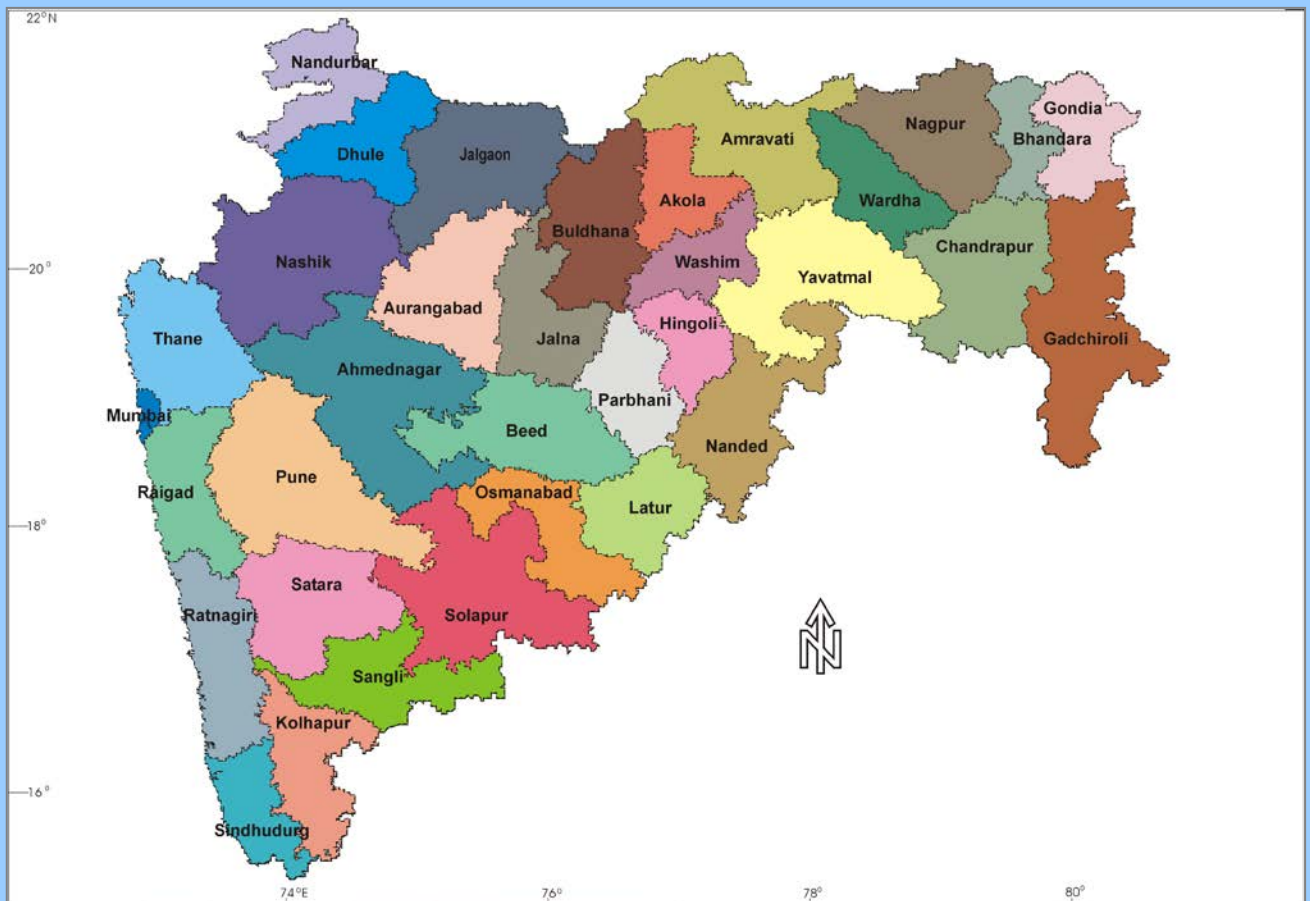




REPORT ON THE DYNAMIC GROUND WATER RESOURCES OF MAHARASHTRA (2008-2009)



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&
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March 2011



DYNAMIC GROUND WATER RESOURCES OF MAHARASHTRA
(2008-2009)

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FOREWORD

An overwhelming population of rural Maharashtra and to some extent urban population is dependent on groundwater for drinking purposes. Earlier, the use of groundwater was insignificant in the State. Subsequent to 1972, the occurrence of frequent droughts, limitations of the availability of surface water, development of low cost drilling device, availability of relatively low cost institutional finance, and energization have all led to proliferation of irrigation wells. Maharashtra is one of the most well endowed States in the country in respect of rainfall, but it may soon become a State where large parts of it face perennial water shortage, if urgent institutional, policy and technological initiatives are not taken to address both the quantity and the quality issues of groundwater. A serious concern about increasing water scarcity is being expressed by experts and several agencies dealing with water. Most of the discussions at National and State level as well as local level are centred on demand-side projections and supply- side shortfalls and estimates for large scale investments for resource development. Considering the limitations on the availability of financial resources with the government, private sector investment is pointed out as an answer alongside with policy changes to facilitate this. However, the fact is that good governance and better management practices and partnership with the community can bring better and sustainable benefits. Efforts need to be taken to empower local communities to manage their own water resources and rebuild a new relationship with water in society.

Groundwater is a natural resource with both ecological and economic value and is of vital importance for sustaining life, health and integrity of ecosystems. This resource is however the increasingly threatened by over-abstraction which has insidious long-term effects. Scarcity and misuse of groundwater pose a serious and growing threat to sustainable development and livelihood.

The availability of groundwater is extremely uneven, both in space, time and depth and so will be the case in future. The uneven distribution of groundwater in the State can be mainly attributed to highly heterogeneous lithology and variability and regional variation of rainfall.

Large areas of Maharashtra are occupied by hard rocks and because of variations in their basic characteristics, physiography and variability in the rainfall, there are limitations on the availability of groundwater. Though there is unanimity about this, there is still considerable difference of opinion among the scientists about the precise degree of these limitations. In order to assess the availability of groundwater and to ensure maximum accuracy in groundwater

estimates, the Central Government has, from time to time, appointed committees comprising groundwater experts and has laid down guidelines for this purpose. Estimates of groundwater in Maharashtra are being revised from time to time on the basis of these guidelines. The total demand for water from the groundwater domain is increasing day by day. The main reason for this is the self reliance being experienced by users of groundwater. But as this is leading to inexorable withdrawal, and as the status regarding total availability of groundwater is of uncertain nature, it is imperative to give more serious thought and a new direction to groundwater planning.

While first major but adhoc attempt of estimating groundwater resource estimation was made in 1973, the first scientific groundwater resource assessment of Maharashtra was made during 1979 on the basis of Overexploitation Committee Report. Since then various committees constituted by Government of India and Government of Maharashtra to estimate the groundwater resources have made the attempts from time to time. After due consideration of the limitations in the earlier methodologies, the Groundwater Estimation Committee (GoI), during 1997, proposed the revised methodology known as GEC 97. Little modifications have been suggested in this methodology by the R & D Advisory Committee of GoI.

Based on these GEC 97 guidelines & subsequent modifications by the R & D Advisory Committee, GoI, the State has completed the exercise of Groundwater Resource Estimation of Maharashtra for 2007-08 and published the report in November 2009. Now as per the GoI protocol and guidelines issued on 5th January 2010 and subsequently on 22nd July 2010, the exercise of estimating the Groundwater Resources of Maharashtra as on 2008-09 has been completed. As per this report, the total rechargeable groundwater resource in the State is computed as 35,73,220 Hectare Metre (Ham) or (35.73 BCM) and the Net ground water availability is 33,80646 Hectare Metre (Ham) or (33.81 BCM). Out of these, 17.00 Ham is withdrawn for different uses viz irrigation, domestic and industry etc, 1,90,332 Ham or 1.90BCM is earmarked for domestic and industrial requirement and the remaining is available for future irrigation. Compared to 2004 the groundwater use has increased by 1.91BCM (i.e. from 15.09 to 17.00 BCM).

A note of caution is required to be placed on record, regarding the situation that may emerge from the statement in the preceding paragraph i.e. after subtracting the present groundwater draft of 17.00 BCM it looks that there is still a balance of 16.91BCM. The present irrigation draft is to the tune of 15.95BCM, leaving behind a fairly good groundwater balance. Unfortunately a major part of these balances exists in the areas where development is not required either for irrigation or for drinking and/or is in areas, which are not favorable for

development. In the 2007-08 Groundwater Assessment report it was observed that 1,91,396 irrigation borewells with pump sets were accounted for the draft calculations. Around 50% of the districts have received authentic irrigation borewell data. It is a well-known fact that large numbers of irrigation borewells/tubewells are the main source of irrigation across the State and a large number of these are not even on record for electricity connections. If actual draft from those borewells/tubewells had been accounted for then the balance position would have certainly emerged as alarming, and this is a ground reality.

The precision of groundwater resource estimation is mainly dependent on the quality of the basic data. This assessment is carried out with the help of the secondary data. Despite the limitations of the secondary data, GSDA has taken pain taking efforts and has tried to collect more accurate well census data. The data have been cross verified with the electric connections given by Maharashtra State Electricity Distribution Company for well irrigation. This is followed by actual field confirmation by GSDA. Unfortunately even after rigorous pursuance the latest well census (IVth) data is not made available.

The Groundwater Estimation has been carried out for 33 districts excepting Mumbai and Mumbai Suburb Districts. The notified 1505 watersheds have been bifurcated into 1531 watershed units based on newly formed districts. On the basis of the present Groundwater Resource Assessment, out of the total 1531 watersheds, 73 watersheds are categorised as Overexploited i.e. the groundwater development is more than 100% of the recharge and the water table during either Post or Pre monsoon interval or both shows declining trend. 3 watersheds are categorized as Critical where groundwater development is in between 90 to 100% of the recharge and where water table, either Post or Pre monsoon interval or both, shows significant declining trend and 119 watersheds are categorised as Semi-Critical where groundwater development is between 70 and 90% of the recharge and where water table, either Pre or Post monsoon interval, shows declining trend.

Out of the total 353 tahsils, 9 tahsils are categorized as Overexploited, Itashil is categorized as Critical and 19 tahasils are categorized as Semi-Critical. Out of 19 semi-critical tahsils, in 6 tahsils the exploitation is more than 95% i.e. they are on the verge of transformation into the Over-exploited category. It is revealed from the data that the areas which have emerged as overexploited, critical or semi-critical are predominantly the DPAP areas, where there is highest percentage of water intensive commercial crops as well as low rainfall.

Groundwater is one amongst the State's most important natural resources. It provides drinking water to rural as well as urban community, supports irrigation and industry, sustains the flow of streams and rivers and maintains wetland

ecosystem. There is significant freshwater deficit in many areas of the State. Human health, welfare and food security are at risk unless the groundwater resources are managed more effectively and efficiently by the community. It is necessary to note that over abstraction of ground water over years without any compensatory replenishment is affecting large tracts of land adversely. The non-replenishment of the shallow aquifers and depletion of the deeper aquifers on account of unregulated sinking of deep borewells/tubewells, almost amounting to “water-mining” unmindful of the adverse ecological effects is one of the contributory causes for recurring droughts. Concerted action, therefore, is needed to reverse the present trend of periodic occurrence of droughts.

Taking into consideration variation of rainfall in Maharashtra, which is the most influential factor in the dynamic groundwater estimation, it will be imperative henceforth to estimate freshly the groundwater resources every year. For this, it is necessary to make the method prescribed by the Central Committee much easier to operate and to publish in November every year the groundwater storage created in each watershed so as to apprise the community about the status of irrigation and drinking water. It would also be necessary to plan and control the use of groundwater under the prevailing conditions. Publication and distribution of annual reports and related programmes for creating awareness amongst the community and for educating them will have to be undertaken regularly. This will enable avoiding scarcity, as well as the hectic activity and excessive expenditure that is characteristic of summer. It is necessary to formulate and adopt a long-term policy to protect groundwater by preventing pollution and overuse. This policy should be comprehensive and implemented at all appropriate levels. It should be consistent with other water management policies and be duly taken into account in other sectoral policies. Priority is to be given for demand management measures supported by artificial groundwater recharge in all the over developed (over-exploited/critical/semi-critical) watersheds. Similarly the convergence of the GoI and GoM schemes of watershed development or artificial groundwater recharge need to be promoted in these areas.

Unlike the land resource, groundwater is a dynamic resource. The groundwater flow cannot be measured like the flow through canals or pipe lines. The groundwater flows downward and spreads according to natural gradient and the permeability of the formations. Therefore, management of groundwater in fact, involves management of a dynamic, immeasurable and uncontrollable entity. While managing the groundwater resource, it is necessary to consider it to be a common property resource and is required to be controlled appropriately with the assistance of the community. Concepts like Village level Watershed Water Account,

Village level Water Safety and Security, Basin/ Sub-basin Water Auditing, Aquifer delineation and its management etc will have to be popularized and made a basis for equitable distribution of ground water.

This Groundwater Assessment is very much useful to the planners, policy makers, farmers and other stakeholders etc. More weightage has to be given for meticulous implementation of Maharashtra Groundwater (Regulation for Drinking Water Purpose) Act, 1993 especially in Over-exploited and Critical watersheds. An appropriate policy is required to be adopted along with the regulatory measures, till these areas become safe. The assessment will be beneficial in drought management. Legal provisions specific to peculiarities of groundwater management will have to be formulated and promulgated. Legislation may contain provisions for its effective implementation including the mandate, competence and power of the relevant authorities in accordance with the principles of State Water Policy. It is high time that the Community's right to control groundwater abstraction and use as well as all activities with potential impact, both on the quantity and quality of groundwater resources may be established by legislation.



(Manoj Shaunkar)

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PREFACE

Central Ground Water Board (CGWB), Ministry of Water Resources (MoWR), Government of India (GoI) in association with the respective State Ground Water Departments has been periodically assessing ground water resources of all the States and Union Territories of the country over the last three decades based on the norms recommended by the Government of India. The precise and reliable estimation of ground water is necessary for its optimal and sustainable development. The methodology and norms for the assessment of ground water have been periodically revised through various National Level committees constituted from time to time. To name a few, the Ground Water Over Exploitation Committee-1979, Ground Water Estimation Committee-1984 and Ground Water Estimation Committee-1997 (GEC-1997).

Based on GEC-1997 guidelines, the last assessment of state-wise annual replenishable ground water resources for the entire country was made in the year 2004. Since then changes in ground water scenario have been observed in many parts of the country. Taking this fact into account and recommendations of National Water Policy-2002, the Govt. of India has directed all the State Governments to re-estimate ground water resources for the base year 2008-09 and accordingly the Joint Secretary, MoWR, GoI has addressed a D.O. letter to all the Chief Secretaries/ Administrators regarding reassessment of ground water resources of the entire country as on 2008-09 including UTs. A uniform protocol and steps for ground water resources assessment to be followed during re-assessment of dynamic ground water resources of India, 2008-09 was circulated in order to bring in uniformity in the exercise, to keep track of the progress of the exercise, better storage, management and documentation of database, easy identification of datasets which require further strengthening. The Protocol broadly suggests i) Constitution & formation of State Level Committee, ii) setting up of groundwater resources assessment cell, iii) Identification of data gaps, iv) qualitative assessment of the status of ground water regime in the assessment unit etc. The MoWR has desired that this exercise be carried out jointly by CGWB and concerned State Ground Water Department and also requested to complete the above exercise positively by September 2010 as it has fixed up the publication of National Level Report by March 2011.

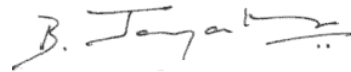
As per the above protocol and directives of GOI the Water Supply and Sanitation Department, Government of Maharashtra constituted State Level Committee vide its Government Resolution dated 8th July 2010. The State Ground Water Resources

Assessment Cell has been set up in the Groundwater Survey and Development Agency (GSDA), Government of Maharashtra in May 2010.

The GSDA, Pune in association with the CGWB, Central Region, Nagpur has followed the protocol and completed the assessment for the base year 2008-2009. At the outset, the three basic parameters viz., water level, specific yield and unit draft have been reconciled. The data gaps prior to estimation have been identified and the validation checks for the above parameters were also carried out. This was followed by the preliminary evaluation of status of ground water regime in the assessment units and application of various estimation norms and guidelines based on GEC-97 Methodology for completion and finalization of ground water assessment. Upon completion of ground water estimation exercises, field validations were also carried out based on sample survey.

The Ground Water Resource Estimation of Maharashtra for the year 2008-09 jointly carried out by GSDA and CGWB was placed in the meeting of the State Level Committee convened on 27th September 2010 at Mantralaya, Mumbai for finalization. The Committee under the Chairmanship of Principal Secretary to Govt. of Maharashtra, Water Supply and Sanitation Department, Mantralaya, Mumbai has approved the resource estimation, which is presented in this report.

30/11/2010
Nagpur



(B. Jaya Kumar)
Regional Director

**GROUND WATER RESOURCE ESTIMATION
IN THE STATE OF MAHARASHTRA
(2008-2009)**

धर्म्यं यशस्यं च तदाभक्तोहं दकार्गलं येन जलोपलब्धिः |
पुंसां यथाग्डेषु शिरास्तथैव क्षितावपि प्रोन्नतनिम्नसंस्था
एकेन वर्णेन रसेन चाम्मश्च्युतं नभस्ता वसुधाविशेषात् |
नाना रसत्वं बहुवर्णतां च गतं परीक्ष्यं क्षितितुल्यमेव || Vr.S.55.1-2 ||

The water veins beneath the earth are like vein's in the human body, some higher and some lower. The water falling from sky assumes various colures and tastes from differences in the nature of the earth.

