradesh	4	0.70	1.71			4	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	4	100	0	0
2	Assam	113	0.01	4.00	0.01	3.82	67	59.29	9	7.96	0	0.00	31	27.43	3	2.65	0	0.00	76	67	34	30
3	Bihar	326	0.01	6.43	0.01	7.18	140	42.94	42	12.88	16	4.91	115	35.28	9	2.76	2	0.61	198	61	126	39
4	Chandigarh	13	0.70	6.58	0.29	8.57	4	30.77	0	0.00	1	7.69	6	46.15	0	0.00	2	15.38	5	38	8	62
5	Chhattisgarh	550	0.01	7.54	0.01	13.84	199	36.18	31	5.64	12	2.18	258	46.91	33	6.00	13	2.36	242	44	304	55
6	Dadra & Nagar Haveli	6	0.14	3.05	1.81	1.81	4	66.67	1	16.67	0	0.00	1	16.67	0	0.00	0	0.00	5	83	1	17
7	Delhi	116	0.03	2.38	0.03	8.52	14	12.07	1	0.86	0	0.00	73	62.93	21	18.10	7	6.03	15	13	101	87
8	Goa	69	0.15	2.62	0.04	5.62	24	34.78	1	1.45	0	0.00	39	56.52	3	4.35	1	1.45	25	36	43	62
9	Gujarat	506	0.01	19.71	0.01	29.12	171	33.79	39	7.71	43	8.50	154	30.43	52	10.28	46	9.09	253	50	252	50
10	Haryana	91	0.01	3.50	0.03	7.20	14	15.38	3	3.30	0	0.00	51	56.04	17	18.68	4	4.40	17	19	72	79
11	Himachal Pradesh	90	0.02	7.82	0.03	6.80	14	15.56	0	0.00	1	1.11	61	67.78	11	12.22	2	2.22	15	17	74	82
12	Jammu & Kashmir	226	0.10	10.46	0.01	8.99	24	10.62	1	0.44	2	0.88	149	65.93	36	15.93	12	5.31	27	12	197	87
13	Jharkhand	156	0.04	5.73	0.07	6.32	67	52.38	33	21.15	10	6.41	38	24.36	4	2.56	2	1.28	110	71	44	28

State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from Aug 2014 to Aug 2013

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
14	Karnataka	1150	0.01	12.96	0.01	18.03	369	32.09	81	7.04	49	4.26	424	36.87	84	7.30	60	5.22	499	43	568	49
15	Kerala	816	0.01	7.53	0.01	11.03	532	65.20	90	11.03	29	3.55	132	16.18	16	1.96	9	1.10	651	80	157	19
16	Madhya Pradesh	1090	0.01	12.53	0.01	25.40	156	14.31	21	1.93	12	1.10	474	43.49	234	21.47	185	16.97	189	17	893	82
17	Maharashtra	1185	0.01	16.70	0.01	20.60	307	25.91	75	6.33	42	3.54	437	36.88	144	12.15	164	13.84	424	36	745	63
18	Meghalaya	5	0.21	0.61	0.47	0.93	2	40.00	0	0.00	0	0.00	3	60.00	0	0.00	0	0.00	2	40	3	60
19	Orissa	1099	0.01	5.97	0.01	5.25	688	62.60	125	11.37	7	0.64	253	23.02	8	0.73	1	0.09	820	75	262	24
20	Pondicherry	4	0.59	1.42	0.11	0.95	2	50.00	0	0.00	0	0.00	2	50.00	0	0.00	0	0.00	2	50	2	50
21	Punjab	196	0.01	4.48	0.02	7.47	27	13.78	4	2.04	2	1.02	132	67.35	20	10.20	10	5.10	33	17	162	83
22	Rajasthan	791	0.01	31.05	0.02	22.65	176	22.25	45	5.69	56	7.08	279	35.27	114	14.41	90	11.38	277	35	483	61
23	Tamil Nadu	455	0.01	11.10	0.02	15.00	132	29.01	29	6.37	26	5.71	182	40.00	41	9.01	31	6.81	187	41	254	56
24	Telangana	459	0.01	26.43	0.02	23.90	79	17.21	25	5.45	24	5.23	146	31.81	93	20.26	86	18.74	128	28	325	71
25	Tripura	24	0.01	1.20	0.01	0.80	10	41.67	0	0.00	0	0.00	13	54.17	0	0.00	0	0.00	10	42	13	54
26	Uttar Pradesh	756	0.03	10.18	0.01	11.96	154	20.37	22	2.91	8	1.06	392	51.85	131	17.33	43	5.69	184	24	566	75
27	Uttaranchal	34	0.24	1.90	0.03	8.80	4	11.76	0	0.00	0	0.00	19	55.88	8	23.53	3	8.82	4	12	30	88

State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from Aug 2014 to Aug 2013

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
28	West Bengal	892	0.01	15.31	0.01	12.20	346	38.79	60	6.73	33	3.70	321	35.99	61	6.84	63	7.06	439	49	445	50
	TOTAL	**11222**					**3730**	**33**	**738**	**6.58**	**373**	**3.32**	**4185**	**37.29**	**1143**	**10.19**	**836**	**7.45**	**4841**	**43**	**6164**	**55**

217 monitoring wells (2%) show no change in Water Level.

State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from November 2014 to November 2013

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andaman & Nicobar Islands	84	0.05	2.77	0.01	2.53	20	23.81	2	2.38	0	0.00	53	63.10	8	9.52	0	0.00	22	26	61	73
2	Andhra Pradesh	604	0.01	6.20	0.01	17.99	113	18.71	4	0.66	2	0.33	340	56.29	81	13.41	52	8.61	119	20	473	78
3	Arunachal Pradesh	7	0.04	0.87	0.40	0.71	5	71.43	0	0.00	0	0.00	2	28.57	0	0.00	0	0.00	5	71	2	29
4	Assam	138	0.02	4.16	0.01	3.96	51	36.96	3	2.17	1	0.72	76	55.07	3	2.17	0	0.00	55	40	79	57
5	Bihar	352	0.01	6.78	0.01	6.48	142	40.34	16	4.55	6	1.70	162	46.02	22	6.25	4	1.14	164	47	188	53
6	Chandigarh	14	0.03	0.11	0.07	3.05	2	14.29	0	0.00	0	0.00	11	78.57	1	7.14	0	0.00	2	14	12	86
7	Chhattisgarh	600	0.01	16.30	0.01	10.28	341	56.83	51	8.50	18	3.00	157	26.17	18	3.00	10	1.67	410	68	185	31
8	Dadra & Nagar Haveli	6			1.06	2.49	0	0.00	0	0.00	0	0.00	4	66.67	2	33.33	0	0.00	0	0	6	100
9	Daman & Diu	6			0.29	2.91	0	0.00	0	0.00	0	0.00	4	66.67	2	33.33	0	0.00	0	0	6	100
10	Delhi	114	0.03	2.36	0.02	5.21	6	5.26	3	2.63	0	0.00	78	68.42	22	19.30	5	4.39	9	8	105	92
11	Goa	38	0.05	5.64	0.01	2.37	22	57.89	2	5.26	3	7.89	9	23.68	1	2.63	0	0.00	27	71	10	26

State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from November 2014 to November 2013