These slokas imply that the infiltration of rainwater through the veins into earth surface is the source of groundwater. (Slokas 1 & 2 of *Dakargelam* - Chapter 54 of *Vraht Samhita*)

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CONTRIBUTION

Chapter 1

Introduction

Groundwater resource assessment is the determination of the source, extent, dependability and quality of groundwater resources, on which the evaluation of the possibilities of the utilisation and control depends. Estimation of groundwater is also important for the construction and the maintenance of the State's water supply infrastructure, especially those that are dependent on groundwater. This report provides an overview of the groundwater resources of Maharashtra for a vast range of activities like agricultural, domestic and industrial water supply. It will form the basis for understanding the existing and planning the future use of groundwater and to decide the management options on a holistic basis. These data also provides inputs that would be used to understand the dynamics of the various sector wise demands and ensure sustainability for different water sector activities.

The near approach accuracy in groundwater resource assessment will help the policy makers in determining the extent and nature of:

- Co-ordinating and integrating mechanisms, now, required in the field of water sector.
- Regulations and new legislation, and
- Strategies and policies that deal with the priority of uses and conflict resolution mechanism (through mutually beneficial bargaining- basin/sub-basin water partnerships).

In short, groundwater resources assessment is a prerequisite for sustainable development of States natural resources.

The present availability and requirement of water in the State of Maharashtra is extremely uneven, both spatially and temporally and so will be case in the future. Rapid population growth and intensive anthropogenic activities have put both surface and groundwater under heavy stress, and significantly fresh water is becoming scarce and dearer in many areas. It is believed that in the coming decades most of the Earth's population will face a critical situation with regard to the availability of water. The water deficiency will become a factor affecting the living standards of populations adversely. To understand more about the water resource deficit that will face us in the future it is very important to analyse the present situation and understand rate of change in specific water resource availability in relation to socio-economic, geohydrologic and physiographic conditions.

In the State of Maharashtra, groundwater is an essential component for many water strategies and systems. It is therefore essential that the groundwater resource estimation is

accurate so as to prepare strategies for the long-term management of this precious resource and for ensuring the long-term safety and well being of all the sections of the society.

Groundwater resource estimation is mainly dependent on the quality of the data. Many a times because of the lack of good quality data the resource assessment misleads the planners, administrators and technocrats in formulating various developmental activities. Even today, the situation is no better. Systematic information on groundwater withdrawal by various sectors, especially irrigation and industry, through different groundwater structures is unavailable. Even with sincere efforts made by the Groundwater Surveys and Development Agency, it was not possible to obtain the required data, especially the well census data.

The State of Maharashtra is covered mostly by highly heterogeneous and structurally complicated rock formations, wherein it is very difficult to generalise any methodology or guidelines on hydrogeological aspects. In Deccan Trap there is no well-defined, uniformly distributed, homogeneous aquifer system. Even during the process of recharge the surface water in the given area does not uniformly replenish the subsurface. For assessing the groundwater resources on a regular basis it is necessary to determine certain hydrogeological factors, which define the groundwater regime. This includes precipitation, storativity of the bedrock, aquifer characteristics, water quality and the overall environment.

1.1 Background

In the State of Maharashtra Groundwater has emerged as an important source to meet the water requirements of various sectors. Demands for groundwater resources are ever increasing and competition amongst users has intensified. The sustainable development of groundwater requires precise quantitative assessment based on reasonably valid scientific principles. The occurrence, movement and storage of groundwater are quite complex, being governed by several factors like meteorology, geomorphology, geology, hydrogeology, and above all the human activities. All these factors make the precise assessment of groundwater very difficult and there is no direct technique available for precise assessment. Hence the methods applied for groundwater resource estimation are all indirect. There are several techniques and methodologies *in vogue* for estimation of groundwater resources. Quantification of groundwater resources is often critical and no single comprehensive technique is yet identified which is capable of estimating accurate groundwater potential. Since groundwater is a dynamic and replenishable resource, its proper and economic development on a sustainable basis, requires its realistic assessment. The estimation must be seen as an interactive procedure. Initial estimation are revised and refined by comparing these results with the results obtained by adopting alternative methods and third party studies.

1.2 Constitution of Committee for Maharashtra

The groundwater estimates for the State of Maharashtra have been computed by the Ground Water Survey and Development Agency in collaboration with the Regional Director, Central Ground Water Board, Nagpur based on the guidelines given by the Groundwater Estimation Committee (GEC-1997) constituted by Ministry of Water Resources, GoI, New Delhi *vide* Resolution No. 3/9/93-GW (II) 2332, dated 13.11.1995. In addition, the present exercise on groundwater assessment as on 2008-09 is also done in accordance with the protocol and steps issued by Ministry of Water Resources, GoI, *vide* D.O.No. 3/16/2008-GW dated 5th Jan 2010 and Central Ground Water Board, New Delhi Letter No. 3-11/RES/CGWB/M(SAM)/2010-1419 dated 22nd July 2010.

As desired in the protocol a State Level Committee has been constituted, *vide* Government Resolution, No. APANA 1010/CR150/WS15 dated 8th July 2010, as per the advice by Government of India. The copy of the Government Resolution is enclosed as *Annexure I*. The Committee comprises of the following members:

- Principal Secretary, Water Supply & Sanitation Department, GoM - Chairman
- Chief Engineer and Joint Secretary, Water Resources Department, GoM - Member
- Chief Engineer, Minor Irrigation Local Sector, Pune - Member
- Director, Groundwater Surveys & Development Agency, Pune - Member
- Director, Department of Industries, Mumbai - Member
- Director, Social Forestry, Pune - Member
- Representative of NABARD - Member
- Director, Soil Conservation & Watershed Management, Pune - Member
- Managing Director, Maharashtra State Co-operative Agricultural and Rural Development Bank, Mumbai - Member
- Deputy Director, Groundwater Surveys & Development Agency, (R&D) Pune, - Member
- Representative of Mahatma Phule Agricultural University, Rahuri - Member
- Regional Director, Central Groundwater Board, Nagpur - Member
& Convenor

Terms of Reference: The broad terms of reference of the Committee would be as follows:-

- (I) To estimate annual replenishable ground water resources of the State in accordance with the Ground Water Resources Estimation Methodology.
- (II) To estimate the status of utilization of the annual replenishable ground water resource.

As suggested in the protocol, the Groundwater Assessment Cell has been formed at State Level within the Directorate of Groundwater Surveys and Development Agency, Pune. The identification of data gaps and updation of database with respect to 2004 & 2007-08 has been done by the cell. The entire data base have been reconciled jointly by GSDA and CGWB, Nagpur having a series of meetings in three phases i.e. first during primary data entry (11th Aug to 13th Aug 2010), second after compilation of State data within the software (23rd Aug to 27th Aug 2010) and third after computation of results within the prescribed Annexures III (16th Sept 2010). For the present assessment as on 2008-09, preliminary evaluation about groundwater situation in each assessment unit was made jointly by GSDA and CGWB during the reconciliation meetings.

1.3 Brief Outline of the Proceedings of the Committee

The meeting of State Level Committee for finalization of the Groundwater Resource Estimation for 2008-09 was held under the Chairmanship of Smt Malini Shankar, Principal Secretary, Water Supply and Sanitation Department, Mantralya, Mumbai on 27th Sept 2010.

The Chairman of the Committee insisted that the Agriculture being the major stakeholder of groundwater, the views and concurrence to the draft report may please be obtained from the Commissioner Agriculture. Similarly, she requested the Department of Industries to verify and try to procure actual data on groundwater use exclusively for the industries.

The Committee has accepted the draft report on the Dynamic Groundwater Resources of Maharashtra, 2008-09. The Committee has taken a decision to compute the category only for the watershed and not for the sub-units.

A copy of the minutes of the meetings is enclosed as *Annexure II*.

The Commissioner, Agriculture vide his letter dated 14th Nov 2010 communicated their acceptance to the report. The Additional Industry Director could not be able to furnish the data on groundwater use only in few industries of the State. However, this data is insufficient for the computation of the draft and hence it has not been considered in the present assessment.

The Chief Engineer, Minor Irrigation, Water Resources Department, Pune communicated their inability to furnish the IVth well census data. Hence during the meeting with the Regional Director, CGWB, Nagpur on 29th Nov 2010 it has been decided to finalize the report based on the existing data only.

Chapter 2

About Maharashtra

Maharashtra State has a geographical area of 30.77 million hectares. The State has 35 districts and 353 talukas. The State has 2 urban districts i.e. Mumbai and Mumbai Sub-Urban, where as the remaining 33 districts are rural. There are 336 cities and towns in the State, out of which 40 have population more than 100,000. There are 40,785 villages and 45,528 hamlets (*wadi, vasti* or *pada*). Map of Maharashtra showing District Administrative boundaries considered for Groundwater Resource Assessment is shown in **Map 1**. The population of the State is 96.7 million (2001) of which 41.13 million is urban and 55.57 million is rural. Maharashtra is mainly an agriculture State with 82% of rural population relying on agriculture. Recently it is observed that, there is migration of 2% population, annually, from rural to urban areas. Out of total area of 30.77 million ha, 21.04 million ha (68 %) is cultivable and 6.20 million ha (20 %) is under forest. The salient features of Maharashtra are given below:

2.1 Salient Features of Maharashtra

2.1.1 Location:

Longitude 72° 30' 00" to 80° 30' 00", Latitude 15° 40' 00" to 22° 00' 00"

2.1.2. *Area* : 30.77 million hectares

2.1.3. *Coastline*: 720 km.

2.1.5. *Physiography*: Physiographically Maharashtra is divided into

Highly Dissected Plateau area: 6.15 million hectares

Moderately Dissected Plateau area: 15.39 million hectares

Un-dissected Plateau area : 9.23 million hectares

2.1.5. *Rainfall zones*:

High Rainfall : 2000 to 3500 mm

DPAP Area : 400 to 700 mm

Assured Rainfall : 800 to 1250 mm

2.1.6. Soils:

Plains and Central Highlands: Brown to black calcareous loams and clay.

Western Ghats and Peninsular Plateau: Shallow brown to dark brown gravel, loams on high slopes, red to reddish brown laterites and lateritic soils on high level

Costal Plains: Laterites and lateritic soils red to reddish brown loam of non-lateritic origin.

2.1.7. Geology:

Formation	Area (in sq km)	%
Quaternary Alluvium	14498	5.71
Deccan Trap lava flows	250026	81.25
Gondwana Rock	4808	1.56
Proterozoics	6190	2.01
Precambrian Basement	32191	10.46

2.1.8. *Cultivable Area*: 210390 sq. kms.

2.1.9. *Forest Area*: 61935 sq. kms.

2.1.10. *Irrigation potential created (by all sources)*: 36.93 lakhs hectare.

2.1.11. Cropping Pattern:

Konkan : Paddy, horticulture and vegetables.

Western Maharashtra : Jowar, wheat, sugarcane, groundnut, onion, horticulture, sunflower, etc.

Central Maharashtra : Jowar, wheat, cotton, sugarcane, grams, vegetables, sunflower, safola.

Vidarbha : Paddy, Jowar, wheat, cotton, orange, grams, chilli.

Khandesh : Jowar, maize, grams, banana, wheat and chilli

2.1.12. River basins:

There are 5 basins and 15 river sub-basins in Maharashtra (**Map 2**). The five basins are Narmada, Tapi, Godavari, Krishna and Westerly Flowing. These are further sub-divided into 15 sub-basins and 1505 watersheds (as per Section 2 of Maharashtra Groundwater (Regulation for Drinking Water Purposes) Act 1993. The number of watersheds included within each sub-basin along with the area covered is as follows.

Basin	No. of watersheds	Area (sq. km)
Narmada	08	1595
Tapi East	184	32770
Godavari	190	43283
Krishna	97	20237
Westerly Flowing	97	31933
Bhima	161	35922
Wainganga	161	27558
Wardha	117	21397
Godavari Purna	101	16362
Penganga	108	22972
Purna Tapi	98	16732
Manjara	78	15835
Sina	58	12234
Indravati	31	5488
Pranhita	16	3395

2.1.13. Watersheds:

In the State, the Groundwater Surveys and Development Agency has delineated 1343 elementary watersheds based on geomorphology. However, for the purpose of Groundwater Estimation these watersheds are being bifurcated in such a way that after apportioning the Groundwater Estimation for taluka/district can be worked out. These watersheds are being notified under Section 2 of Maharashtra Groundwater (Regulation for Drinking Water Purposes) Act, 1993.

In the year 2004, there were 29 districts and 1505 watersheds in the State. At present there are 33 districts and 1531 watersheds in the State, for which Groundwater Estimation has been carried out for the year 2008-09.

2.2 Hydrometeorology

2.2.1 Climate and Rainfall

The climate of Maharashtra State is tropical monsoon type. Its location on the Western Coast and the peculiar topography are additional features which cause regional variation of climate from place to place within the State.

Maharashtra predominantly receives the rainfall from the SW monsoon. Almost 85% of the annual rainfall is received during the monsoon months i.e. from June to September. The monsoon normally withdraws by the end of September or early October. The distribution of

rainfall across the State is variable and is strongly influenced by physiography. The Western Ghats, popularly known as the '*Sahyadri*' rises up from the coastal plains- 'Konkan' upto a maximum height of 1654 m. It forms a fairly continuous hill range in the north-south direction and forms a major water divide along the western parts of the State. The Konkan coast experiences high rainfall upto 3000 mm. The *Sahyadris* also act as a barrier to the advancing southwest monsoon and also receive copious rainfall. However, they form a rain shadow zone on the eastern side where the rainfall is generally between 400- 700 mm but at times less than 400 mm. This region constitutes the Drought Prone Area of the State. Thus, the central part of the State almost always reels under scarcity and droughts. Ninety-nine talukas in the State are chronically drought affected. The region towards east of Marathwada and Vidarbha receives up to 1250 mm rainfall and falls within the assured rainfall zone. Variability of rainfall over the State is generally high ranging from 20 to 35 %, except in coastal areas where it is less than 20% (**Map 3**).

The post-monsoon season generally extends for two months between October and November. The winter season lasts for three months from December to February. March, April and May form the hot weather season.

2.2.2 Evaporation and Evapotranspiration

The evaporation in Maharashtra varies from 1478 mm to 2474 mm. It is lowest in Konkan region where as highest evaporation is observed in Nashik, Dhule, Jalgaon along with Buldhana, Akola and Amravati districts. If mean monthly evaporation and mean monthly rainfall are compared the evaporation appears higher even than rainfall in the months of July and August in Ahmadnagar District and in September in Jalgaon, Buldana and Akola Districts. That is why, even during monsoon, crops are badly in need of irrigation in these months.

2.3 Geology

The geology of Maharashtra is famous for the Deccan Traps, which occur in all the districts of the State, except Bhandara, Gondia and Gadchiroli. The other geological formations, older and younger than Deccan Traps, occur in the northeast and as isolated patches in the Sindhudurg and Ratnagiri districts (**Map 4**). The stratigraphic succession of the geologic formations in the State is given in Table 1. The variation in hydrological properties is due to inherent physical characteristics of the rocks.

2.3.1 Precambrian rocks:

The Precambrian rocks of Maharashtra are as varied and diverse as is found in Peninsular India. They are mostly confined to the north-eastern parts and fringe areas of the State. Most of these rocks are older than 3.5 billion years and are invariably metamorphosed. Major lithotype is that of rocks belonging to the Peninsular Basement Complex. These are mostly gneisses with enclaves of schists and amphibolites. Gneisses occur in Nagpur, Bhandara, Gondia, Chandrapur, Gadchiroli and Sindhudurg districts. Besides this, the metasediments belonging to Sausar Series are also exposed in the Nagpur and Bhandara districts and include a variety of rock types such as calcgranulites, calciphyres, quartzites, gneisses, schists and manganese bearing 'gondites'. Structurally, these rocks are intensely folded and faulted as these were subjected to a number of tectonic events. Another group of rocks popularly referred to as the Sakoli Series is exposed in the Gadchiroli, Chandrapur, Nagpur and Gondia districts. These consist of pelitic, psamopelitic and metabasic sediments and include phyllites, schists, amphibolites, quartzites and associated basic intrusives. The Iron Ore Series constitutes an important iron ore bearing formation in the Gadchiroli and Sindhudurg districts. The rocks consist of quartzites and Banded Hematite Quartzites with sizeable quantities of exploitable iron ore.

2.3.2 Proterozoic Rocks:

The Basement Gneissic Complex is overlain by the Proterozoic sediments. The limestone rocks equivalent to the Cuddapah Super Group exposed in Andhra Pradesh, are exposed in small areas in the southern part of Gadchiroli district. Another equivalent rock formations referred to as Kaladgi Group rest directly on the Precambrian rocks in Sindhudurg and Kolhapur districts. The Kaladgi rocks consist of sandstones and shales and has given rise to important deposits of silica sands. Rocks belonging to this formation occur below the Deccan Trap flows in Kolhapur district. Vast areas in the districts of Nanded, Yavatmal, Chandrapur and Gadchiroli, are occupied by the rocks of the Vindhyan Super Group. They consist of limestones, dolomitic limestones, purple coloured shales and feldspathic sandstone.

2.3.3 Gondwana System:

The coal bearing Gondwana sediments were deposited in basins formed by the rifting of the Gondwana protocontinent. The sedimentary rocks belonging to the Gondwana system can be divided into two groups namely the Lower Gondwana and the Upper Gondwana. The Lower Gondwana sediments include the Talchir series, the oldest group of rocks followed by Barakar

series, Kamthi series and Mangli beds. The Talchir series include serrated boulders and green shales, sandstone, clays and mudstones that were deposited during the glacial period. The Barakar series consists of a thick succession of alternate layers of sandstones and shales with interbedded coal seams. The youngest group of rocks belonging to the lower Gondwana sequence is known as the Mangli beds and consists of conglomerates, grits and sandstones and is exposed in Warora taluka of Chandrapur district. The upper Gondwana sediments include Pachmari, Maleri, Kota and Chikli group and are mainly exposed in Sironcha taluka of Gadchiroli district. Around Bairamghat in Amravati district, the Pachmari group sediments are exposed. They essentially consist of sandstones, shales and clays and include number of plant fossils.

2.3.4 Lameta and Bagh Beds

The rocks formations referred to the Bagh Beds are exposed along the southern bank of Narmada River in Akkalkuwa taluka, Nandurbar district and comprise of siliceous limestones and sandstones. The Lametas comprise essentially of calcareous sandstone, cherty limestones and clays. The Lameta and Bagh Beds are referred to as infra-trappean beds i.e. occurring below the Deccan Traps. They are located at various places and along the fringes of the Deccan Traps near Nagpur and in Amravati district.

2.3.5 Deccan Volcanic Province (Deccan Traps)

The Cretaceous-Eocene Deccan Volcanic Province occupies more than 500,000 sq. km area in parts of western and central India and is an important geological formation in the Indian sub-continent. In Maharashtra, it occupies an area of about 2,46,784 sq. km, which is about 82% of the State. The Traps are composed of a thick pile of lava flows seldom separated by flow top breccia or 'red bole'. The individual lava flow varies greatly in thickness from a few metres to as much as 30-35 meters. In the fringe areas i.e. around Mumbai, Nagpur, etc. intertrappean sediments, which consists of sandstones, shales, marls etc. is exposed between flows. The basaltic flows that constitute the shallow- and deeper aquifers present inconsistent and complex hydrogeological pattern. Although climatic, physiographic and rainfall vary widely across the State, the inherent differences in the lava type, their geometry and the superimposing fabric of post-volcanic tectonics are more important locally in contributing to anisotropic nature of the aquifer. The Deccan Trap aquifers can be broadly divided into the following major physical units:

- Dense, compact and massive basalt,
- Vesicular/amygdaloidal basalt,
- Jointed or fractured basalt.

The intrusive dyke swarms occur along two tectonic belts i.e. the West Coast and the Narmada-Tapi River. Most of the dykes are hypabassal. The dykes cut across number of flows and form an important physiographic feature- sometimes occurring as ridges (positive feature) and at other places forming linear depressions (negative features). The dykes control groundwater movement and as such are known to be 'carriers' or 'barriers'.

2.3.6 Alluvial Deposits

The alluvial deposits generally occur along the lower reaches of major river valleys. Two well known alluvial deposits namely, Tapi Valley (districts of Dhule and Jalgaon) and the Purna Valley (districts of Buldhana, Akola and Amravati) are recognised. These alluvial deposits belong to slightly older period (Quaternary) in geological history than most of the alluvial deposits in the coastal areas of the country. The alluvial deposits in the Tapi and Purna valleys occur in separate, rather, long narrow basins and occupy a total area of 10,500 sq. km. of which Tapi covers an area of 4100 sq. km and Purna covers 6400 sq. km. On the basis of exploratory drilling, it is known that, these alluvial deposits attained a maximum thickness of about 425 m bgl. Minor alluvial deposits are also known to occur in other parts of the State such as along Bhima, Godavari, Wardha, Wainganga, Penganga rivers and along some of their tributaries.

Table 1. Stratigraphy of rock types occurring in Maharashtra		
Age	Geology	Geographical distribution in the State
Recent- Quaternary	Alluvium, Laterite, Beachrock	Alluvium in parts of Dhule, Jalgaon, Buldana, Akola and Amravati districts. Laterites in Kolhapur, Satara, Sangli, Ratnagiri, Raigad and Thane districts. Beachrock along the beaches, Konkan coast
Lower Eocene Upper Cretaceous	Deccan Trap Volcanic Lava flows with inter- trappean beds. Lametas and Bagh Beds.	All the districts of the State except Bhandara, Gondia, Gadchiroli Parts of Nandurbar and Nagpur.
Jurassic (Up. Gondwana)	Chikiala and Kota Stages: Limestone.	Sironcha taluka of Gadchiroli district.
Triassic	Paachmari and Maleri Stages: Clays, Sandstones.	Sironcha taluka of Gadchiroli district and Achalpur taluka of Amravati district.
Permian (Lw. Gondwana)	Mangli Beds, Sandstones.	Warora taluka of Chandrapur district.
	Kamathi series Sandstones, Shales, Coal	Nagpur, Chandrapur and Yavatmal districts.
	Barakar series Sandstone, Shales and Coal	Nagpur, Chandrapur and Yavatmal districts.
Upper Carboniferous	Talchir series	Nagpur, Chandrapur and Yavatmal districts.
Proterozoic	Vindhyan Super Group (Limestones, Shales, Sandstones).	Yavatmal, Nanded and Chandrapur districts
	Cuddapah equivalent Limestones and Shales.	Sironcha Taluka of Gadchiroli district.
	Kaladgi Super Group Sandstones, Shales Conglomerates	Ratnagiri, Sindhudurg and Kolhapur districts.
Precambrian.	Sakoli Series, Iron Ore Series	Gadchiroli, Chandrapur, Nagpur and Gondia districts.
	Sausar Series	Nagpur and Bhandara districts.
	Peninsular Basement Complex	Gadchiroli, Chandrapur, Nagpur, Bhandara and Sindhudurg districts.

2.4 Groundwater Provinces of Maharashtra

On the basis of geological formations, the State can be divided into the following groundwater provinces: -

- i. Precambrian metamorphic groundwater province
- ii. Proterozoic sedimentary groundwater province
- iii. Gondwana groundwater province
- iv. Deccan Trap volcanic groundwater province
- v. Alluvial groundwater province

2.4.1. *Precambrian metamorphic groundwater province*

The basement complex rock types such as schists, gneisses, granite, amphibolites and basic intrusives constitute this province. The rocks are very hard and compact and possess practically no primary porosity. However, these are highly weathered and are fractured, sheared and jointed due to numerous tectonic episodes. The secondary porosity is therefore of prime importance in this province. The yield from the wells in this province generally varies from 45 to 80 m³/day and the water level fluctuation varies from 2 to 8 metres. However, the wells located on major lineaments or shear zones have higher yields (100 to 150 m³/day).

2.4.2 *Proterozoic sedimentary groundwater province*

The compact sediments mainly comprise of Vindhyan and Kaladgi formations. The total area occupied by these sediments is 6,190 sq. km. The Vindhyan comprise of limestones, sandstones and shales. Groundwater occurs in these rocks under phreatic as well as semi-confined conditions. The dug wells piercing the Vindhyan rock types range in depth between 5 and 12 m and static water levels range between 2 and 7 m. b.g.l. The diameters of the wells range between 3 and 5 m. The limestones at places are massive but are generally bedded and exhibit vertical joints. In some places, particularly in Yavatmal and Chandrapur districts they develop 'karst' topography. Geomorphological features such as sink holes, galleries and caverns associated with this topography impart secondary porosity and permeability to this formation. The wells in this area generally sustain a discharge of 50 to 100 m³/day.

2.4.3 *Gondwana sedimentary groundwater province*

The Gondwana sedimentary rock formations are confined chiefly to the districts of Nagpur, Chandrapur, Yavatmal and Amravati. These sediments occupy a total area of about

4,808 sq. km and comprise of sandstones, shales and clays of varying thickness and degree of compaction. These rocks possess primary porosity. However, due to block faulting and intra-formational faulting and fracturing, secondary porosity is generated within these formations. Occasionally, lenses of pebbles and gravels are also encountered. There are possibilities of encountering confined aquifers in these type of rocks. Few exploratory tube wells drilled by Groundwater Surveys and Development Agency and Central Ground Water Board have indicated a discharge of 100 to 300 m³/day. The dug wells in these types of rocks vary in depth from 10 to 20 m. The water levels vary from few metres to 8 m.b.g.l. The yield ranges between 50 and 300 m³/day. Groundwater Surveys and Development Agency has drilled large number of tube wells in this formation, especially for drinking water purposes.

2.4.4 *Deccan Trap volcanic groundwater province*

The Deccan Traps, which occupy about 82% of the total area of the State, is a major groundwater province for consideration and evaluation of groundwater potential in the State. The basalt lava flows are formed as wide spread flows forming extensive plateaus. The entire pile of near horizontal lava flows show variation in their physical character, thereby influencing the aquifer parameters. While considering the occurrence of groundwater in the basaltic hard rocks, which possess very poor primary porosity it is interesting to note that the basaltic lava flows develop vesicular character, especially, in the flow crust. Further, secondary features like weathering, jointing, and shearing develop storage space, which make the basaltic rocks capable of holding and transmitting groundwater. The vesicles, the joint system and inter-flow zones contribute considerably to the yield of the basaltic flow. The yield is considerably affected by other two factors namely, degree of weathering and topographic setting. Weathering increases porosity and permeability and topographic setting affects the movement and discharge of groundwater. Thus a highly weathered vesicular lava flow has good porosity and permeability and proves to be a good aquifer. However, the inter flow horizons such as red boles tend to become clayey and sometimes reduce the aquifer properties. Groundwater in the basaltic aquifers occurs under phreatic and semi-confined conditions. The massive lava flows and thick red-bole layers tend to inhibit vertical movement of groundwater and thus act as confining aquicludes. The productive aquifers when favourably situated receive recharge and groundwater moves down the slopes till it is withdrawn by abstraction structures such as dugwells or natural discharge (spring). The water level and yields of wells are a function of the permeability and thickness of the aquifer encountered. The entire succession of lava flows act as multi-aquifer system. The average

depth of wells varies from 9 to 15 m and diameter varies from 4 to 8 m. The range of water level varies from 3 to 7 m and the yield ranges from 75 to 100 m³/day in winter. Wells located in favourable sites have very good yields ranging from 150 to 200 m³/day. In the Deccan traps the low availability of groundwater is attributed to its peculiar geomorphological and geological set up. The lava flows are individually different in their ability to receive, hold as well as to transmit water. The availability and productivity of groundwater in Deccan Trap is entirely dependent in its inherent physical property such as the size and distribution of vesicles, number and spacing of interconnected joints and fractures and degree of weathering.

2.4.5 Alluvial groundwater province

The alluvial deposits in Tapi and Purna valleys are unique in that, they have been deposited in faulted basins. The northern - boundaries of the two basins are faulted and the floors of the basins have sunk to relatively greater depths. The basements have a slope towards north in both the cases. The weathering and erosion of the Satpuras have contributed considerable volume of material in filling up of the two basins. The foothills of the Satpuras have a thick accumulation of pediment deposits commonly referred to as the 'bazada zone'. The thickness of the zone varies considerably but holds tremendous potential as far as artificial recharge to the depleting groundwater is concerned. The alluvial deposits in the basins have attained a maximum thickness of about 400 m at Akot in Akola district of Purna valley and about 300 m at Yawal in Jalgaon district in the Tapi valley. The alluvial sediments in the two basins generally consist of clays, silt, sand, pebbles and boulders. The sand, gravel, boulders etc. occur in one or more beds of 2 to 13 m in thickness, generally within a depth of about 100 m and sometimes even down to the depth of 250 m below the surface. Boulders and gravels sometimes mixed with clays are predominant in the northern part of alluvial area in the Purna basin.

The alluvial deposits in the two areas consist of different type of water bearing horizons. The most important amongst them are the beds of sand, gravel and boulders, as these beds receive recharge, and store and transmit large quantities of groundwater. The alluvial material generally contain one shallow aquifer within a depth of about 20 m and one deep confined aquifer below 30 m. Central Ground Water Board has carried out extensive exploratory drilling in Tapi (57 tube wells) and Purna (78 tube wells) alluvial areas. The depth of these tube wells range from 17 to 322 m. b.g.l. and their yield range is from 5 to 45 lps. The exploratory study has shown that the alluvium is deposited in faulted basin which have prominent northerly tilting basement of the Deccan Trap. The 300 to 350 m thick alluvial

deposits can be divided into younger alluvium up to 80 m depth and older alluvium below it. The younger alluvium contains 2 to 4 granular aquifer zones, which have excellent hydrologic parameters. The water levels in open wells vary in depth from 15 to 30 m. In areas bordering Satpura in the north water levels are deeper and the wells are 30 m or more in depth. Most of the existing dug wells yield 100 to 300 m³/day, though in few case higher yields are observed. Groundwater Surveys and Development Agency has drilled large number of tube wells in these formations especially for drinking water purposes. The chemical quality of groundwater in the aquifer of alluvial deposits is generally good in northern part. However, in Purna alluvial areas the groundwater in shallow aquifers, especially in the southern part of the basin is saline.

2.5 Ground Water Quality

The chemical quality of groundwater from the shallow basaltic aquifers is good (electrical conductivity ~501-1000 $\mu\text{s}/\text{cm}^{-1}$). In most samples the pH values range from 7.5 to 8.5 indicating the alkaline nature of the groundwater. In Maharashtra, the saline groundwater (electrical conductivity ~2001-3000 $\mu\text{s}/\text{cm}^{-1}$) is present in three geographically distinct areas viz. the coastal areas of Konkan, the Purna alluvial basin and the upland DPAP areas. The chemical quality of groundwater from deeper aquifers however represents a different picture. Saline groundwater patches (electrical conductivity > 2001 $\mu\text{s}/\text{cm}^{-1}$) are reported from the Konkan coast (Thane, Raigad, Ratnagiri), Purna (Buldana, Akola, Amravati) and the Drought Prone areas (Pune, Sangli,) (**Map 5**). The Hardness of groundwater range between 100 to 500 mg/lit which is suitable for drinking purposes. The fluoride concentration in groundwater from the Precambrian basement rocks and Proterozoic sediments are above prescribed limits. Such occurrences have been reported from districts such as Chandrapur, Nagpur, Gadchiroli, Yavatmal, Nanded, Bhandara and Sindhudurg where drinking water is not suitable for consumption. However, it is to mention that these are treated as point sources and not applicable to the entire watershed.

Chapter 3

Ground Water Resource Estimation Methodology, 1997

The Groundwater Estimation Committee 1984 methodology was modified in the light of enhanced database and new findings of experimental studies in the field of hydrogeology. The present methodology used for resources assessment is known as Ground Water Resources Methodology - 1997 (GEC'97). In GEC'97, two approaches are recommended-water level fluctuation method and norms of rainfall infiltration method. The water level fluctuation method is based on the concept of storage change due to difference between various input and output components. Input refers to recharge from rainfall and other sources and subsurface inflow into the unit of assessment. Output refers to ground water draft, ground water evapotranspiration, and base flow to streams and subsurface outflow from the unit. Since the data on subsurface inflow / outflow are not readily available, it is advantageous to adopt the unit for ground water assessment as basin / sub-basin / watershed, as the inflow / outflow across these boundaries may be taken as negligible.

Thus in general the ground water resources assessment unit is Watershed, particularly in hard rock areas. In case of alluvial areas, administrative block can also be the assessment unit. In each assessment unit, hilly areas having slope more than 20% is deleted from the total area to get the area suitable for recharge. Further areas where the quality of groundwater is beyond the usable limits should be identified and handled separately. The remaining area after deleting the hilly area and separating the area with poor quality groundwater quality is to be delineated into command and non-command areas and the assessment is done separately for monsoon and non-monsoon seasons.

3.1 Ground water recharge

Monsoon Season

The resources assessment during monsoon season is estimated as the sum total of the change in storage and gross draft. The change in storage is computed by multiplying groundwater level fluctuation between pre and post monsoon periods with the area of assessment and specific yield. Monsoon recharge can be expressed as:-

$$R = h \times S_y \times A + DG$$

where,

h = rise in water level in the monsoon season, S_y = specific yield

A = area for computation of recharge, D_G = gross ground water draft

The monsoon ground water recharge has two components- rainfall recharge and recharge from other sources. Mathematically it can be represented as-

$$R(\text{Normal}) = R_{\text{rf}}(\text{normal}) + R_c + R_{\text{sw}} + R_t + R_{\text{gw}} + R_{\text{wc}}$$

where,

R_{rf} is the normal monsoon rainfall recharge. The other sources of groundwater recharge during monsoon season include R_c , R_{sw} , R_t , R_{gw} , R_{wcs} which are recharge from rainfall, seepage from canals, surface water irrigation, tanks and ponds, ground water irrigation, and water conservation structures respectively.

The rainfall recharge during monsoon season computed by Water Level Fluctuation (WLF) method is compared with recharge figures from Rainfall Infiltration Factor (RIF) method. In case the difference between the two sets of data are more than 20%, then RIF figure is considered, other wise monsoon recharge from WLF is adopted. While adopting the rainfall recharge figures, weightage is to be given to the WLF method over adhoc norms method of RIF. Hence, wherever the difference between RIF and WLF is more than 20%, data have to be scrutinised and corrected accordingly.