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
12	Gujarat	704	0.01	10.79	0.01	14.73	172	24.43	36	5.11	21	2.98	310	44.03	85	12.07	75	10.65	229	33	470	67
13	Haryana	313	0.01	9.39	0.01	14.30	69	22.04	9	2.88	6	1.92	173	55.27	43	13.74	12	3.83	84	27	228	73
14	Himachal Pradesh	85	0.01	6.48	0.02	7.27	20	23.53	0	0.00	1	1.18	51	60.00	9	10.59	3	3.53	21	25	63	74
15	Jammu & Kashmir	221	0.02	4.47	0.01	4.54	85	38.46	4	1.81	2	0.90	120	54.30	4	1.81	2	0.90	91	41	126	57
16	Jharkhand	220	0.03	3.43	0.04	11.61	21	9.55	6	2.73	0	0.00	134	60.91	48	21.82	10	4.55	27	12	192	87
17	Karnataka	1167	0.01	12.45	0.01	21.87	519	44.47	99	8.48	53	4.54	364	31.19	52	4.46	33	2.83	671	57	449	38
18	Kerala	915	0.01	7.50	0.01	25.63	450	49.18	19	2.08	8	0.87	383	41.86	32	3.50	8	0.87	477	52	423	46
19	Madhya Pradesh	1178	0.01	8.99	0.01	32.89	160	13.58	33	2.80	10	0.85	519	44.06	244	20.71	194	16.47	203	17	957	81
20	Maharashtra	1267	0.03	14.11	0.04	25.30	275	21.70	49	3.87	30	2.37	586	46.25	194	15.31	111	8.76	354	28	891	70
21	Meghalaya	7	0.25	0.62	0.13	2.86	2	28.57	0	0.00	0	0.00	3	42.86	1	14.29	0	0.00	2	29	4	57
22	Nagaland	2	1.55	5.05			1	50.00	0	0.00	1	50.00	0	0.00	0	0.00	0	0.00	2	100	0	0

State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from November 2014 to November 2013

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
23	Orissa	1111	0.02	4.85	0.01	5.4	287	25.83	21	1.89	2	0.18	741	66.70	38	3.42	1	0.09	310	28	780	70
24	Pondicherry	4	0.92	1.67	0.35	2.64	2	50.00	0	0.00	0	0.00	1	25.00	1	25.00	0	0.00	2	50	2	50
25	Punjab	221	0.01	10.23	0.03	7.10	61	27.60	1	0.45	2	0.90	137	61.99	17	7.69	3	1.36	64	29	157	71
26	Rajasthan	753	0.01	69.00	0.01	31.90	192	25.50	34	4.52	45	5.98	278	36.92	87	11.55	97	12.88	271	36	462	61
27	Tamil Nadu	378	0.01	39.30	0.02	17.18	145	38.36	42	11.11	35	9.26	101	26.72	34	8.99	18	4.76	222	59	153	40
28	Telangana	478	0.07	10.07	0.01	15.87	28	5.86	6	1.26	3	0.63	154	32.22	121	25.31	164	34.31	37	8	439	92
29	Tripura	26	0.09	1.96	0.02	0.89	10	38.46	0	0.00	0	0.00	16	61.54	0	0.00	0	0.00	10	38	16	62
30	Uttar Pradesh	753	0.02	5.27	0.01	13.32	161	21.38	8	1.06	1	0.13	450	59.76	100	13.28	27	3.59	170	23	577	77
31	Uttaranchal	31	0.03	1.94	0.04	6.61	11	35.48	0	0.00	0	0.00	15	48.39	3	9.68	2	6.45	11	35	20	65
32	West Bengal	885	0.02	12.66	0.01	26.55	121	13.67	20	2.26	9	1.02	535	60.45	114	12.88	83	9.38	150	17	732	83
	TOTAL	**12682**					**3494**	**28**	**468**	**3.69**	**259**	**2.04**	**5967**	**47.05**	**1387**	**10.94**	**914**	**7.21**	**4221**	**33**	**8268**	**65**

193 monitoring wells (2%) show no change in Water Level.

Annexure – VIII

State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from January 2015 to January 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	716	0.01	7.60	0.01	15.92	187	26.12	16	2.23	8	1.12	362	50.56	81	11.31	49	6.84	211	29	492	69
2	Arunachal Pradesh	11	0.02	0.50	0.09	0.10	9	81.82	0	0.00	0	0.00	2	18.18	0	0.00	0	0.00	9	82	2	18
3	Assam	152	0.03	0.24	0.01	4.83	50	32.89	8	5.26	1	0.66	73	48.03	2	1.32	1	0.66	59	39	76	50
4	Bihar	438	0.01	6.90	0.01	5.12	207	47.26	15	3.42	6	1.37	197	44.98	5	1.14	4	0.91	228	52	206	47
5	Chandigarh	14	0.15	6.47	0.21	5.13	3	21.43	2	14.29	1	7.14	7	50.00	0	0.00	1	7.14	6	43	8	57
6	Chhattisgarh	524	0.01	9.49	0.02	8.41	128	24.43	18	3.44	6	1.15	266	50.76	70	13.36	28	5.34	152	29	364	69
7	Dadra & Nagar Haveli	6	1.51	1.51	0.75	1.54	1	16.67	0	0.00	0	0.00	5	83.33	0	0.00	0	0.00	1	17	5	83
8	Daman & Diu	7	0.41	2.23	0.01	0.53	1	14.29	2	28.57	0	0.00	4	57.14	0	0.00	0	0.00	3	43	4	57
9	Delhi	86	0.08	1.20	0.02	4.40	11	12.79	0	0.00	0	0.00	56	65.12	16	18.60	3	3.49	11	13	75	87
10	Goa	36	0.01	2.58	0.01	1.83	21	58.33	2	5.56	0	0.00	13	36.11	0	0.00	0	0.00	23	64	13	36
11	Gujarat	652	0.01	19.45	0.02	16.83	147	22.55	35	5.37	20	3.07	254	38.96	89	13.65	97	14.88	202	31	440	67
12	Haryana	48	0.05	2.85	0.10	2.56	12	25.00	4	8.33	0	0.00	28	58.33	3	6.25	0	0.00	16	33	31	65

State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from January 2015 to January 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
13	Himachal Pradesh	76	0.03	9.76	0.09	6.99	25	32.89	0	0.00	1	1.32	41	53.95	6	7.89	3	3.95	26	34	50	66
14	Jammu & Kashmir	186	0.01	4.36	0.02	11.94	42	22.58	1	0.54	1	0.54	126	67.74	6	3.23	6	3.23	44	24	138	74
15	Jharkhand	183	0.02	3.26	0.02	4.87	45	24.59	5	2.73	1	0.55	98	53.55	27	14.75	5	2.73	51	28	130	71
16	Karnataka	1274	0.01	16.87	0.01	19.95	556	43.64	82	6.44	70	5.49	376	29.51	64	5.02	39	3.06	708	56	479	38
17	Kerala	997	0.01	9.00	0.01	6.30	509	51.05	31	3.11	3	0.30	392	39.32	22	2.21	8	0.80	543	54	422	42
18	Madhya Pradesh	1227	0.01	10.61	0.01	17.39	334	27.22	54	4.40	20	1.63	512	41.73	176	14.34	120	9.78	408	33	808	66
19	Maharashtra	1341	0.01	14.40	0.01	15.05	369	27.52	76	5.67	36	2.68	593	44.22	133	9.92	105	7.83	481	36	831	62
20	Meghalaya	7	0.18	0.88	0.02	0.41	3	42.86	0	0.00	0	0.00	4	57.14	0	0.00	0	0.00	3	43	4	57
21	Nagaland	6	0.10	6.57	0.77	2.02	2	33.33	0	0.00	1	16.67	2	33.33	1	16.67	0	0.00	3	50	3	50
22	Orissa	1219	0.01	4.26	0.01	4.5	311	25.51	8	0.66	2	0.16	845	69.32	31	2.54	1	0.08	321	26	877	72
23	Pondicherry	4	0.06	0.06	0.20	0.64	1	25.00	0	0.00	0	0.00	3	75.00	0	0.00	0	0.00	1	25	3	75
24	Punjab	347	0.01	4.70	0.01	6.52	75	21.61	7	2.02	2	0.58	216	62.25	36	10.37	6	1.73	84	24	258	74