Non- Monsoon season

During the non-monsoon season, rainfall recharge is computed by using Rainfall Infiltration Factor (RIF) method. Recharge from other sources is then added to get total non-monsoon recharge. In case of areas receiving less than 10% of the annual rainfall during non-monsoon season, the rainfall recharge is ignored.

Total annual ground water recharge

The total annual groundwater recharge of the area is the sum-total of monsoon and non-monsoon recharge. An allowance is kept for natural discharge in the non-monsoon season by deducting 5% of total annual ground water recharge, if WLF method is employed to compute rainfall recharge during monsoon season and 10% of total annual ground water recharge if RIF method is employed. The balance ground water available accounts for existing ground water withdrawal for various uses and potential for future development. This quantity is termed as Net Groundwater Availability.

Net Groundwater Availability = Annual Ground Water - Natural discharge during non
 Recharge monsoon season

Norms for estimation of recharge

GEC97 Methodology has recommended norms for various parameters being used in ground water recharge estimation. These norms vary depending up on water bearing formations and agroclimatic conditions. While norms for specific yield and recharge from rainfall values are to be adopted within the guidelines of GEC'97, in case of other parameters like seepage from canals, return flow from irrigation, recharge from tanks and ponds, water conservation structures, result of specific case studies may replace the ad-hoc norms.

3.2 Ground water draft

The gross yearly ground water draft is to be calculated for irrigation, domestic and industrial uses. The gross ground water draft would include the ground water extraction from all existing ground water structures during monsoon as well as during non-monsoon period. While the number of ground water structures should preferably be based on the latest well census, the average unit draft from different types of structures should be based on specific studies or ad -hoc norms in GEC'97 report.

3.3 Stage of groundwater development and categorisation of units

The stage of ground water Development is defined by:

$$\text{Stage of groundwater Development (\%)} = \frac{\text{Existing Gross Ground water draft for all uses}}{\text{Net annual Groundwater Availability}} \times 100$$

Categorisation of areas for groundwater development

The units of assessment are categorised for groundwater development based on two criteria - a. stage of groundwater development, and b. long term trend of pre and post monsoon groundwater levels. Four categories are- **Safe** areas which have groundwater potential for development; **Semi-Critical** areas where cautious groundwater development is recommended; **Critical** areas; and **Over-exploited** areas where there should be intensive monitoring and evaluation and future ground water development be linked with water conservation measures. The criteria for categorisation of assessment units are as follows:

Sr. No.	Stage Of GW Development	Significant Long Term Decline		Category
		Pre-Monsoon	Post- Monsoon	
1	≤ 70 %	No	No	SAFE
2	> 70 to ≤ 90 %	No	No	SAFE
		Yes/No	No/Yes	SEMI CRITICAL
3	> 90 to ≤ 100 %	Yes/No	No/Yes	SEMI CRITICAL
		Yes	Yes	CRITICAL
4	> 100 %	Yes/No	No/Yes	OVER EXPLOITED
		Yes	Yes	OVER EXPLOITED

The long-term ground water level data should preferably be for the period of 10 years. The significant rate of water level decline/rise may be taken greater than +5 or less than -5 cm per year depending upon the local hydrogeological conditions. If this rate is between -5 to +5 cm per year then the trend will be treated as “Neither Rise nor Fall”.

3.4 Allocation of ground water resource for utilisation

The net annual ground water availability is to be apportioned between domestic, industrial and irrigation uses. Among these, as per the National Water Policy, 2002, requirement for domestic water supply is to be accorded priority. The requirement for domestic and industrial water supply is to be kept based on the population as projected to the year 2025. The water available for irrigation use is obtained by deducting the allocation for domestic and industrial use, from the net annual ground water availability.

3.5 Poor quality ground water

Computation of ground water recharge in poor quality ground water is to be done on the same line as described above. However, in saline areas, there may be practical difficulty due to non-availability of data, as there will usually be no observation wells in such areas. Recharge assessment in such cases may be done based on Rainfall Infiltration Factor method.

3.6 Apportioning of ground water assessment from watershed to development unit

Where the assessment unit is a watershed, the ground water assessment is converted in terms of an administrative unit such as Block/Taluka/Mandal. This is done by converting the

volumetric resource in to depth unit and then multiplying this depth with the corresponding area of the Block.

3.7 Additional Potential Recharge

In shallow water table areas, particularly in discharge areas rejected recharge would be considerable and water level fluctuation area subdued resulting in underestimation of recharge component. In the area where the ground water level is less than 5 m below ground level or in water logged areas, ground water resources have to be estimated up to 5m bgl only based on the following equations:

$$\text{Potential ground water recharge} = (5-D) \times A \times \text{Specific yield}$$

where,

D = depth to water table below ground surface in pre monsoon in shallow aquifers

A = area of shallow water table zone

3.8 Recommendations of R&D Advisory Committee

To get a more appropriate methodology for groundwater resources estimation for hard rock terrain, which will supplement GEC – 1997, the GoI has decided to constitute a Committee for Estimation of Ground Water Resources in Hard Terrain. The Ministry of Water Resources, Govt. of India, constituted a committee vide circular No. 3/7/2001-GW II dated 03.09.2001. The committee after detailed deliberations recommended following modifications in the GEC1997 methodology.

3.8.1 Criterion for Categorization of Assessment Units

The criterion for categorization of assessment units as recommended by GEC-1997 methodology has been modified. The modified criteria as given in the protocol are as follows;

a) Long – term ground water level trend

The long-term ground water level data should preferably be for the period of 10 years. The significant rate of water level decline may be taken between 10 and 20 cm per year depending upon the local hydrogeological conditions. Accordingly in Detailed Guidelines for Implementing the Ground Water Estimation Methodology - 1997 page 153-154, the value of 'Z' would be read as 10 to 20 cm per year.

b) Categorization of Units

In order to remove ambiguities in the categorization by the existing methodology, the following procedure is suggested.

Sr. No.	Stage Of GW Development	Significant Long Term Decline		Category
		Pre-Monsoon	Post- Monsoon	
1	$\leq 70 \%$	No	No	SAFE
		Yes/No	No/Yes	To be re-assessed
		Yes	Yes	To be re-assessed
2	$> 70 \text{ to } \leq 90 \%$	No	No	SAFE
		Yes/No	No/Yes	SEMI CRITICAL
		Yes	Yes	To be re-assessed
3	$> 90 \text{ to } \leq 100 \%$	No	No	To be re-assessed
		Yes/No	No/Yes	SEMI CRITICAL
		Yes	Yes	CRITICAL
4	$> 100 \%$	No	No	To be re-assessed
		Yes/No	No/Yes	OVER EXPLOITED
		Yes	Yes	OVER EXPLOITED

Note: 'To be re-assessed' means that data is to be checked for the purpose of categorization.

The above modifications are to be adopted in all type of rock formations including soft rock and hard rock terrains.

3.8.2 Future allocation of groundwater resources

The criteria given in the GEC-1997 has been modified and the modified criterion for future allocation of groundwater resources for utilization to be computed as given below

$$\text{Case I, when } GW_{av} \geq D_{gi} + All_d$$

In such cases allocation for future domestic requirement = All_d

$$\text{Case II, When } GW_{av} < D_{gi} + All_d$$

In such cases Allocation for future domestic requirement = $(GW_{av} - D_{gi})$ or D_{gd} , which ever is more.

where

GW_{av} = Net Annual Ground Water Availability

D_{gi} = Existing Ground Water draft for Irrigation

D_{gd} = Existing Ground Water draft for Domestic use

D_g = Existing Ground Water draft for all uses

All_d = Computed value of allocation for domestic use

(based on projected population, fractional load and per capita requirement).

Chapter 4

Procedure followed for Groundwater Estimation 2008-09

4.1 Data Source

Since 1973, watershed is being used as a unit of assessment in the State irrespective of the Methodology.

The watersheds are being delineated and notified under Section 2(13) of Maharashtra Groundwater (Regulation for Drinking Water Purposes) Act 1993.

4.1.1 Area

The areas of the watersheds have been computed by Groundwater Surveys and Development Agency. The command areas of the Irrigation Project as notified by Water Resources Department, GoM have been used in this assessment. The poor quality area within a village as notified by the Revenue Department has been considered in this assessment. This data base is used for sub-dividing the assessment unit into command, non-command and poor quality area.

4.1.2 Well Census

Due to non-availability of IVth Minor Irrigation census data as suggested by GoI, the irrigation wells, registered at village level with the Revenue Department, at the end of 2007, have been used for computation of the draft. This well census data have been cross checked with the IIIrd well census published by the Minor Irrigation Department, GoM, as on 2002-03. It is found that the number of irrigation wells as per the IIIrd well census is lesser (17,95,201) than the Revenue Department (18,67,618) data. Similarly the Revenue well data have been cross verified with the number of electric connections registered with the Maharashtra State Electricity Distribution Company and it is found that the number of electric connections are more than the number of irrigation wells/ borewells.

Now instead of dug wells the borewells are being drilled on large scale in the State. The borewells drilled in hard rock terrain are tapping the shallow and semi-confined aquifers. Very few borewells are tapping the deeper aquifer, but their details are not available. Hence the irrigation borewells have been considered for the draft purpose.

There are limitations of the well census data. Their physical number is available; however, their draft or abstraction details are not available with any of the organizations in the State. Hence, based on the hydrogeology and crop water requirement for the average cropping

pattern of the watershed, the watershed wise unit draft has been worked out for the irrigation dug wells and borewells. Similarly, based on the hydrogeology, drinking water requirements and the pumping device, the unit draft, for the dug well and borewell, has been worked out.

Excepting two districts i.e. Gondiya and Bhandara the data on industrial wells could not be obtained despite constant pursuance. It is very difficult to get the data pertaining to exclusive use of wells for the industrial purpose.

4.1.3 Canals, Tanks & Ponds

The data base related to surface water bodies, canals, command area, number of rotations, volume of water released into the canals etc have been procured from the Water Resources and Minor Irrigation Department. The data is as of year 2007.

4.1.4 Water Conservation Structures & Cropping Pattern

The Directorate of Soil Conservation and Watershed Development Department is monitoring and implementing the water conservation measures in the State. The water conservation structures completed up to 2007-08 in the State have been considered.

The village wise crop data and irrigated agriculture data, as on 2007-08, have been used for the computations of irrigation return flow and for cross verification of groundwater draft.

4.1.5 Rainfall

The district revenue authorities are monitoring the daily and monthly rainfall at taluka headquarters. The actual monsoon rainfall measured at taluka headquarter up to 2008 has been used for the data entry. The IMD published taluka wise normal rainfall figures have been used.

Besides these, the hydro-meteorological stations data from Water Resources Department, GSDA has been considered during this assessment.

4.1.6 Groundwater Levels

The Groundwater Surveys and Development Agency is monitoring the groundwater levels in the State on quarterly basis i.e. in January, March, May and September/October. There are 3920 observation wells and 1136 piezometers. Each watershed has atleast 3 observation wells. The groundwater level data from 1991 up to May 2009 has been considered for the Estimation.

4.1.7 Population

The 2001 census data has been used in the computations.

4.2 Various Norms Used

4.2.1 *Assessment area*

Out of the total geographical area, the hilly area (slope > 20%), hill tops and rocky waste land were identified and subtracted and the remaining area is considered as an recharge worthy or assessment area.

4.2.3 *Specific yield*

For non-command and command area the dry season specific yield is considered only when the value is within the permissible limits of the GEC 1997 norms. The specific yield values for different rock formations are: Deccan Traps - 0.002 to 0.03, Metamorphic rocks - 0.015 to 0.02, Sedimentary rocks – 0.015 to 0.02, Alluvium - 0.04 to 0.16.

4.2.4 *Rainfall infiltration factor*

In all the watersheds, except those which are either in Konkan region or falling in the *Sahyadri* hill range, the coefficients for RIF are as per the recommended values of GEC 1997 norms. In Konkan region the RIF considered is 50% of the norms i.e. 6-12% or the recommended value i.e. 13% in basaltic area. This is as per the decision of R & D Advisory Committee supported by actual field observations of GSDA. The reason behind this is most of the area in Konkan region is hilly and capped by very hard compact massive basalt having steep slopes. Hence most of the rainfall goes as a run-off.

4.2.5 *Recharge due to canal seepage*

15 Ham per day/million sq. m wetted area for unlined canals and 20% of it is for lined canals.

4.2.6 *Recharge from Tanks and Ponds*

Average water spread area * No. of days * 0.00144 meters per day per Ha.

4.2.7 *Recharge from water conservation structure*

The recharge considered due to water conservation structures is as per norms i.e. 50% of the total storage capacity of the water conservation structure. The number fillings considered are either 1 or 2 only. This is as per the local observations.

4.2.8 Unit Draft

The unit draft computed for different abstraction structures representing typical geological formations has been used for the estimation. The unit draft for irrigation dug well fitted with electric pump, during monsoon ranges from 0.01 to 0.72 ham and during non-monsoon it ranges from 0.03 to 1.56. For irrigation bore wells (with electric pump), the unit draft considered ranges from 0.01 to 1.5 ham. The unit draft for domestic dug well (with power pump) ranges from 0.00 to 1.47 ham. The unit draft for domestic bore well fitted with hand pump ranges from 0.00 to 1.2 ham. Similarly the unit draft for domestic bore well fitted with power pump ranges form 0.00 to 1.47 ham.

4.2.9 Return flow from irrigation

SWL<10	P	NP
GW -	15 to 45	15 to 45
SW -	25 to 50	10 to 50

4.2.10 Stage of development

The GEC 1997 norms have been used for the computation of the State of Development.

4.2.11 Categorisation

The watersheds have been categorized after clubbing command and non-command sub-units as per the need of the Maharashtra Groundwater (Regulation for Drinking Water Purposes) Act 1993 and instructions of CGWB, New Delhi vide letter No. 3-8/CGWB/(M(SAM)/2004-1741, dated 29.09.2004, supported by the decision taken by the State Level Committee meeting on 27th September 2010.

Chapter 5

Computation of Groundwater Resources Estimation in the State

5.1 Salient Features

The salient features of the dynamic groundwater resources of Maharashtra as on 2008-09 are as under.

5.1.1 Resources assessment unit

Watershed is the type of groundwater assessment unit of in the State. For the purpose of groundwater estimation and evaluation the Maharashtra State is divided into 1531 watersheds. These watersheds are sub-divided into 2405 assessment sub-units, comprising of 855 command, 1497 non-command and 53 poor quality.

Out of the total area of the watershed the non-worthy area is deducted and only the worthy area is considered for this assessment. The worthy area is further sub-divided into command; Non-command & Poor quality and their percentages for the State are 13, 85 & 2 respectively. The district, watershed/taluka wise details of these areas are given in *Annexure III A1 and III A2*. The recharge is estimated for the groundwater worthy area of all the sub-units.

5.1.2 Base year of data

The monsoon rainfall the year 2008 has been considered in the computations. The groundwater levels since 1991 up to May 2009 have been used in the calculations. Based on this database the sub-unit wise average pre-monsoon and post-monsoon groundwater levels and fluctuations are calculated and used in the assessment. The watershed/taluka, sub-unit wise rainfall, average pre-monsoon and post-monsoon groundwater levels are given in *Annexure III B1 & B2*. However, as mentioned in para 4.1.2, the base year for the well census data is 2007 and same data have been used in the draft calculations. The number of abstraction structures, being used for domestic, irrigation and industrial purposes, within the watershed and sub-unit are listed in *Annexure III B1 (contd)*. The canal details and water conservation structures are as on 2007 end only.

The district/watershed/sub-unit wise parameters, like specific yield, rainfall infiltration factor, season wise unit draft for different usages, used considered during this assessment are given in *Annexure III C*. This is very much useful in comparing the recharge and withdrawal of groundwater within the watershed.

5.2 Groundwater Resource Assessment

5.2.1 Method

Out of the total 2352 worthy sub-units, for 2261 subunits (i.e. 92%) the water table fluctuation method is adopted. For rest 190 sub-units RIF method is adopted. The groundwater resources have been worked out in these 2352 sub-units for monsoon and non-monsoon.

5.2.2 Total Resources

The groundwater estimation is carried out for 33 districts of Maharashtra except for Greater Bombay & Sub-urban district. As per the protocol the groundwater availability and use has been computed for the sub-units, but the categorization has been done for the watershed. For administrative purpose the watershed wise assessment has been apportioned into 353 talukas and their categorization has been worked out separately. The State abstract showing details of Dynamic Groundwater Resources 2008-09 is given in **Table 1**.

Table- 1

Sr.No	Description	Details
1	Total No. of Districts	33
2	Total No. of watersheds	1531
3	Total No. of Talukas	353
4	Total No. of Assessment Sub Units	2405
5	Annual Replenishable Groundwater Resource (BCM)	35.73
6	Net Annual Groundwater Availability (BCM)	33.80
7	Annual Groundwater Gross Draft (BCM)	17.00
8	Annual Groundwater Irrigation Draft (BCM)	15.91
9	No. of Irrigation Dugwells & Mhots	1676217
10	No. of Irrigation Borewells & Tubewells	191396
11	No. of Domestic Dugwells & Mhots	158441
12	No. of Domestic Borewells & Tubewells	161922
13	No. of Industrial Dugwells & Mhots	179
14	No. of Industrial Borewells & Tubewells	621
20	No. of Over Exploited Assessment Watersheds / Talukas	73 / 9
21	No. of Critical Assessment Watersheds / Talukas	3 / 1
22	No. of Semi Critical Assessment Watersheds / Talukas	119 / 19
23	No. of Safe Assessment Watersheds / Talukas	1332 / 324
24	Unclassified Assessment Watersheds due to entire Poor Quality	4/0

As per this report, the total rechargeable fresh groundwater resources in the State is computed as 35.73 BCM and the net ground water availability is to the tune of 33.80 BCM. The present gross groundwater draft for all purposes is 17.00 BCM. The Stage of groundwater development for the State, as whole, is 50%. This indicates that on an average 50% of yearly replenishable groundwater is being used in the State.

The requirement of groundwater for domestic purpose has been worked out for next 25 years, which turns out to be around 2.1 BCM. Considering the domestic and industrial requirement the allocation of groundwater for next 25 years comes out to be 1.93 BCM. Leaving this allocation, the groundwater available for irrigation in future is around 15.91 BCM. The watershed/taluka/district wise and sub-unit wise details of groundwater recharge from rainfall & other sources in monsoon and non-monsoon season, net groundwater availability and existing groundwater draft for all usages, net groundwater availability and stage of groundwater development for watershed/taluka/district are given in *Annexure III D1, D1(contd), D2, D2(contd), D3, D3(contd) respectively..*

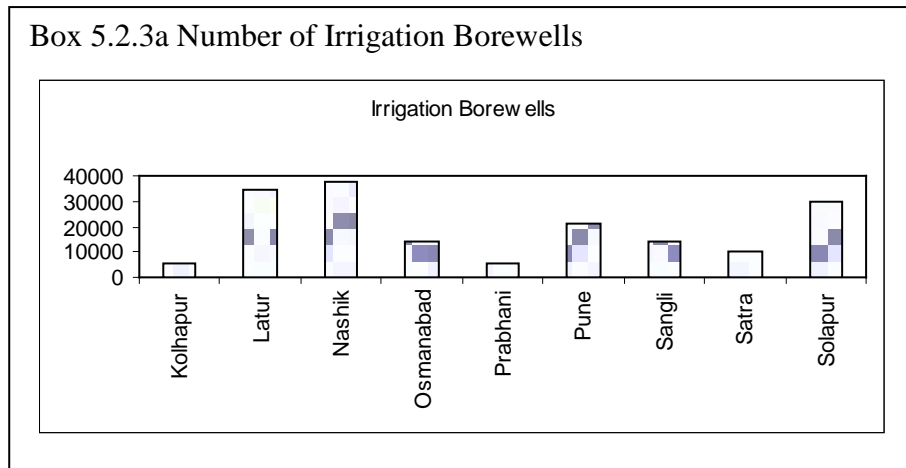
The recharge from rainfall during monsoon and non-monsoon (Annexure III D1 Col 4 & 6) has been computed separately subunit wise. However, for Chandrapur, Dhule, Nandurbar, Gadchiroli, Raigad, Ratnagiri and Thane districts the rainfall recharge during non-monsoon season is zero. This is because there is no rainfall in these districts during non-monsoon period.

In the absence of non-availability of the base flow data, the Natural Discharge is computed as per the GEC97 norms for the sub-units. Within a district there is a variation in the natural discharge (either 5% or 10%). It is because in most of the watersheds the recharge has been computed by the WTF method but where there is difference in PD factor the computations are done by RIF.

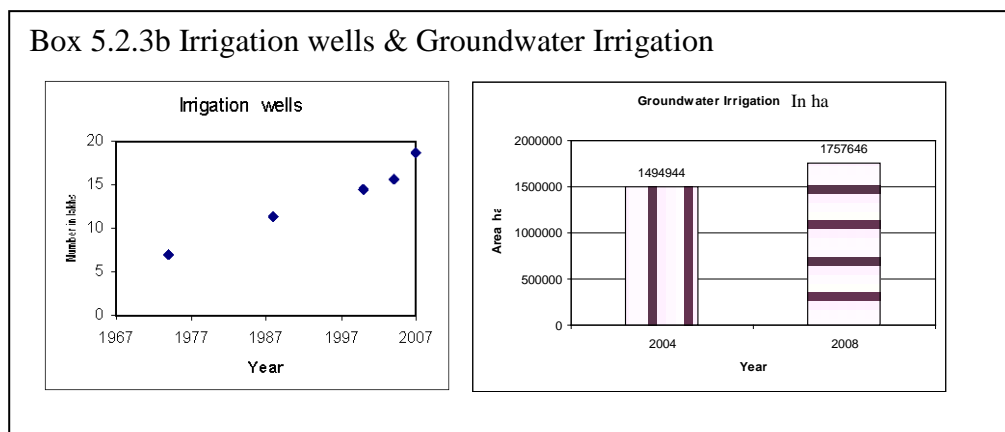
5.2.3 Groundwater Abstraction

The basic pre-requisite for the groundwater assessment is the number of groundwater abstraction structures and their draft. For this assessment the data is collected from Revenue Department and is cross verified with the Maharashtra State Electricity Company data. It is found that in all there are 18.68 lakh abstraction structures being used for irrigation purpose withdrawing 15.95 BCM of groundwater yearly. This includes 16.76 lakh of dug wells (with mhot & pump sets) withdrawing 14.44 BCM of groundwater and 1.91 lakh borewells withdrawing 1.51 BCM of groundwater.

The groundwater development has been growing at an exponential rate in the State. Box 5.2.3 indicates the rapid rate of growth in groundwater irrigation potential and the number of wells. The total area under groundwater irrigation, including monsoon & non-monsoon, is 34,09,331 ha. Compared to 2004 the increase in groundwater irrigation is by 2,62,702 hectares. This increase is due to newly added 3.08 lakh dug wells & borewells. During this assessment an authentic data of 1.91 lakh irrigation borewells have been collected. However, this number must be much higher. Now the irrigation dug wells are being replaced by irrigation borewells. This practice is very prominent in Latur, Osmanabad, Nashik, Pune, Solapur, Sangli & Satara districts. However, even after knowing the disadvantages of irrigation borewells, like low dependability of yield, low discharge & recuperation rate etc, still the farmers are opting irrigation borewells. The district wise irrigation borewells are shown in **Box 5.2.3a**.



There is an increase in total groundwater recharge by about 2.81 lakh ham (Box 5.2.3b), which is mainly attributed to increase in the canal command area by around 2.07 lakh hectares and increase in number of water conservation structures.



Most of the rural area is groundwater dependent for domestic purpose. There are 1.58 lakh dug wells using only 0.65 BCM of groundwater and 1.61 lakh borewells using only 0.40 BCM of groundwater.

In the State, the industries are also using groundwater. However, as per the authentic data received to GSDA, there are only 179 dug wells and 621 borewells using small amount of groundwater.

As per the recommendations of the State Level Committee it has been decided to categorize the watershed. Hence all the computations, including the Future Domestic & Industrial Allocations, are done on watershed only. The apportioning has been done on taluka and district level. The Future Domestic & Industrial Allocations is either \geq the existing Domestic & Industrial draft or zero, where there is no groundwater balance after deducting the actual drafts for different usages. This situation is prevailing in most of the over-exploited, critical and semi-critical watersheds. Accordingly the same has been mentioned in the Annexure III D1 (contd). The taluka/district wise categorization has been given in Annexure III D2 (contd) & III D3 (contd) respectively.

5.2.4 Categorization of Watersheds/Talukas

The categorization of watersheds is done as per the norms mentioned in para 4.2.11 of this report. Based on these computations, it is observed that **1331** watersheds are falling in Safe category, **120** in Semi-Critical, **3** in Critical and **73** in Over-Exploited category. 4 watersheds are categorized as unclassified due to Poor Quality. District wise details of watersheds their categorization along with the pre and post monsoon trend are given in *Annexure III E*. The categorization of watersheds is also shown on the State Watershed Map (**Map 6**). From this map, it reveals that two-third of the over-exploited, Critical and Semi-Critical watersheds are from drought prone area of the State, where the rainfall is between 400 to 700 mm only. The district wise abstract showing number of OE/Critical/SC/Safe & PQ watersheds is given in *Annexure III G*.

The talukawise Stage of Development and Categorization has been attempted by apportioning the watershed wise data. The details are given in *Annexure III F*. Out of 353 talukas, 324 are categorized as Safe, 19 Semi-Critical, 1 Critical and 9 Over-Exploited. These are shown in **Map 7**. The district wise abstract showing number of OE/Critical/SC/Safe & PQ talukas/blocks is given in *Annexure III H*.

5.3 Spatial Variation

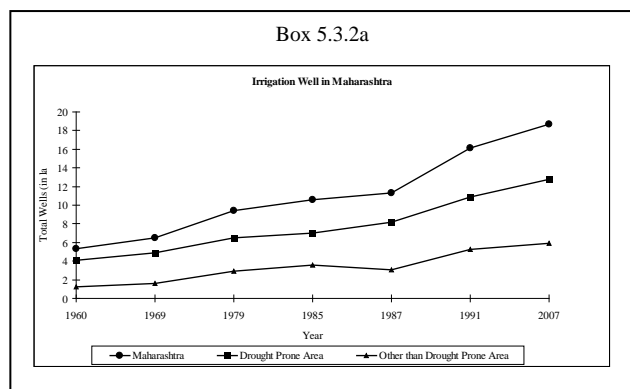
5.3.1 Groundwater Recharge

The groundwater recharge is a function of rainfall, geomorphology and geology. The State is having heterogeneity in all these parameters. Hence the recharge to groundwater is not uniform in all the watersheds. Based on the total Annual Groundwater Recharge (as computed in col 8 of Annexure III D1) and the Area of Assessment (sum of col. 6 and col. 7 of Annexure III A1), the watershed wise annual replenishable groundwater resources (in mts) has been computed. The results are commensurate with the field conditions. Around 22% watersheds have annual recharge up to 100 mm, 50% between 100 to 150 mm, 24 % between 150 to 250 mm, 3% between 250 to 500 mm and only 1% have annual recharge more than 500 mm. These details have been shown in the watershed map of the State (**Map 8**).

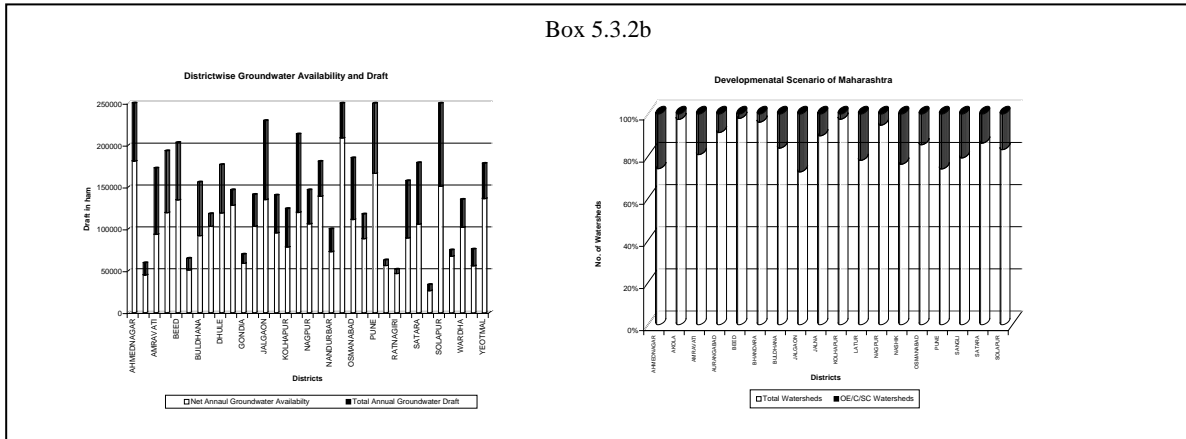
Similarly based on the talukawise Annual Groundwater Recharge (as computed in col 8 of Annexure III D2) and the Area of Assessment (sum of col 6 and col 7 of the Annexure III A2), the talukawise annual replenishable groundwater resources (in mts) has been computed. The results are commensurate with the field conditions. In 10% Talukas the annual replenishable groundwater recharge is meagre to 100 mm, 57% between 100 to 150 mm, 29% between 150 to 250 mm, 3% between 250 to 500 mm. In only one taluka i.e. Wadsa of Gadchiroli district the annual replenishable recharge is more than 500 mm. The talukawise annual replenishable groundwater recharge is shown in the taluka map of the State (**Map 9**)

5.3.2 Groundwater Development

The central part of Maharashtra which is included in the drought prone area, receives very less rainfall i.e. from 400 to 700 mm, but the geology is very favourable for the groundwater recharge. Hence in this area the dependency on groundwater is very high. Two-third of irrigation wells are from this area only (Box 5.3.2a). This primarily includes parts from Dhule, Nashik, Jalgaon, Ahemdnagar, Pune, Satara, Sangli, Solapur, Osmanabad, Beed and Aurangabad districts.



The comparison of district wise groundwater recharge and withdrawal clearly shows that in Amravati, Ahmednagar, Latur, Solapur, Sangli, Pune, Jalgaon & Buldhana districts the groundwater development is between 70 to 90 %. However, in Osmanabad, Aurangabad, Kolhapur, Beed districts it is between 50 to 70% and in rest 21 districts it is <50% (Box

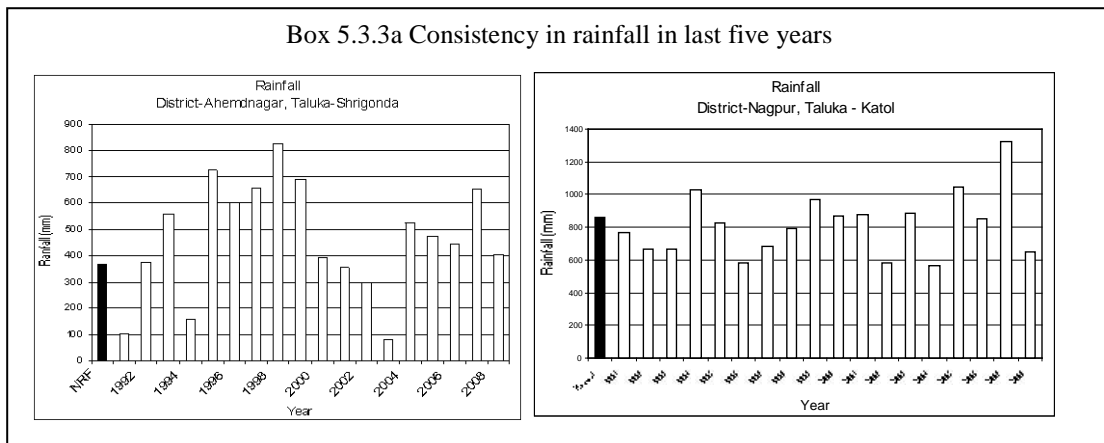


5.3.2b). In Nashik, Ahmednagar, Pune, Amravati, Jalgaon districts the irrigation well density is also very high i.e. from 10 to 15 wells/sq km.

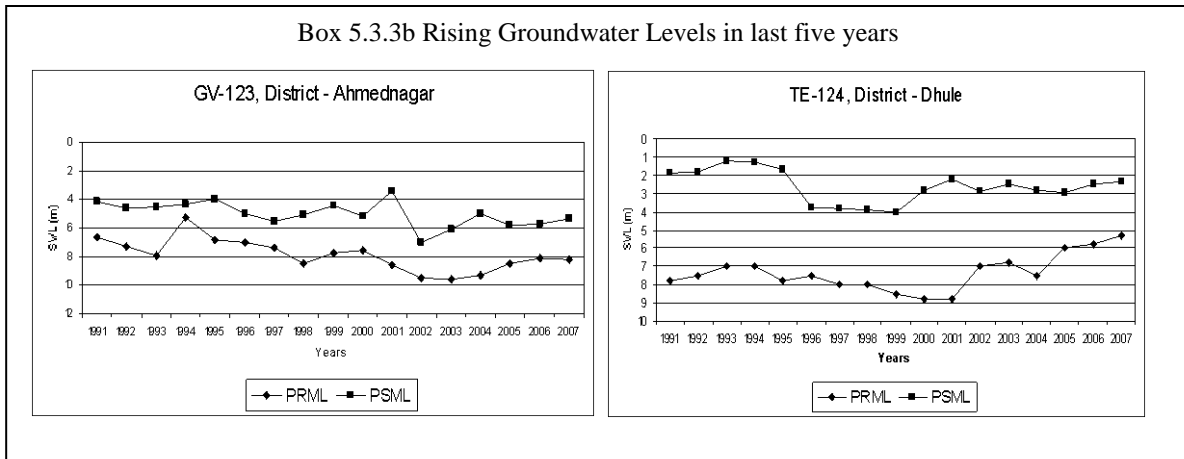
The groundwater development i.e. number of Over-exploited, critical and semi-critical watershed are highest in Ahmednagar (28), followed by Pune, Jalgaon, Nashik (25), Solapur (16), Amravati (15), Buldhana, Latur (11) and Sangli (10) (Box 5.3.2b). The over withdrawal of groundwater in these districts is attributed to the cash crop like Sugarcane, Banana, Grapes and Oranges which are mostly groundwater dependent.