State-wise Annual Fluctuation & Frequency Distribution of Different Ranges from January 2015 to January 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
25	Rajasthan	743	0.01	13.75	0.02	19.40	206	27.73	40	5.38	38	5.11	288	38.76	86	11.57	76	10.23	284	38	450	61
26	Tamil Nadu	493	0.01	17.65	0.00	9.45	218	44.22	65	13.18	76	15.42	95	19.27	23	4.67	14	2.84	359	73	132	27
27	Telangana	524	0.01	7.17	0.01	15.35	64	12.21	6	1.15	4	0.76	169	32.25	131	25.00	143	27.29	74	14	443	85
28	Tripura	26	0.04	1.55	0.01	1.70	7	26.92	0	0.00	0	0.00	19	73.08	0	0.00	0	0.00	7	27	19	73
29	Uttar Pradesh	602	0.01	6.22	0.01	9.55	74	12.29	3	0.50	1	0.17	430	71.43	79	13.12	13	2.16	78	13	522	87
30	Uttaranchal	21	0.05	2.97	0.39	10.45	4	19.05	1	4.76	0	0.00	14	66.67	1	4.76	1	4.76	5	24	16	76
31	West Bengal	856	0.01	15.48	0.01	17.39	150	17.52	24	2.80	17	1.99	474	55.37	131	15.30	54	6.31	191	22	659	77
TOTAL		**12822**					**3772**	**29**	**505**	**3.94**	**315**	**2.46**	**5964**	**46.51**	**1219**	**9.51**	**777**	**6.06**	**4592**	**36**	**7960**	**62**

270 monitoring wells (2%) show no change in Water Level.

Annexure – IX

State-wise Seasonal Fluctuation & Frequency Distribution of Different Ranges from August 2014 to Premonsoon 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	714	0.01	8.59	0.01	18.38	315	44.00	85	12.00	27	4.00	213	30.00	20	3.00	9	1.00	427	60.00	242	34.00
2	Arunachal Pradesh	4	1.64	3.60			2	50.00	2	50.00	0	0.00	0	0.00	0	0.00	0	0.00	4	100.00	0	0.00
3	Assam	101	0.16	7.15	0.36	3.30	39	39.00	43	43.00	12	12.00	2	2.00	2	2.00	0	0.00	94	93.00	4	4.00
4	Bihar	351	0.10	9.36	0.01	1.32	127	36.00	121	34.00	85	24.00	18	5.00	0	0.00	0	0.00	333	95.00	18	5.00
5	Chandigarh	13	0.05	6.13	0.17	3.66	5	38.00	0	0.00	1	8.00	6	46.00	1	8.00	0	0.00	6	46.00	7	54.00
6	Chhattisgarh	476	0.05	15.45	0.05	17.10	68	14.00	128	27.00	273	57.00	4	1.00	1	0.00	1	0.00	469	99.00	6	1.00
7	Dadra & Nagar Haveli	10	1.40	9.13			1	10.00	2	20.00	7	70.00	0	0.00	0	0.00	0	0.00	10	100.00	0	0.00
8	Delhi	116	0.01	5.60	0.01	8.86	28	24.00	0	0.00	1	1.00	80	69.00	6	5.00	1	1.00	29	25.00	87	75.00
9	Goa	75	0.06	12.83			36	48.00	27	36.00	12	16.00	0	0.00	0	0.00	0	0.00	75	100.00	0	0.00
10	Gujarat	583	0.01	20.10	0.04	6.62	161	28.00	134	23.00	237	41.00	34	6.00	5	1.00	7	1.00	532	91.00	46	8.00

State-wise Seasonal Fluctuation & Frequency Distribution of Different Ranges from August 2014 to Premonsoon 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
11	Haryana	102	0.04	3.90	0.01	10.12	27	26.00	2	2.00	1	1.00	52	51.00	9	9.00	10	10.00	30	29.00	71	70.00
12	Himachal Pradesh	99	0.08	10.36	0.02	10.74	55	56.00	15	15.00	15	15.00	9	9.00	2	2.00	3	3.00	85	86.00	14	14.00
13	Jammu & Kashmir	234	0.04	16.46	0.02	9.20	137	59.00	27	12.00	10	4.00	46	20.00	9	4.00	3	1.00	174	74.00	58	25.00
14	Jharkhand	215	0.07	11.57	0.16	2.67	30	14.00	75	35.00	98	46.00	11	5.00	1	0.00	0	0.00	203	94.00	12	6.00
15	Karnataka	1352	0.01	14.88	0.01	19.61	455	34.00	219	16.00	296	22.00	235	17.00	23	2.00	16	1.00	970	72.00	274	20.00
16	Kerala	1102	0.01	17.06	0.02	7.81	425	39.00	398	36.00	217	20.00	46	4.00	10	1.00	2	0.00	1040	94.00	58	5.00
17	Madhya Pradesh	1314	0.01	20.99	0.02	5.80	312	24.00	332	25.00	556	42.00	77	6.00	13	1.00	4	0.00	1200	91.00	94	7.00
18	Maharashtra	1252	0.03	19.05	0.01	12.25	387	31.00	311	25.00	330	26.00	143	11.00	44	4.00	28	2.00	1028	82.00	215	17.00
19	Meghalaya	5	1.40	4.89			2	40.00	1	20.00	2	40.00	0	0.00	0	0.00	0	0.00	5	100.00	0	0.00
20	Orissa	1281	0.03	9.79	0.02	2.4	330	26.00	572	45.00	360	28.00	17	1.00	1	0.00	0	0.00	1262	99.00	18	1.00
21	Pondicherry	4	0.05	0.36	0.45	0.45	3	75.00	0	0.00	0	0.00	1	25.00	0	0.00	0	0.00	3	75.00	1	25.00

State-wise Seasonal Fluctuation & Frequency Distribution of Different Ranges from August 2014 to Premonsoon 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
22	Punjab	212	0.06	4.60	0.01	9.76	38	18.00	7	3.00	2	1.00	108	51.00	44	21.00	13	6.00	47	22.00	165	78.00
23	Rajasthan	787	0.02	20.65	0.04	22.13	240	30.00	139	18.00	190	24.00	143	18.00	24	3.00	18	2.00	569	72.00	185	24.00
24	Tamil Nadu	521	0.02	18.27	0.02	15.20	164	31.00	31	6.00	30	6.00	209	40.00	35	7.00	35	7.00	225	43.00	279	54.00
25	Tripura	15	0.47	5.38			7	47.00	5	33.00	3	20.00	0	0.00	0	0.00	0	0.00	15	100.00	0	0.00
26	Uttar Pradesh	816	0.01	12.72	0.01	3.43	389	48.00	195	24.00	44	5.00	181	22.00	4	0.00	0	0.00	628	77.00	185	23.00
27	Uttaranchal	32	0.33	5.50	0.50	3.11	11	34.00	9	28.00	5	16.00	5	16.00	2	6.00	0	0.00	25	78.00	7	22.00
28	West Bengal	871	0.05	18.76	0.01	11.70	267	31.00	322	37.00	209	24.00	54	6.00	10	1.00	7	1.00	798	92.00	71	8.00
	TOTAL	**12657**					**4061**	**32.00**	**3202**	**25.00**	**3023**	**24.00**	**1694**	**13.00**	**266**	**2.00**	**157**	**1.00**	**10286**	**81.00**	**2117**	**17.00**

254 monitoring wells (2%) show no change in Water Level.