5.3.3 Effect of Rainfall on Groundwater Levels

The rainfall is the primary source for the yearly replenishable groundwater in the State and has a direct impact on groundwater recharge. The variability of rainfall is also reflected into the groundwater availability. The rainfall deficit and recharge to groundwater are in



inverse proportion. However, during last five years there was good rainfall in the State and over a period of time contributed for good groundwater recharge. **Box 5.3.3a** clearly depicts the consistency in rainfall in the last five years. This has directly reflected in increasing the groundwater levels along with its use. Especially in drought prone areas of the State this situation is very prominent. Few hydrographs showing rising groundwater levels are shown in **Box 5.3.3b**.

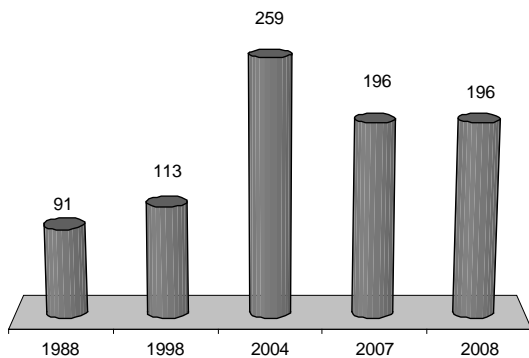


The water level is the pulse of groundwater and the groundwater abstraction or the natural discharge has a direct impact on the groundwater levels. During this assessment, the post-monsoon groundwater levels of 2008 and pre-monsoon groundwater levels of 2009 are considered for computations. To know the present groundwater development, in terms of groundwater levels, map showing the Pre-Monsoon water levels has been generated for the State and is depicted in **Map 10**.

5.4 Comparison with the earlier assessments

5.4.1 Assessment Units

Since 1973, watershed is being used as a unit for assessment in the State irrespective

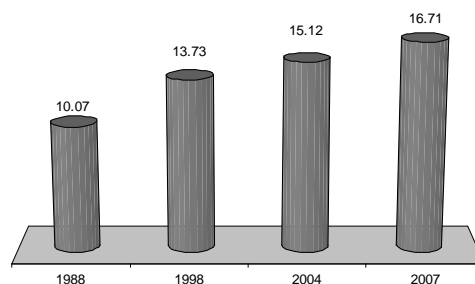


of the methodology. Comparison between the Groundwater resource assessments in the State based on GEC 84 (1988), GEC-97 guidelines (2004, 2007-08 & 2008-09) has been carried out. The comparison clearly shows that with the increasing ground water development; there is a

increase in number of over-withdrawal watersheds. However, in the current year due to consistency in the rainfall for the last five years and because of increase in recharge from other sources, there is marginal decrease in the number of over-developed (OE/C/SC) watersheds.

The groundwater development is a function of recharge and draft. In every estimation, depending upon prevailing draft data, the numbers of over developed watersheds are varying. Since 1988 this number is also continuously increasing. The importance of groundwater resource for drinking and supplemental irrigation purposes is critical hence the development

has been receiving the attention from public. After electrification of wells the numbers of irrigation wells with pumpsets are increasing continuously. In the year 1988 there were 10.07 lakh irrigation wells with pumpsets and in the year 2007 the number has increased to 16.71 lakhs.



Besides this, from 1990 onwards there is a trend to use borewells/tube wells for irrigation. The increase in number of irrigation borewells with pumpsets is very high. It is observed that the total number of irrigation borewells in the State as a whole has increased from mere 41936 in 2004 to 191397 in 2007.

5.4.2 Recharge

The last five good rainfall years supported by the development of new surface irrigation systems, recycled the surface water and replenished the groundwater in the

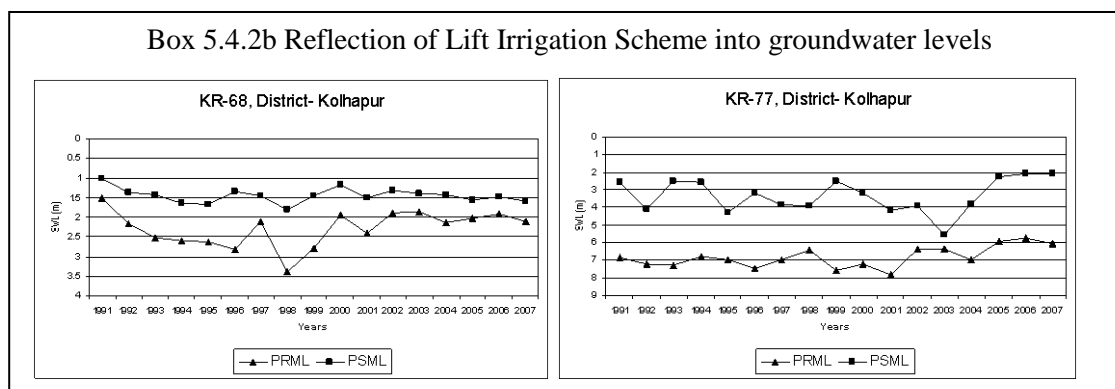
Year	Rainfall	Canal	SW Irri.	GW Irri	Tank & Ponds	WCS	Total Recharge
2004	22.08	0.52	4.11	3.54	0.33	2.38	32.96
2008	23.94	0.53	4.20	4.03	0.31	2.73	35.73

non-monsoon period. This was responsible for increasing the groundwater recharge within the watersheds of Nagpur, Akola, Pune, Sangli, Satara and Kolhapur districts. The operationalization and distribution of surface water through newly constructed major, medium minor and lift irrigation projects/schemes have indirectly contributed to increase in the groundwater, either through irrigation return flow or by non-pumping of groundwater.

The initiative taken by GoM and community in last four-five years, in artificial groundwater recharge, has shown the remarkable results. There is increase in the recharge from different sources like surface irrigation, canal, water conservation structures, tanks and ponds etc, compared to 2004 (**Box 5.4.2a**).

5.4.2.1 Case Studies

In Kolhapur district from 2001 onwards the surface water lift irrigation schemes have operationalized substantially, which has resulted in decreasing the dependability on groundwater in most of the watersheds. This is reflected into the hydrograph of the observation wells (**Box 5.4.2b**). This has drastically changed the categories of 11 watersheds



of the districts from semi-critical to safe category.

In Akola district the Wan irrigation project is completed and water has been released into the canals. This has benefited the PT-7, PT-8, PTB-1 watersheds of the district.

In Nashik district the Nagasakya irrigation project has been completed and the project is commissioned. The canal irrigation of this project has benefited TE-109 watershed.

In Jalgaon district, the water has been released into the canals from the Titur Project since 2006. This has resulted in benefiting the watershed TE-36. Similarly, the experiments of interlinking of the local nalas/rivers also benefited to groundwater recharge.

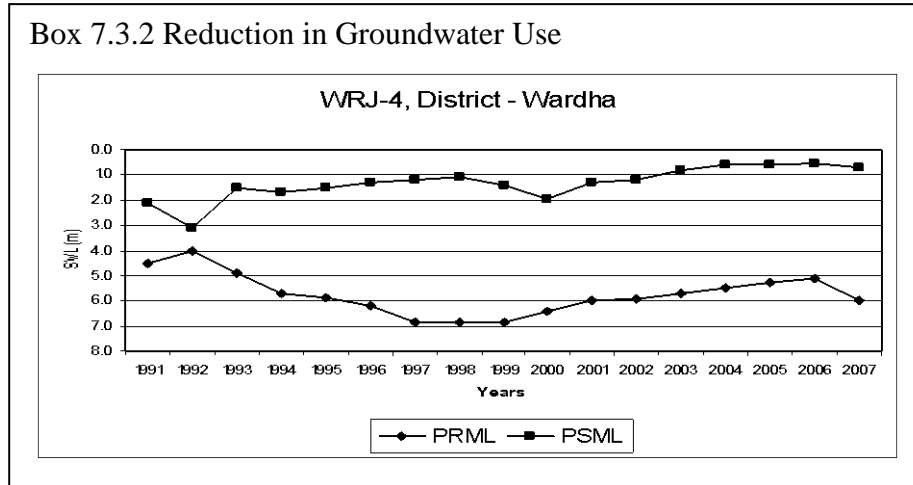
In Nagpur district, Chikhli nala, Chichnala, Jam medium irrigation projects have been completed and supply of surface water through canal has benefited the watersheds WRJ-2, WRJ-3 and WRJ-5.

In Pune district Neera, Meena, Ghod (LIS), Chaskaman and Dimbhe irrigation projects have been commissioned and have benefited the watersheds BM-6, 9, 11,12, 26, 35, 75. This is responsible for the change in the category of these watersheds.

In Sangli district large number of Lift Irrigation Schemes like Takari, Krishna-Koyana, Tembhu, Mhaisala have been commissioned. Due to availability of surface water the groundwater dependability (rotations) has reduced and because of which base flow conditions are being observed throughout during non-monsoon season. Because of reduction in number of operational days the groundwater levels have improved in BM-113, KR-22, KR-33, KR-38, KR-39, KR-40, KR-50, KR-51 watersheds.

5.4.2.2 Reduction in cash crops

In Nagpur and Wardha districts the Orange orchard area has reduced drastically. This is because of depletion in the groundwater levels and drying up of the irrigation wells. Hence there is reduction in groundwater draft in concerned watersheds. This is directly reflected into the hydrograph of the relevant watersheds.



5.5 Field Validation

As per the uniform protocol that was followed for the re-estimation of State level assessment of Dynamic Groundwater Resources, it has been suggested to have a field validation check in at least 10% of the assessment units, in different Hydrogeological setup. Accordingly sample surveys for validation checks were carried out in 281 villages from 102 watersheds. This includes 21 over-exploited, 01 critical, 29 semi-critical and 51 safe watersheds.

Primarily the field validation is carried out by the District Senior Geologists of GSDA at District level. This is followed by joint field verification by CGWB, Nagpur and Directorate, GSDA, Pune. During this joint field visit the data from village Hatala of WRJ 4 watershed, District Nagpur has been cross verified. Similarly the data from two village Pimpri and Kharbi of WGK 6 watershed, District Bhandara have been cross verified in the field.

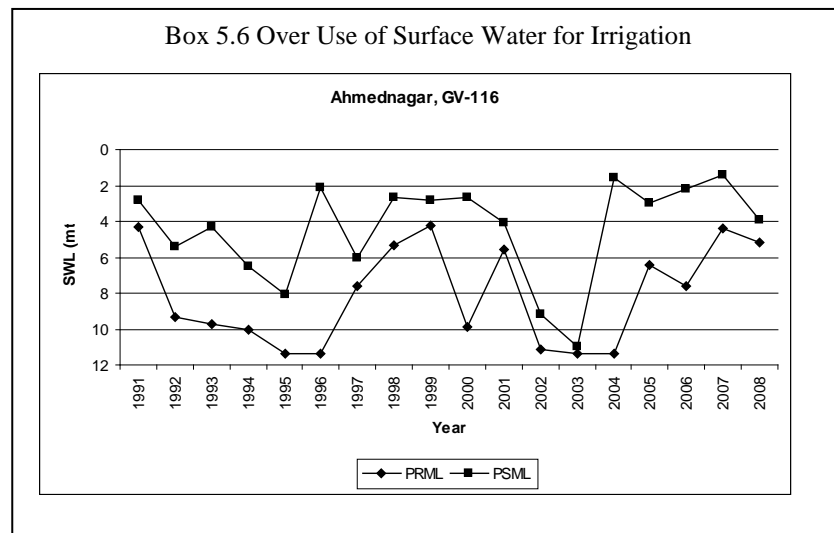
During field validation check it is found there is a difference of $\pm 5\%$ in the well census. However, the well unit draft, cropping pattern, canal data, surface irrigation are commensurate with the data considered for this assessment.

5.6 Groundwater Recharge in Poor Quality zone

During this assessment it observed that the poor quality area in the State has increased from 3,05,308 (2004) ha to 3,36,801 ha. During this assessment it is observed that 31,493 ha

of area has been newly included in Poor Quality. This mainly includes the area from Saline Belt of Purna River. This is in-situ saline tract where TDS is very very high.

Besides this in Western part of Maharashtra i.e. Sangli, Satara, Ahmednagar Districts due to excessive surface irrigation and use of chemical fertilizers (**Box 5.6**) the area is becoming saline. This increase is mainly in Sangli and Ahmednagar districts.



During this assessment the district, watershed wise recharge from rainfall and other sources along with the gross groundwater draft has been computed separately for the poor-quality area and is given in *Annexure III I*. The total recharge is of the order of 24,800 ham and the draft is about 3800 ham.

5.7 Annual Potential Recharges

In Maharashtra, the water logged and shallow water table areas are very sporadic. Their aerial extent is very small and it is very difficult to map and monitor. Hence, computation of potential recharge to ground water reservoir i.e. potential ground water resource was not computed.

**MINUTES OF THE MEETING OF STATE LEVEL TECHNICAL COMMITTEE
FOR REVIEW OF GROUND WATER RESOURCES OF MAHARASHTRA FOR
2008-09 AS PER GEC 97 METHODOLOGY**

Dated 27th September 2010

(Issued vide Regional Director, CGWB, Nagpur Letter No 54/TS/2104 dated 25th Nov 2010)

The Meeting of the State Level Committee for finalization of the Ground Water Resource Estimation for 2008-09 for the State of Maharashtra was held under the Chairmanship of Smt. Malini Shankar, Principal Secretary to Govt. of Maharashtra, Water Supply and Sanitation Department, Mantralaya, Mumbai on 27th September 2010 at 12.30 p.m. The meeting was held at the Committee Room, Home Department, Room No. 543 (Main Bldg.), 5th Floor, Mantralaya, Mumbai to review and finalize the Ground Water Resource estimation of Maharashtra for the year 2008-09 jointly carried out by Ground Water Surveys & Development Agency (GSDA), Pune and Central Groundwater Board (CGWB), Nagpur. The list of members attended the meeting is enclosed.

At the outset, Shri. B. Jaya Kumar, Regional Director, Central Groundwater Board, Central Region, Nagpur and Member Convenor welcomed the Members and gave opening remarks about the Dynamic Ground Water Resource Estimation of Maharashtra for the year 2008-09 and informed about the deadline given by CGWB, CHQ in completing the state level exercise on or before 30th September 2010. He also indicated the commitment given by CGWB in submitting the National Level Assessment report on or before 31st March 2011 to PMO. The Member Convenor appreciated the role of GSDA & CGWB in completing the present exercise in stipulated time and also the enthusiasm shown by GSDA in completing the assessment for the base year 2007-08. He also explained the Members about the Central Government Policy of carrying out the ground water assessment on yearly basis. At this juncture, Smt. Malini Shankar, the Principal Secretary, Water Supply and Sanitation Department & Chairman of the Committee, indicated that it is good to carryout assessment on yearly basis subject to the availability of data and various inputs from other Departments needed for the above exercise.

Shri. K.M. Nagargoje, Director, GSDA, Pune informed that GSDA has been carrying out ground water assessment since 1973 ever since the Department has formed. He informed the Members that lack of updated data from various Departments like Minor Irrigation, Industries, Water Conservation and Agriculture is required for this purpose.

Shri. Shashank Deshpande, Senior Geologist, Groundwater Estimation Cell, GSDA, Pune presented the highlights of the draft report on the Groundwater Resource Assessment for 2008-09. During the presentation, the committee had a detailed discussion on the recharge due to canals, draft for irrigation from dug wells /bore wells and industrial draft etc.

The Principal Secretary, WS & SD and Chairman of the committee indicated about the paucity data on industrial wells in the present resource estimation and impressed upon the representative from the Dept. of Industries about the need and importance of data on industrial wells. Shri. P.D. Rendalkar, the Dy. Director of Industries, informed that most of the industries are mainly located in MIDC area and they are depending mainly on surface water supply.

The Chairman of the committee cited the use of wells in Rice Parboiling industries located in Gondia and Bhandara districts and made an elaborate suggestion on the mode of collection of data from Industrial units. At the outset, she suggested that the water intensive industries especially textile, bottling and food processing industries should be identified first. The industries registered with the Dept. of industries are taken up followed by the unregistered units. The Chairman also asked the representative of Department of Industries to concentrate on the industries located in Over exploited, Critical and Semi-critical talukas and obtain the data on priority basis and submit the same in 10 days to enable the GSDA and CGWB to incorporate the data for reviewing the assessment. The Chairman of the Committee also advised GSDA to provide a list of over exploited, critical and semi-critical talukas in Maharashtra to the Dept. of Industries.

The Chairman of the committee insisted that Agriculture being the major stakeholder their views on the report may also be obtained.

The Member Convenor requested the representative from Minor Irrigation - Local Sector, Pune to compile district-wise data on the active canals in order to obtain better picture of recharge due to canals and return flow due to surface water irrigation. The Superintending Engineer, Minor Irrigation- Local Sector informed that the latest data on canals is available with Water Audit Unit located within WALMI camps for which Shri. Deshpande, Sr. Geologist, GSDA informed the Members that the GSDA has already verified with WALMI and latest data is for the year 2006-07.

The issue of lack of data on irrigation dug wells/bore wells was discussed. Shri. Shinde, the Superintending Engineer, Minor Irrigation - Local Sector, Thane

(Representative of Chief Engineer, Minor Irrigation, Local Sector, Pune) informed that the IVth Minor Irrigation Census is almost over and the data on irrigation dug wells/bore wells would be published shortly. The Chairman of the committee desired that the data be given village-wise.

The Member Convenor also impressed upon the Chairman of the Committee about the need and compilation of agriculture data district-wise/village-wise.

The Asstt. General Manager, NABARD, Pune Shri. Sandeep Sharma stressed the need of updated database.

Dr. S. D. Dahiwalkar, the Research Engineer, MPKV, Rahuri informed about the studies carried out by MPKV on the effectiveness of percolation tanks on ground water recharge and informed that the percolation tanks are the best among the recharge structures.

The Additional Director, GSDA, Pune Shri. Khandale impressed the committee the need for carrying out ground water assessment for urban areas for scarcity measures. In response to this, the Chairman of the committee advised GSDA to take up pilot studies in some urban areas especially in Jalna district to arrive at the picture.

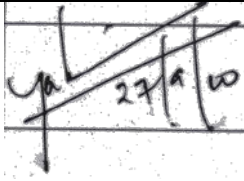
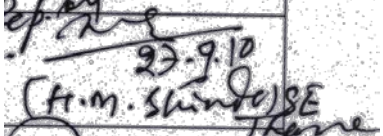
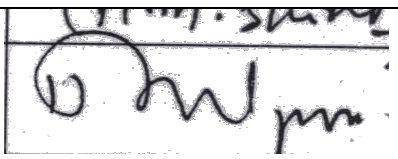

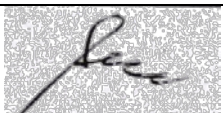
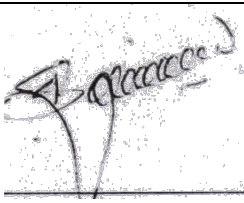
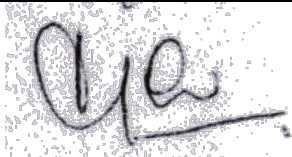
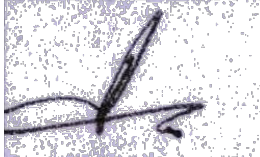
The Director, GSDA, Pune informed the Members that field validation would be carried out in at least 10 % of the assessment units and would inform CGWB and Chairman of the Committee upon completion of the same. These would be incorporated in the report after approval of the Committee.

The Committee has accepted the draft report on the Dynamic Groundwater Resources of Maharashtra 2008-09. The Member convener requested that the Annexure III D be made as per the format circulated by CHQ i.e. assessment sub unit wise and the GSDA has agreed to compute up to stage of development only.

However, the committee has decided to compute the category only for the watershed and not for the sub-units. Accordingly the draft report will be re-submitted to the Chairman of the Committee after incorporating the necessary modifications as mentioned above.

It has been decided to submit the accepted report to GoI by 15th October 2010 through Central Ground Water Board, Ministry of Water Resources.

The meeting ended with the vote of thanks from the Member Convenor.

List of Members Attended the Meeting on 27 th Sept 2010			
Sr No	Name	Designation	Signature
1	Malini Shankar	Principal Secretary, Water Supply and Sanitation Department, Mantralaya, Mumbai	
2	Shinde H.M.	Superintending Engineer, Minor Irrigation (LS), Pune	
3	Nagargoje K.M.	Director, Groundwater Surveys and Development Agency, Pune	
4	Rendalkar P.D.	Deputy Director, Dept of Industries, Mumbai	
5	Sharma Sandeep	Assistant General Manager, NABARD, Pune	
6	Dahiwalkar S.D.	Research Engineer, Mahatma Phule Agricultural University, Rahuri	
7	Murty C.S.N.	Deputy Director (R&D), Groundwater Surveys and Development Agency, Pune	
8	Jaya Kumar B.	Regional Director, Central Groundwater Board, Central Region, Nagpur	

GENERAL DESCRIPTION OF THE GROUND WATER ASSESSMENT UNIT OF THE MAHARASHTRA - 2008-2009

Type of Administrative Unit - Taluka

Sr. No.	District	Name of Administrative Unit	Type of rock formation	Areal extent (in hectares)							
				Total Geographical Area	Hilly Area	Ground Water Recharge Worthy Area			Shallow Water Table Area	Flood Prone Area	Bottom of the unconfined aquifer in soft rock areas and depth of weathered zone and /or maximum depth of fractures under unconfined zone
						Command area	Non-command area	Poor ground water quality area			
1		2	3	4	5	6	7	8	9	10	11
1	Ahmednagar	Akola	Hardrock	151362.00	28012.00	6011.00	117339.00	0.00	-	-	19.40
2	Ahmednagar	Jamkhed	Hardrock	73137.00	4534.00	0.00	68603.00	0.00	-	-	13.40
3	Ahmednagar	Karjat	Hardrock	140284.00	886.00	6259.00	133139.00	0.00	-	-	14.90
4	Ahmednagar	Kopargaon	Hardrock	66643.39	0.00	22107.00	44536.39	0.00	-	-	14.75
5	Ahmednagar	Nagar	Hardrock	139425.00	7557.00	0.00	126063.49	5804.51	-	-	19.60
6	Ahmednagar	Newasa	Hardrock	135516.00	2736.00	82033.80	48962.20	1784.00	-	-	19.00
7	Ahmednagar	Parner	Hardrock	195198.00	17866.00	34472.00	133442.00	9418.00	-	-	17.30
8	Ahmednagar	Pathardi	Hardrock	134772.00	23862.00	34970.00	75940.00	0.00	-	-	15.75
9	Ahmednagar	Rahuri	Hardrock	96980.00	3494.00	47833.84	45505.00	147.16	-	-	18.00
10	Ahmednagar	Rhata	Hardrock	65448.40	0.00	48760.74	16687.66	0.00	-	-	10.80
11	Ahmednagar	Sangamner	Hardrock	181942.93	17848.00	12665.34	151429.59	0.00	-	-	19.40
12	Ahmednagar	Shevgaon	Hardrock	98285.00	3707.00	5538.00	89040.00	0.00	-	-	16.35
13	Ahmednagar	Shrigonda	Hardrock	138979.00	3312.00	24963.00	104015.07	6688.93	-	-	16.50
14	Ahmednagar	Shrirampur	Hardrock	58316.28	0.00	40589.42	17726.86	0.00	-	-	13.70
15	Akola	Akola	Hardrock	103668.01	4146.14	8682.90	54364.55	36474.42	-	-	24.30
16	Akola	Akot	Alluvium	81284.00	834.77	4286.88	44971.76	31190.59	-	-	24.30
17	Akola	Balapur	Alluvium	68832.99	1819.91	2820.63	62704.45	1488.00	-	-	23.30
18	Akola	Barsi Takli	Hardrock	76381.00	8033.63	6088.18	62259.19	0.00	-	-	18.50
19	Akola	Murtizapur	Alluvium	78943.00	2144.97	4339.76	71050.27	1408.00	-	-	18.50
20	Akola	Patur	Hardrock	70118.99	10245.69	7036.58	52836.72	0.00	-	-	18.10
21	Akola	Telhara	Alluvium	62832.00	670.01	14759.39	42035.60	5367.00	-	-	24.30
22	Amravati	Achlapur	Alluvium	63812.00	0.00	9665.00	51495.00	2652.00	-	-	22.00
23	Amravati	Amravati	Hardrock	89644.00	9335.00	1486.00	78823.00	0.00	-	-	17.00
24	Amravati	Anjangaon Surji	Alluvium	52089.00	0.00	7974.00	31719.00	12396.00	-	-	20.60
25	Amravati	Bhatkuli	Alluvium	57991.00	0.00	0.00	5928.00	52063.00	-	-	14.40
26	Amravati	Chandur Bazar	Alluvium	69540.00	2977.00	703.00	65860.00	0.00	-	-	27.50
27	Amravati	Chandur Railway	Hardrock	53561.00	6499.00	2674.00	44388.00	0.00	-	-	22.80
28	Amravati	Chikhaldara	Hardrock	256725.00	224997.00	281.00	31447.00	0.00	-	-	18.80
29	Amravati	Daryapur	Alluvium	77689.00	0.00	0.00	5427.00	72262.00	-	-	27.50
30	Amravati	Dhamangaon Railway	Hardrock	61611.00	1919.00	1770.00	57922.00	0.00	-	-	22.80
31	Amravati	Dharni	Hardrock	146250.00	107070.00	3384.00	35796.00	0.00	-	-	18.30
32	Amravati	Morshi	Hardrock	80905.00	10799.00	3470.00	66636.00	0.00	-	-	16.50
33	Amravati	Nandgaon	Hardrock	78288.00	7693.00	902.00	69693.00	0.00	-	-	15.30
34	Amravati	Tiwsa	Hardrock	58228.00	4337.00	10884.00	43007.00	0.00	-	-	22.80
35	Amravati	Warud	Hardrock	74544.00	6012.00	2583.00	65949.00	0.00	-	-	18.30
36	Aurangabad	Aurangabad	Hardrock	162208.25	14801.00	18298.25	129109.00	0.00	-	-	23.00
37	Aurangabad	Fulambre	Hardrock	51054.75	11056.00	1703.75	38295.00	0.00	-	-	22.70
38	Aurangabad	Gangapur	Hardrock	128019.00	0.00	32312.00	95707.00	0.00	-	-	20.40
39	Aurangabad	Kannad	Hardrock	139327.12	11280.12	9878.00	118169.00	0.00	-	-	23.70
40	Aurangabad	Khuldabad	Hardrock	50987.00	7263.00	3180.00	40544.00	0.00	-	-	23.70
41	Aurangabad	Paitan	Hardrock	150478.00	490.00	34194.00	115794.00	0.00	-	-	24.15
42	Aurangabad	Sillod	Hardrock	128414.00	10718.00	7022.00	110674.00	0.00	-	-	23.00
43	Aurangabad	Soyegaon	Hardrock	74169.00	13241.00	4713.00	56215.00	0.00	-	-	20.10
44	Aurangabad	Vaijapur	Hardrock	137384.00	3018.00	41044.00	93322.00	0.00	-	-	23.30
45	Beed	Ambejogai	Hardrock	92496.00	2636.00	2207.00	87653.00	0.00	-	-	13.80
46	Beed	Ashti	Hardrock	147893.00	4249.00	11075.00	132569.00	0.00	-	-	21.00
47	Beed	Beed	Hardrock	139794.00	5015.00	9634.00	125145.00	0.00	-	-	21.75
48	Beed	Dharur	Hardrock	28755.00	5179.00	1481.00	22095.00	0.00	-	-	24.00
49	Beed	Gevrai	Hardrock	148223.00	302.00	22944.00	124977.00	0.00	-	-	19.50
50	Beed	Kaj	Hardrock	133186.00	1156.00	0.00	132030.00	0.00	-	-	28.90
51	Beed	Majalgaon	Hardrock	92246.00	150.00	34151.00	57945.00	0.00	-	-	24.00
52	Beed	Parli	Hardrock	67651.00	4125.00	13486.00	50040.00	0.00	-	-	16.40
53	Beed	Patoda	Hardrock	77999.00	5622.00	2509.00	69868.00	0.00	-	-	18.30
54	Beed	Shirur Ka	Hardrock	64944.00	3537.00	2115.00	59292.00	0.00	-	-	18.30
55	Beed	Wadvani	Hardrock	76113.00	2124.00	4625.00	69364.00	0.00	-	-	24.00
56	Bhandara	Bhandara	Hardrock	65950.00	2174.00	15146.00	48630.00	0.00	-	-	16.90
57	Bhandara	Lakhandur	Hardrock	45076.00	38.00	9015.00	36023.00	0.00	-	-	17.00
58	Bhandara	Lakhani	Hardrock	47610.00	1010.00	7356.00	39244.00	0.00	-	-	15.70
59	Bhandara	Mohadi	Hardrock	53054.00	1560.00	25500.00	25994.00	0.00	-	-	16.90
60	Bhandara	Pauni	Hardrock	65221.00	1175.00	1640.00	62406.00	0.00	-	-	17.00
61	Bhandara	Sakoli	Hardrock	56530.00	3110.00	10252.00	43168.00	0.00	-	-	18.69
62	Bhandara	Tumsar	Hardrock	75259.00	3136.00	29806.00	42317.00	0.00	-	-	14.70
63	Buldhana	Buldhana	Hardrock	80487.00	19739.00	3530.00	57218.00	0.00	-	-	14.00
64	Buldhana	Chikhali	Hardrock	115389.00	21808.00	2316.00	91265.00	0.00	-	-	17.50
65	Buldhana	Deulgaon Raja	Hardrock	48678.00	3812.00	2389.00	42477.00	0.00	-	-	17.50
66	Buldhana	Jalgaon	Alluvium	61776.00	7558.00	1152.00	48566.00	4500.00	-	-	22.80
67	Buldhana	Khamgaon	Hardrock	120241.00	24154.00	13874.00	82213.00	0.00	-	-	19.50
68	Buldhana	Lonar	Hardrock	71411.00	13499.00	6055.00	51857.00	0.00	-	-	23.60
69	Buldhana	Malakapur	Hardrock	44490.00	118.00	5963.00	38409.00	0.00	-	-	17.90
70	Buldhana	Mehkar	Hardrock	109333.00	19048.00	10223.00	80062.00	0.00	-	-	15.30
71	Buldhana	Motala	Hardrock	74350.00	18332.00	4916.00	51102.00	0.00	-	-	17.50
72	Buldhana	Nandura	Hardrock	53625.00	0.00	3008.00	47140.00	3477.00	-	-	24.00
73	Buldhana	Sangrampur	Alluvium	57521.00	5894.00	4459.00	42019.00	5149.00	-	-	22.80
74	Buldhana	Shegaon	Hardrock	50979.00	0.00	811.00	36666.00	13502.00	-	-	24.00