Annexure – X

State-wise Seasonal Fluctuation & Frequency Distribution of Different Ranges from November 2014 to Premonsoon 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andaman & Nicobar Islands	101	0.09	9.70	0.30	1.40	78	77.00	16	16.00	4	4.00	3	3.00	0	0.00	0	0.00	98	97.00	3	3.00
2	Andhra Pradesh	706	0.02	14.22	0.01	6.60	344	49.00	126	18.00	49	7.00	129	18.00	13	2.00	11	2.00	519	74.00	153	22.00
3	Arunachal Pradesh	11	0.04	4.56	0.15	1.38	5	45.00	2	18.00	1	9.00	3	27.00	0	0.00	0	0.00	8	73.00	3	27.00
4	Assam	136	0.02	6.31	0.09	3.90	92	68.00	20	15.00	6	4.00	16	12.00	2	1.00	0	0.00	118	87.00	18	13.00
5	Bihar	353	0.03	6.64	0.09	1.81	178	50.00	110	31.00	37	10.00	27	8.00	0	0.00	0	0.00	325	92.00	27	8.00
6	Chandigarh	14	0.13	5.44	0.10	3.85	1	7.00	0	0.00	2	14.00	9	64.00	2	14.00	0	0.00	3	21.00	11	79.00
7	Chhattisgarh	484	0.05	14.87	0.01	1.80	134	28.00	159	33.00	169	35.00	19	4.00	0	0.00	0	0.00	462	95.00	19	4.00
8	Dadra & Nagar Haveli	10	0.91	6.51	0.25	0.40	3	30.00	1	10.00	3	30.00	3	30.00	0	0.00	0	0.00	7	70.00	3	30.00
9	Daman & Diu	8	0.29	4.69	0.00	0.63	5	63.00	1	13.00	1	13.00	1	13.00	0	0.00	0	0.00	7	88.00	1	13.00

State-wise Seasonal Fluctuation & Frequency Distribution of Different Ranges from November 2014 to Premonsoon 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
10	Delhi	114	0.03	3.02	0.02	4.53	20	18.00	2	2.00	0	0.00	85	75.00	4	4.00	3	3.00	22	19.00	92	81.00
11	Goa	43	0.04	13.89	0.34	1.94	18	42.00	12	28.00	6	14.00	7	16.00	0	0.00	0	0.00	36	84.00	7	16.00
12	Gujarat	723	0.01	21.95	0.02	8.26	236	33.00	190	26.00	194	27.00	60	8.00	16	2.00	17	2.00	620	86.00	93	13.00
13	Haryana	288	0.01	11.37	0.01	33.42	93	32.00	3	1.00	7	2.00	136	47.00	32	11.00	14	5.00	103	36.00	182	63.00
14	Himachal Pradesh	88	0.02	6.88	0.01	10.48	43	49.00	8	9.00	3	3.00	31	35.00	2	2.00	1	1.00	54	61.00	34	39.00
15	Jammu & Kashmir	230	0.01	12.48	0.01	6.03	138	60.00	21	9.00	13	6.00	48	21.00	6	3.00	2	1.00	172	75.00	56	24.00
16	Jharkhand	223	0.07	8.85	0.03	3.83	82	37.00	83	37.00	39	17.00	15	7.00	4	2.00	0	0.00	204	91.00	19	9.00
17	Karnataka	1335	0.02	26.79	0.01	19.68	507	38.00	360	27.00	312	23.00	75	6.00	13	1.00	10	1.00	1179	88.00	98	7.00
18	Kerala	1094	0.01	15.16	0.01	7.70	587	54.00	288	26.00	94	9.00	102	9.00	18	2.00	5	0.00	969	89.00	125	11.00
19	Madhya Pradesh	1299	0.02	27.04	0.01	17.06	435	33.00	327	25.00	262	20.00	176	14.00	44	3.00	33	3.00	1024	79.00	253	19.00
20	Maharashtra	1274	0.01	25.20	0.05	13.80	501	39.00	330	26.00	214	17.00	154	12.00	37	3.00	28	2.00	1045	82.00	219	17.00

State-wise Seasonal Fluctuation & Frequency Distribution of Different Ranges from November 2014 to Premonsoon 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
21	Meghalaya	10	0.20	1.59			10	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	10	100.00	0	0.00
22	Nagaland	6	0.55	6.10	0.50	0.80	1	17.00	2	33.00	1	17.00	2	33.00	0	0.00	0	0.00	4	67.00	2	33.00
23	Orissa	1256	0.02	9.06	0.03	1.85	512	41.00	536	43.00	146	12.00	59	5.00	0	0.00	0	0.00	1194	95.00	59	5.00
24	Pondicherry	4	1.22	4.57	0.08	1.80	1	25.00	0	0.00	1	25.00	2	50.00	0	0.00	0	0.00	2	50.00	2	50.00
25	Punjab	226	0.03	4.18	0.02	8.89	73	32.00	2	1.00	2	1.00	105	46.00	37	16.00	5	2.00	77	34.00	147	65.00
26	Rajasthan	747	0.02	21.33	0.01	24.04	252	34.00	110	15.00	168	22.00	135	18.00	26	3.00	31	4.00	530	71.00	192	26.00
27	Tamil Nadu	371	0.05	14.00	0.04	7.61	144	39.00	91	25.00	77	21.00	43	12.00	7	2.00	6	2.00	312	84.00	56	15.00
28	Telangana	521	0.01	21.00	0.01	11.48	204	39.00	77	15.00	24	5.00	145	28.00	40	8.00	16	3.00	305	59.00	201	39.00
29	Tripura	16	0.08	5.75			12	75.00	3	19.00	1	6.00	0	0.00	0	0.00	0	0.00	16	100.00	0	0.00
30	Uttar Pradesh	792	0.01	11.58	0.01	11.57	367	46.00	127	16.00	13	2.00	261	33.00	13	2.00	7	1.00	507	64.00	281	35.00
31	Uttaranchal	29	0.22	5.57	0.55	1.68	15	52.00	9	31.00	1	3.00	4	14.00	0	0.00	0	0.00	25	86.00	4	14.00
32	West Bengal	851	0.04	16.45	0.05	13.35	385	45.00	242	28.00	142	17.00	65	8.00	8	1.00	7	1.00	769	90.00	80	9.00

State-wise Seasonal Fluctuation & Frequency Distribution of Different Ranges from November 2014 to Premonsoon 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
	Total	13363					5476	41.00	3258	24.00	1992	15.00	1920	14.00	324	2.00	196	1.00	10726	80.00	2440	18.00

197 monitoring wells (1%) show no change in Water Level.

Annexure – XI

State-wise Seasonal Fluctuation & Frequency Distribution of Different Ranges from January 2015 to Premonsoon 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andaman & Nicobar Islands	707	0.01	10.33	0.02	7.45	391	55.00	70	10.00	33	5.00	151	21.00	27	4.00	9	1.00	494	70.00	187	26.00
2	Andhra Pradesh	11	0.13	2.39	0.02	2.36	4	36.00	1	9.00	0	0.00	5	45.00	1	9.00	0	0.00	5	45.00	6	55.00
3	Arunachal Pradesh	125	0.01	3.98	0.00	17.90	86	69.00	9	7.00	0	0.00	25	20.00	3	2.00	2	2.00	95	76.00	30	24.00
4	Assam	435	0.05	11.42	0.02	3.72	269	62.00	95	22.00	19	4.00	45	10.00	7	2.00	0	0.00	383	88.00	52	12.00
5	Bihar	15	0.11	6.43	0.14	0.82	7	47.00	0	0.00	1	7.00	7	47.00	0	0.00	0	0.00	8	53.00	7	47.00
6	Chandigarh	469	0.01	13.00	0.04	10.87	256	55.00	72	15.00	41	9.00	70	15.00	15	3.00	4	1.00	369	79.00	89	19.00
7	Chhattisgarh	10	0.05	8.81	0.30	0.36	4	40.00	1	10.00	3	30.00	2	20.00	0	0.00	0	0.00	8	80.00	2	20.00
8	Dadra & Nagar Haveli	8	0.08	4.58	0.12	0.12	5	63.00	1	13.00	1	13.00	1	13.00	1	13.00	0	0.00	7	88.00	2	25.00
9	Daman & Diu	113	0.01	4.06	0.01	4.12	23	20.00	0	0.00	1	1.00	76	67.00	11	10.00	1	1.00	24	21.00	88	78.00
10	Delhi	39	0.01	3.54	0.02	2.68	21	54.00	8	21.00	0	0.00	8	21.00	2	5.00	0	0.00	29	74.00	10	26.00

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
11	Goa	738	0.01	19.45	0.01	14.00	276	37.00	123	17.00	83	11.00	146	20.00	57	8.00	36	5.00	482	65.00	239	32.00
12	Gujarat	85	0.02	3.16	0.02	3.02	36	42.00	1	1.00	0	0.00	45	53.00	3	4.00	0	0.00	37	44.00	48	56.00
13	Haryana	86	0.01	10.70	0.06	11.28	43	50.00	3	3.00	1	1.00	35	41.00	1	1.00	3	3.00	47	55.00	39	45.00
14	Himachal Pradesh	193	0.01	7.12	0.02	9.74	107	55.00	11	6.00	3	2.00	65	34.00	3	2.00	2	1.00	121	63.00	70	36.00
15	Jammu & Kashmir	202	0.03	10.43	0.02	3.55	111	55.00	46	23.00	8	4.00	31	15.00	6	3.00	0	0.00	165	82.00	37	18.00
16	Jharkhand	1373	0.01	18.10	0.01	13.02	570	42.00	265	19.00	187	14.00	200	15.00	33	2.00	25	2.00	1022	74.00	258	19.00
17	Karnataka	1092	0.01	10.96	0.01	9.16	662	61.00	128	12.00	28	3.00	232	21.00	29	3.00	8	1.00	818	75.00	269	25.00
18	Kerala	1290	0.02	23.55	0.01	18.68	519	40.00	230	18.00	131	10.00	252	20.00	72	6.00	60	5.00	880	68.00	384	30.00
19	Madhya Pradesh	1249	0.01	18.80	0.01	20.42	550	44.00	233	19.00	119	10.00	235	19.00	59	5.00	44	4.00	902	72.00	338	27.00
20	Maharashtra	10	0.20	1.59			10	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	10	100.00	0	0.00
21	Meghalaya	6	0.55	6.10	0.50	0.80	1	17.00	2	33.0	1	17.00	2	33.00	0	0.00	0	0.00	4	67.00	2	33.00

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
										0												
22	Nagaland	1255	0.01	7.98	0.01	5	854	68.00	231	18.00	25	2.00	122	10.00	11	1.00	2	0.00	1110	88.00	135	11.00
23	Orissa	4	1.22	4.57	0.08	1.80	1	25.00	0	0.00	1	25.00	2	50.00	0	0.00	0	0.00	2	50.00	2	50.00
24	Pondicherry	617	0.01	3.70	0.01	6.50	181	29.00	10	2.00	1	0.00	356	58.00	52	8.00	5	1.00	192	31.00	413	67.00
25	Punjab	718	0.02	18.57	0.02	12.32	243	34.00	106	15.00	124	17.00	164	23.00	40	6.00	36	5.00	473	66.00	240	33.00
26	Rajasthan	371	0.05	14.00	0.04	7.61	144	39.00	91	25.00	77	21.00	43	12.00	7	2.00	6	2.00	312	84.00	56	15.00
27	Tamil Nadu	522	0.02	18.05	0.01	15.20	178	34.00	29	6.00	16	3.00	182	35.00	77	15.00	30	6.00	223	43.00	289	55.00
28	Telangana	16	0.08	5.75			12	75.00	3	19.00	1	6.00	0	0.00	0	0.00	0	0.00	16	100.00	0	0.00
29	Tripura	633	0.01	6.48	0.02	7.80	336	53.00	48	8.00	3	0.00	231	36.00	8	1.00	4	1.00	387	61.00	243	38.00
30	Uttar Pradesh	29	0.22	5.57	0.55	1.68	15	52.00	9	31.00	1	3.00	4	14.00	0	0.00	0	0.00	25	86.00	4	14.00
31	Uttaranchal	851	0.04	16.45	0.05	13.35	385	45.00	242	28.00	142	17.00	65	8.00	8	1.00	7	1.00	769	90.00	80	9.00

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Total			
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m		Rise		Fall	
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
32	West Bengal	707	0.01	10.33	0.02	7.45	391	55.00	70	10.00	33	5.00	151	21.00	27	4.00	9	1.00	494	70.00	187	26.00
Total		**13272**					**6300**	**47.00**	**2068**	**16.0**	**1051**	**8.00**	**2802**	**21.00**	**533**	**4.00**	**284**	**2.00**	**9419**	**71.00**	**3619**	**27.00**

234 monitoring wells (2%) show no change in Water Level.

Annexure – XII

State-wise Decadal Water Level Fluctuation With Mean [Pre Monsoon(2004 to 2013)] and Pre Monsoon 2014

S.No.	Name of State	No. of wells analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		> 4 m		0-2 m		2-4 m		> 4 m					
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	566	0	9.95	0.01	12.77	269	47.5	60	10.6	16	2.8	177	31.3	33	5.8	9	1.6	345	61	219	39
2	Arunachal Pradesh	12	0.06	14.25	0.01	2	5	41.7	2	16.7	2	16.7	3	25.0	0	0.0	0	0.0	9	75	3	25
3	Assam	159	0.01	13.23	0.01	6.26	66	41.5	7	4.4	4	2.5	74	46.5	6	3.8	2	1.3	77	48	82	52
4	Bihar	351	0.01	4.99	0	4.71	194	55.3	20	5.7	4	1.1	116	33.0	12	3.4	1	0.3	218	62	129	37
5	Chandigarh	16	0.01	5.48	0.04	6.05	8	50.0	0	0.0	1	6.3	5	31.3	1	6.3	1	6.3	9	56	7	44
6	Chhattisgarh	552	0.01	17.37	0.02	13.51	233	42.2	59	10.7	24	4.3	168	30.4	32	5.8	23	4.2	316	57	223	40
7	Dadra & Nagar Haveli	5	0.02	1.41	0	0	5	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	100	0	0
8	Daman & Diu	12	0.02	1.74	0.51	9.53	4	33.3	0	0.0	0	0.0	5	41.7	2	16.7	1	8.3	4	33	8	67
9	Delhi	116	0.03	4.19	0.16	8.99	48	41.4	12	10.3	2	1.7	28	24.1	18	15.5	8	6.9	62	53	54	47
10	Goa	75	0.03	4.59	0.06	3.44	51	68.0	4	5.3	1	1.3	16	21.3	2	2.7	0	0.0	56	75	18	24
11	Gujarat	751	0.01	29.81	0	45.41	246	32.8	136	18.1	60	8.0	200	26.6	52	6.9	53	7.1	442	59	305	41

State-wise Decadal Water Level Fluctuation With Mean [Pre Monsoon(2004 to 2013)] and Pre Monsoon 2014

S.No.	Name of State	No. of wells analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		> 4 m		0-2 m		2-4 m		> 4 m					
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
12	**Haryana**	335	0.01	11.18	0.01	13.14	164	49.0	13	3.9	9	2.7	97	29.0	27	8.1	25	7.5	186	56	149	44
13	**Himachal Pradesh**	94	0.02	16.42	0.04	4.09	58	61.7	9	9.6	7	7.4	16	17.0	3	3.2	1	1.1	74	79	20	21
14	**Jammu & Kashmir**	227	0.03	12.42	0.01	6.54	140	61.7	19	8.4	6	2.6	59	26.0	1	0.4	1	0.4	165	73	61	27
15	**Jharkhand**	169	0.09	7.12	0.01	8.13	86	50.9	26	15.4	8	4.7	39	23.1	4	2.4	6	3.6	120	71	49	29
16	**Karnataka**	1167	0.01	16.44	0.01	16.12	472	40.4	132	11.3	70	6.0	308	26.4	101	8.7	62	5.3	674	58	471	40
17	**Kerala**	894	0.01	10.66	0.00	5.8	424	47.4	34	3.8	13	1.5	381	42.6	33	3.7	7	0.8	471	53	421	47
18	**Madhya Pradesh**	1154	0.01	21.97	0.01	18.66	486	42.1	246	21.3	185	16.0	170	14.7	46	4.0	18	1.6	917	79	234	20
19	**Maharashtra**	1224	0.01	16.97	0.01	12.7	543	44.4	229	18.7	115	9.4	245	20.0	52	4.2	35	2.9	887	72	332	27
20	**Meghalaya**	20	0.01	2.2	0.27	4.86	7	35.0	1	5.0	0	0.0	11	55.0	0	0.0	1	5.0	8	40	12	60
21	**Odhisha**	1110	0.01	9.12	0.01	6	564	50.8	97	8.7	23	2.1	377	34.0	33	3.0	2	0.2	684	62	412	37
22	**Pondicherry**	4	0.01	0.47	0.23	0.49	2	50.0	0	0.0	0	0.0	2	50.0	0	0.0	0	0.0	2	50	2	50

State-wise Decadal Water Level Fluctuation With Mean [Pre Monsoon(2004 to 2013)] and Pre Monsoon 2014

S.No.	Name of State	No. of wells analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		> 4 m		0-2 m		2-4 m		> 4 m					
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
23	**Punjab**	379	0.01	14.4	0.01	11.05	184	48.5	22	5.8	4	1.1	129	34.0	27	7.1	12	3.2	210	55	168	44
24	**Rajasthan**	847	0.01	20.98	0.02	29.41	228	26.9	106	12.5	90	10.6	183	21.6	91	10.7	132	15.6	424	50	406	48
25	**Tamil Nadu**	637	0.01	15.18	0.01	36.7	128	20.1	22	3.5	18	2.8	207	32.5	130	20.4	132	20.7	168	26	469	74
26	**Telangana**	467	0	18.94	0.02	12.87	200	42.8	90	19.3	72	15.4	78	16.7	14	3.0	12	2.6	362	78	104	22
27	**Tripura**	16	0.12	0.97	0.02	1.1	6	37.5	0	0.0	0	0.0	10	62.5	0	0.0	0	0.0	6	38	10	63
28	**Uttar Pradesh**	881	0.01	14.2	0.01	8.01	439	49.8	90	10.2	23	2.6	286	32.5	30	3.4	8	0.9	552	63	324	37
29	**Uttarakhand**	37	0.12	15.57	0.13	3.69	8	21.6	3	8.1	5	13.5	19	51.4	2	5.4	0	0.0	16	43	21	57
30	**West Bengal**	932	0	15.32	0.01	12.85	424	45.5	64	6.9	23	2.5	327	35.1	64	6.9	28	3.0	511	55	419	45
	TOTAL	**13209**					**5692**	**43.1**	**1503**	**11.4**	**785**	**5.9**	**3736**	**28.3**	**816**	**6.2**	**580**	**4.4**	**7980**	**60**	**5132**	**39**

97 monitoring wells (1%) show no change in Water Level.

Annexure – XIII

State-wise Decadal Water Level Fluctuation With Mean [August (2004 to 2013)] and August 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m					
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	371	0.01	19.83	0.01	18.26	137	36.9	20	5.4	6	1.6	138	37.2	51	13.7	19	5.1	163	44	208	56
2	Arunachal Pradesh	4	0.96	2.01			3	75.0	1	25.0	0	0.0	0	0.0	0	0.0	0	0.0	4	100	0	0
3	Assam	144	0.01	4.01	0.01	4.34	85	59.0	8	5.6	3	2.1	43	29.9	4	2.8	1	0.7	96	67	48	33
4	Bihar	367	0.01	6.95	0.01	4.75	184	50.1	32	8.7	10	2.7	125	34.1	12	3.3	2	0.5	226	62	139	38
5	Chandigarh	14	0	6.53	0.13	14.32	4	28.6	0	0.0	1	7.1	6	42.9	1	7.1	2	14.3	5	36	9	64
6	Chhattisgarh	580	0.01	8.95	0.01	13.84	301	51.9	35	6.0	14	2.4	205	35.3	19	3.3	6	1.0	350	60	230	40
7	Dadra & Nagar Haveli	6	0.36	1.38			6	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6	100	0	0
8	Delhi	118	0.04	3.14	0.02	10.32	29	24.6	3	2.5	0	0.0	43	36.4	27	22.9	16	13.6	32	27	86	73
9	Goa	75	0.02	2.62	0.05	5.62	40	53.3	2	2.7	0	0.0	28	37.3	4	5.3	1	1.3	42	56	33	44
10	Gujarat	589	0.01	10.78	0	37.69	206	35.0	63	10.7	42	7.1	176	29.9	59	10.0	43	7.3	311	53	278	47

State-wise Decadal Water Level Fluctuation With Mean [August (2004 to 2013)] and August 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m					
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
11	Haryana	109	0.08	7.28	0.03	10.22	32	29.4	3	2.8	3	2.8	48	44.0	17	15.6	6	5.5	38	35	71	65
12	Himachal Pradesh	97	0.02	12.54	0	5.47	30	30.9	3	3.1	5	5.2	51	52.6	7	7.2	1	1.0	38	39	59	61
13	Jammu & Kashmir	227	0.02	2.53	0.02	7.21	39	17.2	3	1.3	0	0.0	163	71.8	17	7.5	4	1.8	42	19	184	81
14	Jharkhand	167	0	5.73	0.01	3.57	94	56.3	21	12.6	4	2.4	39	23.4	9	5.4	0	0.0	119	71	48	29
15	Karnataka	1192	0	11.42	0.01	18.03	410	34.4	80	6.7	30	2.5	473	39.7	112	9.4	70	5.9	520	44	655	55
16	Kerala	865	0.01	9.16	0.01	5.41	527	60.9	77	8.9	19	2.2	216	25.0	21	2.4	3	0.3	623	72	240	28
17	Madhya Pradesh	1169	0.01	20.11	0	19.16	398	34.0	122	10.4	50	4.3	424	36.3	101	8.6	68	5.8	570	49	593	51
18	Maharashtra	1329	0.01	18.65	0.01	18.5	443	33.3	105	7.9	47	3.5	442	33.3	169	12.7	117	8.8	595	45	728	55
19	Meghalaya	5	0.34	0.39	0.66	1.01	2	40.0	0	0.0	0	0.0	3	60.0	0	0.0	0	0.0	2	40	3	60
20	Odhisha	1150	0.01	5.12	0.01	3.39	677	58.9	76	6.6	5	0.4	370	32.2	13	1.1	0	0.0	758	66	383	33

State-wise Decadal Water Level Fluctuation With Mean [August (2004 to 2013)] and August 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m					
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
21	Pondicherry	7	0.07	0.83	0.1	0.26	4	57.1	0	0.0	0	0.0	3	42.9	0	0.0	0	0.0	4	57	3	43
22	Punjab	206	0.06	3.37	0.02	9.95	42	20.4	9	4.4	1	0.5	109	52.9	21	10.2	24	11.7	52	25	154	75
23	Rajasthan	885	0.01	31.7	0.01	34.55	248	28.0	113	12.8	113	12.8	174	19.7	90	10.2	142	16.0	474	54	406	46
24	Tamil Nadu	577	0.01	11.37	0.01	2842	123	21.3	32	5.5	16	2.8	212	36.7	106	18.4	87	15.1	171	30	405	70
25	Telangana	491	0.01	26.43	0.01	22.61	119	24.2	41	8.4	21	4.3	163	33.2	86	17.5	59	12.0	181	37	308	63
26	Tripura	28	0.01	3.5	0.01	1.09	19	67.9	1	3.6	0	0.0	7	25.0	0	0.0	0	0.0	20	71	7	25
27	Uttar Pradesh	827	0.01	10.49	0.01	10.82	261	31.6	41	5.0	12	1.5	406	49.1	93	11.2	14	1.7	314	38	513	62
28	Uttarakhand	44	0.07	3.73	0.14	10.15	9	20.5	2	4.5	0	0.0	20	45.5	9	20.5	4	9.1	11	25	33	75
29	West Bengal	956	0.01	15.1	0.01	19.87	390	40.8	52	5.4	23	2.4	351	36.7	82	8.6	57	6.0	465	49	490	51

State-wise Decadal Water Level Fluctuation With Mean [August (2004 to 2013)] and August 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m		0-2 m		2-4 m		>4 m					
			Min	Max	Min	Max	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
	TOTAL	12599					4862	38.6	945	7.5	425	3.4	4438	35.2	1130	9.0	746	5.9	6232	49	6314	50

53 monitoring wells (1%) show no change in Water Level.

Annexure – XIV

State-wise Decadal Water Level Fluctuation With Mean [Nov (2004 to 2013)] and Nov 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m				2-4 m		>4 m					
			Min	Max	Min	Max	No	No	%	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	618	0	4.2	0	15.52	172	27.8	10	1.6	2	0.3	294	47.6	87	14.1	51	8.3	184	30	432	70
2	Arunachal Pradesh	12	0.07	1.15	0	0.66	9	75.0	0	0.0	0	0.0	2	16.7	0	0.0	0	0.0	9	75	2	17
3	Assam	171	0	3.67	0	1.8	70	40.9	3	1.8	0	0.0	98	57.3	0	0.0	0	0.0	73	43	98	57
4	Bihar	379	0.01	5.99	0.01	6.48	193	50.9	17	4.5	6	1.6	144	38.0	17	4.5	2	0.5	216	57	163	43
5	Chandigarh	14	2.47	2.47	0.12	3.51	0	0.0	1	7.1	0	0.0	12	85.7	1	7.1	0	0.0	1	7	13	93
6	Chhattisgarh	613	0	17.36	0.01	10.28	334	54.5	43	7.0	16	2.6	190	31.0	20	3.3	8	1.3	393	64	218	36
7	Dadra & Nagar Haveli	6			0.41	4.06	0	0.0	0	0.0	0	0.0	5	83.3	0	0.0	1	16.7	0	0	6	100
8	Daman & Diu	8	0.21	0.87	0.44	2.71	2	25.0	0	0.0	0	0.0	4	50.0	2	25.0	0	0.0	2	25	6	75
9	Delhi	116	0.11	3.13	0.03	9.82	20	17.2	1	0.9	0	0.0	57	49.1	21	18.1	17	14.7	21	18	95	82
10	Goa	44	0.07	9.63	0	1.1	30	68.2	3	6.8	2	4.5	9	20.5	0	0.0	0	0.0	35	80	9	20

State-wise Decadal Water Level Fluctuation With Mean [Nov (2004 to 2013)] and Nov 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m				2-4 m		>4 m					
			Min	Max	Min	Max	No	No	%	%	No	%	No	%	No	%	No	%	No	%	No	%
11	Gujarat	754	0	12.44	0	17.68	278	36.9	77	10.2	41	5.4	249	33.0	55	7.3	53	7.0	396	53	357	47
12	Haryana	334	0.01	9.76	0.01	23.92	94	28.1	9	2.7	9	2.7	142	42.5	44	13.2	36	10.8	112	34	222	66
13	Himachal Pradesh	87	0.01	8.9	0.01	3.61	33	37.9	0	0.0	4	4.6	42	48.3	8	9.2	0	0.0	37	43	50	57
14	Jammu & Kashmir	222	0.01	4.96	0	2.97	136	61.3	10	4.5	2	0.9	71	32.0	3	1.4	0	0.0	148	67	74	33
15	Jharkhand	233	0	2.96	0.03	5.44	65	27.9	9	3.9	0	0.0	127	54.5	28	12.0	3	1.3	74	32	158	68
16	Karnataka	1212	0	10.58	0	19.91	581	47.9	96	7.9	50	4.1	354	29.2	76	6.3	48	4.0	727	60	478	39
17	Kerala	952	0	7.5	0.01	29.71	382	40.1	19	2.0	8	0.8	508	53.4	27	2.8	6	0.6	409	43	541	57
18	Madhya Pradesh	1220	0.01	9.64	0	32.89	404	33.1	84	6.9	27	2.2	471	38.6	140	11.5	93	7.6	515	42	704	58
19	Maharashtra	1379	0	15.98	0.01	17	415	30.1	76	5.5	33	2.4	611	44.3	145	10.5	96	7.0	524	38	852	62
20	Meghalaya	14	0.02	1.11	0.08	2.22	7	50.0	0	0.0	0	0.0	5	35.7	2	14.3	0	0.0	7	50	7	50
21	Odhisha	1138	0	4.93	0	5.4	494	43.4	36	3.2	3	0.3	561	49.3	33	2.9	1	0.1	533	47	595	52

State-wise Decadal Water Level Fluctuation With Mean [Nov (2004 to 2013)] and Nov 2014

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m				2-4 m		>4 m					
			Min	Max	Min	Max	No	No	%	%	No	%	No	%	No	%	No	%	No	%	No	%
22	Pondicherry	4	0.84	3.52	1.13	2.33	1	25.0	1	25.0	0	0.0	1	25.0	1	25.0	0	0.0	2	50	2	50
23	Punjab	234	0.01	3.87	0.01	9.67	64	27.4	7	3.0	0	0.0	106	45.3	28	12.0	28	12.0	71	30	162	69
24	Rajasthan	843	0	68.34	0	49.59	273	32.4	120	14.2	94	11.2	158	18.7	67	7.9	131	15.5	487	58	356	42
25	Tamil Nadu	445	0	17.03	0.01	41.89	134	30.1	25	5.6	15	3.4	163	36.6	55	12.4	53	11.9	174	39	271	61
26	Telangana	498	0.01	11.7	0.01	14.8	81	16.3	14	2.8	4	0.8	196	39.4	111	22.3	92	18.5	99	20	399	80
27	Tripura	27	0.12	1.2	0	1.84	11	40.7	0	0.0	0	0.0	16	59.3	0	0.0	0	0.0	11	41	16	59
28	Uttar Pradesh	803	0	5.76	0.01	9.93	247	30.8	21	2.6	5	0.6	432	53.8	77	9.6	21	2.6	273	34	530	66
28	Uttarakhand	43	0.04	3.85	0.01	4.64	9	20.9	2	4.7	0	0.0	26	60.5	4	9.3	2	4.7	11	26	32	74
30	West Bengal	927	0.01	12.66	0.01	26.55	219	23.6	26	2.8	6	0.6	507	54.7	81	8.7	87	9.4	251	27	675	73
	Total	**13350**					**4758**	**35.6**	**710**	**5.3**	**327**	**2.4**	**5561**	**41.7**	**1133**	**8.5**	**829**	**6.2**	**5795**	**43**	**7523**	**56**

32 monitoring wells (1%) show no change in Water Level.

Annexure – XV

State-wise Decadal Water Level Fluctuation With Mean [Jan (2005 to 2014)] and Jan 2015

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m				2-4 m		>4 m					
			Min	Max	Min	Max	No	No	%	%	No	%	No	%	No	%	No	%	No	%	No	%
1	Andhra Pradesh	738	0.01	9.08	0.01	13.24	246	33.3	20	2.7	7	0.9	323	43.8	83	11.2	57	7.7	273	37	463	63
2	Arunachal Pradesh	13	0.02	1.5	0.05	0.33	10	76.9	0	0.0	0	0.0	3	23.1	0	0.0	0	0.0	10	77	3	23
3	Assam	185	0	5.69	0.01	8.44	81	43.8	3	1.6	2	1.1	91	49.2	6	3.2	2	1.1	86	46	99	54
4	Bihar	456	0.01	5.67	0.02	3.18	261	57.2	19	4.2	8	1.8	153	33.6	12	2.6	0	0.0	288	63	165	36
5	Chandigarh	15	0.05	6.25	0.15	6.1	3	20.0	2	13.3	1	6.7	6	40.0	2	13.3	1	6.7	6	40	9	60
6	Chhattisgarh	609	0.01	9.34	0	9.18	169	27.8	24	3.9	11	1.8	289	47.5	79	13.0	35	5.7	204	33	403	66
7	Dadra & Nagar Haveli	6	0.16	0.16	0.17	1.24	1	16.7	0	0.0	0	0.0	5	83.3	0	0.0	0	0.0	1	17	5	83
8	Daman & Diu	8	0.27	0.94	0.45	1.88	5	62.5	0	0.0	0	0.0	3	37.5	0	0.0	0	0.0	5	63	3	38
9	Delhi	118	0.05	10.18	0.1	9.07	29	24.6	3	2.5	3	2.5	45	38.1	22	18.6	16	13.6	35	30	83	70
10	Goa	37	0.01	2.02	0.06	1.69	25	67.6	2	5.4	0	0.0	10	27.0	0	0.0	0	0.0	27	73	10	27

State-wise Decadal Water Level Fluctuation With Mean [Jan (2005 to 2014)] and Jan 2015

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m				2-4 m		>4 m					
			Min	Max	Min	Max	No	No	%	%	No	%	No	%	No	%	No	%	No	%	No	%
11	Gujarat	755	0.01	10.18	0.01	19.34	250	33.1	47	6.2	30	4.0	259	34.3	89	11.8	80	10.6	327	43	428	57
12	Haryana	94	0.05	4.81	0.01	6.52	34	36.2	4	4.3	2	2.1	32	34.0	17	18.1	5	5.3	40	43	54	57
13	Himachal Pradesh	80	0.01	10.41	0.01	3.9	30	37.5	4	5.0	4	5.0	38	47.5	4	5.0	0	0.0	38	48	42	53
14	Jammu & Kashmir	186	0.01	4.04	0.01	10.53	88	47.3	6	3.2	1	0.5	84	45.2	2	1.1	3	1.6	95	51	89	48
15	Jharkhand	219	0.03	3.84	0.01	4.6	71	32.4	9	4.1	0	0.0	118	53.9	17	7.8	2	0.9	80	37	137	63
16	Karnataka	1321	0	16.83	0.01	19.95	634	48.0	104	7.9	50	3.8	392	29.7	82	6.2	50	3.8	788	60	524	40
17	Kerala	1079	0.01	9.63	0.01	27.06	515	47.7	26	2.4	5	0.5	476	44.1	28	2.6	11	1.0	546	51	515	48
18	Madhya Pradesh	1247	0	22.68	0.01	29.46	526	42.2	134	10.7	58	4.7	387	31.0	92	7.4	45	3.6	718	58	524	42
19	Maharashtra	1398	0	17.31	0.01	28.46	600	42.9	85	6.1	45	3.2	463	33.1	124	8.9	75	5.4	730	52	662	47
20	Meghalaya	15	0.36	0.67	0.04	1.93	6	40.0	0	0.0	0	0.0	9	60.0	0	0.0	0	0.0	6	40	9	60
21	Odhisha	1240	0.01	5.78	0.01	3.83	581	46.9	70	5.6	5	0.4	547	44.1	29	2.3	0	0.0	656	53	576	46

State-wise Decadal Water Level Fluctuation With Mean [Jan (2005 to 2014)] and Jan 2015

S. No.	Name of State	No. of wells Analysed	Range in m				Rise						Fall						Rise		Fall	
			Rise		Fall		0-2 m		2-4 m		>4 m				2-4 m		>4 m					
			Min	Max	Min	Max	No	No	%	%	No	%	No	%	No	%	No	%	No	%	No	%
22	Pondicherry	6	0.1	0.12	0.28	1.57	2	33.3	0	0.0	0	0.0	4	66.7	0	0.0	0	0.0	2	33	4	67
23	Punjab	476	0.01	5.6	0.01	10.57	101	21.2	14	2.9	4	0.8	261	54.8	64	13.4	29	6.1	119	25	354	74
24	Rajasthan	815	0.01	30.54	0	24.53	273	33.5	112	13.7	84	10.3	157	19.3	73	9.0	116	14.2	469	58	346	42
25	Tamil Nadu	590	0	17.84	0	35.47	150	25.4	33	5.6	15	2.5	221	37.5	86	14.6	85	14.4	198	34	392	66
26	Telangana	533	0.01	21.44	0	16.1	106	19.9	17	3.2	6	1.1	206	38.6	108	20.3	88	16.5	129	24	402	75
27	Tripura	27	0.07	2.12	0.03	1.16	12	44.4	1	3.7	0	0.0	14	51.9	0	0.0	0	0.0	13	48	14	52
28	Uttar Pradesh	630	0.01	5.91	0.01	9	205	32.5	11	1.7	4	0.6	361	57.3	42	6.7	7	1.1	220	35	410	65
28	Uttarakhand	46	0.02	2.06	0.01	7.55	16	34.8	1	2.2	0	0.0	25	54.3	3	6.5	1	2.2	17	37	29	63
30	West Bengal	920	0	15.48	0.01	17.39	214	23.3	24	2.6	17	1.8	481	52.3	105	11.4	78	8.5	255	28	664	72
	Total	**13862**					**5244**	**37.8**	**775**	**5.6**	**362**	**2.6**	**5463**	**39.4**	**1169**	**8.4**	**786**	**5.7**	**6381**	**46**	**7418**	**54**

63 monitoring wells (1%) show no change in Water Level.