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Sr. No.	District	Name of Administrative Unit	Type of rock formation	Areal extent (in hectares)							
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						Command area	Non-command area	Poor ground water quality area			
75	Buldhana	S'indkhed Raja	Hardrock	77819.00	11522.00	3793.00	62504.00	0.00	-	-	17.50
76	Chandrapur	Ballarpur	Hardrock	43859.00	800.00	0.00	43059.00	0.00	-	-	17.90
77	Chandrapur	Bhadravati	Hardrock	152723.00	10102.00	2531.00	140090.00	0.00	-	-	16.80
78	Chandrapur	Brahmapuri	Hardrock	73803.00	1440.00	0.00	72363.00	0.00	-	-	16.10
79	Chandrapur	Chandrapur	Hardrock	97436.00	3375.00	0.00	94061.00	0.00	-	-	16.80
80	Chandrapur	Chimmur	Hardrock	85508.00	20731.00	0.00	64777.00	0.00	-	-	16.30
81	Chandrapur	Gondpipri	Hardrock	75078.00	1648.00	0.00	73430.00	0.00	-	-	17.90
82	Chandrapur	Jiwati	Hardrock	63576.00	20398.00	0.00	43178.00	0.00	-	-	13.75
83	Chandrapur	Korpana	Hardrock	46981.00	3822.00	8297.00	34862.00	0.00	-	-	15.70
84	Chandrapur	Mul	Hardrock	48785.00	8213.00	7966.00	32606.00	0.00	-	-	14.75
85	Chandrapur	Nagbhind	Hardrock	67028.00	1691.00	9817.00	55520.00	0.00	-	-	16.30
86	Chandrapur	Pobhurna	Hardrock	36798.00	335.00	8838.00	27625.00	0.00	-	-	15.30
87	Chandrapur	Rajura	Hardrock	89224.00	6676.00	1933.00	80615.00	0.00	-	-	13.75
88	Chandrapur	Sawali	Hardrock	59050.00	0.00	27814.00	31236.00	0.00	-	-	14.75
89	Chandrapur	Sindewali	Hardrock	91577.00	12928.00	12168.00	66481.00	0.00	-	-	16.30
90	Chandrapur	Warora	Hardrock	112874.00	4484.00	5615.00	102775.00	0.00	-	-	15.60
91	Dhule	Dhule	Hardrock	198368.00	15742.00	15518.00	167108.00	0.00	-	-	16.75
92	Dhule	Sakri	Hardrock	230954.00	34187.00	17965.00	178802.00	0.00	-	-	17.60
93	Dhule	Shirpur	Hardrock	148524.00	17745.00	12088.00	118691.00	0.00	-	-	30.75
94	Dhule	Sindkheda	Hardrock	135321.00	3361.00	3730.00	128230.00	0.00	-	-	21.70
95	Gadchiroli	Aheri	Hardrock	209865.00	95766.51	0.00	114098.49	0.00	-	-	15.84
96	Gadchiroli	Armori	Hardrock	67409.00	3915.13	3295.00	60198.87	0.00	-	-	13.05
97	Gadchiroli	Bhamragad	Hardrock	110292.00	72603.80	0.00	37688.20	0.00	-	-	13.00
98	Gadchiroli	Chamorshi	Hardrock	137367.00	11783.30	7608.00	117975.70	0.00	-	-	17.40
99	Gadchiroli	Dhanora	Hardrock	166071.00	90654.75	0.00	75416.25	0.00	-	-	13.10
100	Gadchiroli	Etapalli	Hardrock	270723.00	155930.85	0.00	114792.15	0.00	-	-	12.80
101	Gadchiroli	Gadchiroli	Hardrock	82948.00	31204.20	0.00	51743.80	0.00	-	-	14.90
102	Gadchiroli	Korchi	Hardrock	68137.00	29478.34	0.00	38658.66	0.00	-	-	12.10
103	Gadchiroli	Kurkheda	Hardrock	95640.00	18768.12	0.00	76871.88	0.00	-	-	13.00
104	Gadchiroli	Mulchera	Hardrock	92657.00	21790.90	192.71	70673.39	0.00	-	-	11.60
105	Gadchiroli	Soroncha	Hardrock	128139.00	49576.00	0.00	78563.00	0.00	-	-	19.70
106	Gadchiroli	Wadsa	Hardrock	40756.00	1883.00	11584.00	27289.00	0.00	-	-	13.05
107	Gondia	Amgaon	Hardrock	41600.00	5910.95	6895.76	28793.29	0.00	-	-	14.85
108	Gondia	Arjuni Moregaon	Hardrock	92633.47	5156.45	22034.04	65442.98	0.00	-	-	15.40
109	Gondia	Deori	Hardrock	100900.00	20116.29	2403.67	78380.04	0.00	-	-	16.30
110	Gondia	Gondia	Hardrock	67000.00	4830.54	16340.52	45828.94	0.00	-	-	14.70
111	Gondia	Goregaon	Hardrock	48100.00	6714.56	1033.48	40351.96	0.00	-	-	18.05
112	Gondia	Sadak Arjuni	Hardrock	63985.00	3214.19	5987.57	54783.24	0.00	-	-	18.05
113	Gondia	Salekasa	Hardrock	50500.00	11204.00	8531.33	30764.67	0.00	-	-	17.20
114	Gondia	Tirora	Hardrock	56200.00	4066.74	18019.61	34113.65	0.00	-	-	15.95
115	Hingoli	Aundha	Hardrock	92420.00	10459.00	35204.00	46757.00	0.00	-	-	15.00
116	Hingoli	Basmath	Hardrock	76436.00	0.00	64111.00	12325.00	0.00	-	-	15.80
117	Hingoli	Hingoli	Hardrock	94832.00	0.00	16477.00	78355.00	0.00	-	-	15.00
118	Hingoli	Kalmnuri	Hardrock	94891.00	0.00	42399.00	52492.00	0.00	-	-	15.00
119	Hingoli	Sengaoon	Hardrock	124121.00	6000.00	11000.00	107121.00	0.00	-	-	14.90
120	Jalgaon	Amalner	Hardrock	92178.00	2912.00	13369.00	75897.00	0.00	-	-	22.00
121	Jalgaon	Bhadgaon	Hardrock	50819.00	1677.00	29874.00	19268.00	0.00	-	-	19.50
122	Jalgaon	Bhusawal	Hardrock	53818.00	0.00	1150.00	52668.00	0.00	-	-	25.40
123	Jalgaon	Bodwad	Hardrock	35669.00	0.00	290.00	35379.00	0.00	-	-	21.25
124	Jalgaon	Chalisgaon	Hardrock	108990.00	5655.00	14959.00	88376.00	0.00	-	-	25.60
125	Jalgaon	Chopda	Alluvium	114265.00	4085.00	40448.00	69732.00	0.00	-	-	45.00
126	Jalgaon	Dharangaon	Hardrock	45418.00	0.00	6529.00	38889.00	0.00	-	-	18.00
127	Jalgaon	Erandol	Hardrock	50186.00	1009.00	16020.00	33157.00	0.00	-	-	19.50
128	Jalgaon	Jalgaon	Alluvium	83198.00	0.00	1141.00	82057.00	0.00	-	-	51.00
129	Jalgaon	Jamner	Hardrock	130328.00	3485.00	6564.00	120279.00	0.00	-	-	22.00
130	Jalgaon	Muktainagar	Hardrock	63392.00	0.00	253.00	63139.00	0.00	-	-	37.20
131	Jalgaon	Pachora	Hardrock	82787.00	3178.00	8789.00	70820.00	0.00	-	-	25.60
132	Jalgaon	Parola	Hardrock	75806.48	4646.48	14189.00	56971.00	0.00	-	-	18.00
133	Jalgaon	Raver	Alluvium	98066.00	4159.00	5989.00	87918.00	0.00	-	-	46.55
134	Jalgaon	Yawal	Alluvium	91350.00	7581.00	7526.00	76243.00	0.00	-	-	50.55
135	Jalna	Ambad	Hardrock	110885.00	0.00	14990.00	95895.00	0.00	-	-	19.00
136	Jalna	Badnapur	Hardrock	53430.66	0.00	3701.00	49729.66	0.00	-	-	19.80
137	Jalna	Bhokardan	Hardrock	127316.26	0.00	4155.00	123161.26	0.00	-	-	14.70
138	Jalna	Ghat Sawangi	Hardrock	109967.00	1000.00	19144.00	89823.00	0.00	-	-	24.50
139	Jalna	Jafrabad	Hardrock	69380.50	0.00	3051.00	66329.50	0.00	-	-	16.81
140	Jalna	Jalna	Hardrock	123892.18	0.00	2789.00	121103.18	0.00	-	-	19.80
141	Jalna	Mantha	Hardrock	80364.40	0.00	1636.44	78727.96	0.00	-	-	14.60
142	Jalna	Partur	Hardrock	97564.00	0.00	4833.00	92731.00	0.00	-	-	16.60
143	Kolhapur	Ajara	Hardrock	58127.21	17862.00	0.00	40265.21	0.00	-	-	12.60
144	Kolhapur	Bhudargad	Hardrock	59899.67	9864.39	0.00	50035.28	0.00	-	-	12.00
145	Kolhapur	Chandgad	Hardrock	99863.95	24793.00	0.00	75070.95	0.00	-	-	15.90
146	Kolhapur	Gadhinglaj	Hardrock	48272.05	517.00	0.00	47755.05	0.00	-	-	15.00
147	Kolhapur	Gaganbawada	Hardrock	31295.99	19077.25	0.00	12218.74	0.00	-	-	10.90
148	Kolhapur	Hatkanangale	Hardrock	57309.00	0.00	0.00	57309.00	0.00	-	-	18.00
149	Kolhapur	Kagal	Hardrock	59672.12	4020.41	0.00	55651.71	0.00	-	-	11.40
150	Kolhapur	Karvir	Hardrock	61895.68	12674.69	0.00	49220.99	0.00	-	-	13.60

GENERAL DESCRIPTION OF THE GROUND WATER ASSESSMENT UNIT OF THE MAHARASHTRA - 2008-2009

Type of Administrative Unit - Taluka

Sr. No.	District	Name of Administrative Unit	Type of rock formation	Areal extent (in hectares)							
				Total Groographical Area	Hilly Area	Ground Water Recharge Worthy Area			Shallow Water Table Area	Flood Prone Area	Bottom of the unconfined aquifer in soft rock areas and depth of weathered zone and /or maximum depth of fractures under unconfined zone
						Command area	Non-command area	Poor ground water quality area			
151	Kolhapur	Panhala	Hardrock	53768.57	14340.00	0.00	39428.57	0.00	-	-	13.00
152	Kolhapur	Radhanagari	Hardrock	83372.10	36210.26	0.00	47161.84	0.00	-	-	11.40
153	Kolhapur	Shahuwadi	Hardrock	102994.66	68209.00	0.00	34785.66	0.00	-	-	14.60
154	Kolhapur	Shirol	Hardrock	53273.00	0.00	0.00	53273.00	0.00	-	-	18.00
155	Latur	Ahmedpur	Hardrock	97890.00	6849.00	2537.00	88504.00	0.00	-	-	24.30
156	Latur	Anantpal Sh	Hardrock	20332.00	2543.00	0.00	17789.00	0.00	-	-	23.70
157	Latur	Ausa	Hardrock	121367.00	5176.00	7363.00	108828.00	0.00	-	-	23.70
158	Latur	Chakur	Hardrock	52021.00	4040.00	2248.00	45733.00	0.00	-	-	24.30
159	Latur	Devani	Hardrock	29876.00	4300.00	0.00	25576.00	0.00	-	-	17.90
160	Latur	Jalkot	Hardrock	23937.00	4070.00	0.00	19867.00	0.00	-	-	21.00
161	Latur	Latur	Hardrock	97071.00	5998.00	11200.00	79873.00	0.00	-	-	19.70
162	Latur	Nilanga	Hardrock	125558.00	4853.00	6135.00	114570.00	0.00	-	-	23.70
163	Latur	Renapur	Hardrock	51622.00	4630.00	8159.00	38833.00	0.00	-	-	24.30
164	Latur	Udgir	Hardrock	96017.00	9684.00	7282.00	79051.00	0.00	-	-	21.70
165	Nagpur	Bhiwapur	Hardrock	66930.00	11165.00	3867.00	51898.00	0.00	-	-	14.50
166	Nagpur	Hingana	Hardrock	80245.00	16831.00	4926.00	58488.00	0.00	-	-	11.25
167	Nagpur	Kalameshwar	Hardrock	51813.00	4701.00	2036.00	45076.00	0.00	-	-	15.60
168	Nagpur	Kamtee	Hardrock	58524.00	4920.00	47480.00	6124.00	0.00	-	-	16.70
169	Nagpur	Katol	Hardrock	73463.00	18170.00	3832.00	51461.00	0.00	-	-	15.80
170	Nagpur	Kuhi	Hardrock	82519.00	7522.00	3489.00	71508.00	0.00	-	-	15.80
171	Nagpur	Mouda	Hardrock	80091.00	4733.00	70760.00	4598.00	0.00	-	-	15.40
172	Nagpur	Nagpur	Hardrock	64074.00	10549.00	1815.00	51710.00	0.00	-	-	15.35
173	Nagpur	Narkhed	Hardrock	79820.00	15497.00	4783.00	59540.00	0.00	-	-	20.20
174	Nagpur	Parshioni	Hardrock	86538.00	32887.00	36533.00	17118.00	0.00	-	-	16.60
175	Nagpur	Ramtek	Hardrock	89696.00	26425.00	16842.00	46429.00	0.00	-	-	15.80
176	Nagpur	Saoner	Hardrock	67543.00	11306.00	20540.00	35697.00	0.00	-	-	14.90
177	Nagpur	Umred	Hardrock	98945.00	16453.00	10021.00	72471.00	0.00	-	-	16.10
178	Nanded	Ardhapur	Hardrock	29815.00	1639.00	15188.00	12988.00	0.00	-	-	14.90
179	Nanded	Bhokar	Hardrock	68204.00	5178.00	4566.00	58460.00	0.00	-	-	11.40
180	Nanded	Biloli	Hardrock	59903.00	1866.00	5351.00	52686.00	0.00	-	-	14.80
181	Nanded	Degloor	Hardrock	68420.00	1830.00	3193.00	63397.00	0.00	-	-	14.60
182	Nanded	Dharmabad	Hardrock	33647.00	110.00	490.00	33047.00	0.00	-	-	11.95
183	Nanded	Hadgaon	Hardrock	103692.00	3281.00	16129.00	84282.00	0.00	-	-	14.90
184	Nanded	Himataytnahar	Hardrock	51780.00	1884.00	1622.00	48274.00	0.00	-	-	12.40
185	Nanded	Kandhar	Hardrock	81502.00	3540.00	6051.00	71911.00	0.00	-	-	21.40
186	Nanded	Kinwat	Hardrock	151585.00	4023.00	8355.00	139207.00	0.00	-	-	11.00
187	Nanded	Loha	Hardrock	86540.00	1585.00	9054.00	75901.00	0.00	-	-	21.40
188	Nanded	Mahur	Hardrock	51741.00	1923.00	1264.00	48554.00	0.00	-	-	10.70
189	Nanded	Mudkhed	Hardrock	33800.00	1406.00	10350.60	22043.40	0.00	-	-	12.90
190	Nanded	Mukhed	Hardrock	94147.00	6553.00	4964.00	82630.00	0.00	-	-	28.35
191	Nanded	Naigaon	Hardrock	58008.00	1448.00	14821.00	41739.00	0.00	-	-	14.80
192	Nanded	Nanded	Hardrock	40680.00	47.00	20123.00	20510.00	0.00	-	-	17.20
193	Nanded	Umari	Hardrock	40801.00	181.00	2978.00	37642.00	0.00	-	-	11.10
194	Nandurbar	Akkalkuva	Hardrock	94478.00	53050.00	1045.00	40383.00	0.00	-	-	14.65
195	Nandurbar	Akrani	Hardrock	111242.00	73291.00	0.00	37951.00	0.00	-	-	12.20
196	Nandurbar	Nandurbar	Hardrock	111400.00	13030.00	3565.00	94805.00	0.00	-	-	13.35
197	Nandurbar	Nawapur	Hardrock	125021.00	34069.00	7237.00	83715.00	0.00	-	-	13.30
198	Nandurbar	Shahada	Hardrock	119134.00	5332.00	6002.00	107800.00	0.00	-	-	20.00
199	Nandurbar	Taloda	Hardrock	33910.00	1135.00	304.00	32471.00	0.00	-	-	24.80
200	Nashik	Baglan Satana	Hardrock	148165.00	15322.00	11327.00	121516.00	0.00	-	-	24.20
201	Nashik	Chandwad	Hardrock	89007.00	9231.00	9013.00	70763.00	0.00	-	-	14.70
202	Nashik	Deola	Hardrock	57746.00	6763.00	4142.00	46841.00	0.00	-	-	18.50
203	Nashik	Dindori	Hardrock	114193.00	23805.00	12202.00	78186.00	0.00	-	-	17.60
204	Nashik	Igatpuri	Hardrock	93297.00	27002.00	871.00	65424.00	0.00	-	-	15.80
205	Nashik	Kalwan	Hardrock	70296.00	9232.00	2108.00	58956.00	0.00	-	-	21.25
206	Nashik	Malegaon	Hardrock	180639.00	22099.00	26581.00	131959.00	0.00	-	-	21.00
207	Nashik	Nandgaon	Hardrock	116488.00	8032.00	2012.00	106444.00	0.00	-	-	19.35
208	Nashik	Nasik	Hardrock	84631.00	10901.00	36605.00	37125.00	0.00	-	-	18.20
209	Nashik	Niphad	Hardrock	115175.00	2241.00	36578.00	76356.00	0.00	-	-	17.80
210	Nashik	Peth	Hardrock	71587.00	21940.00	955.00	48692.00	0.00	-	-	10.31
211	Nashik	Sinnar	Hardrock	132648.00	5859.00	7120.00	119669.00	0.00	-	-	18.20
212	Nashik	Surgana	Hardrock	91215.00	18912.00	233.00	72070.00	0.00	-	-	11.80
213	Nashik	Trambakeshwar	Hardrock	87334.00	19212.00	406.00	67716.00	0.00	-	-	13.50
214	Nashik	Yeola	Hardrock	100579.00	3593.00	14871.00	82115.00	0.00	-	-	14.94
215	Osmanabad	Bhoom	Hardrock	51669.00	8449.00	2970.00	40250.00	0.00	-	-	24.50
216	Osmanabad	Kalamb	Hardrock	93523.00	7864.60	1520.00	84138.40	0.00	-	-	23.50
217	Osmanabad	Lohara	Hardrock	52585.00	4300.00	3037.00	45248.00	0.00	-	-	24.00
218	Osmanabad	Omerga	Hardrock	97347.00	7860.00	6169.00	83318.00	0.00	-	-	24.00
219	Osmanabad	Osmanabad	Hardrock	132586.00	13742.00	7120.00	111724.00	0.00	-	-	20.10
220	Osmanabad	Paranda	Hardrock	112641.00	14247.00	8309.00	90085.00	0.00	-	-	20.40
221	Osmanabad	Tuljapur	Hardrock	157932.00	23711.00	8345.00	125876.00	0.00	-	-	25.00
222	Osmanabad	Washi	Hardrock	58617.00	5098.40	2775.00	50743.60	0.00	-	-	24.50
223	Parbhani	Gangakhed	Hardrock	51836.00	0.00	13182.00	38654.00	0.00	-	-	15.90
224	Parbhani	Jintur	Hardrock	127004.00	0.00	30013.00	96991.00	0.00	-	-	16.00
225	Parbhani	Manwat	Hardrock	46817.00	0.00	19000.00	27817.00	0.00	-	-	18.70
226	Parbhani	Palam	Hardrock	50884.00	0.00	3031.00	47853.00	0.00	-	-	15.90

GENERAL DESCRIPTION OF THE GROUND WATER ASSESSMENT UNIT OF THE MAHARASHTRA - 2008-2009

Type of Administrative Unit - Taluka

Sr. No.	District	Name of Administrative Unit	Type of rock formation	Areal extent (in hectares)							
				Total Grogographical Area	Hilly Area	Ground Water Recharge Worthy Area			Shallow Water Table Area	Flood Prone Area	Bottom of the unconfined aquifer in soft rock areas and depth of weathered zone and /or maximum depth of fractures under unconfined zone
						Command area	Non-command area	Poor ground water quality area			
227	Parbhani	Parbhani	Hardrock	113532.00	0.00	66518.00	47014.00	0.00	-	-	18.70
228	Parbhani	Pathari	Hardrock	57963.00	0.00	50537.00	7426.00	0.00	-	-	17.50
229	Parbhani	Purna	Hardrock	65182.00	0.00	65182.00	0.00	0.00	-	-	21.70
230	Parbhani	Selu	Hardrock	72703.00	0.00	621.00	72082.00	0.00	-	-	17.00
231	Parbhani	Sonpepth	Hardrock	35479.00	0.00	13078.00	22401.00	0.00	-	-	15.80
232	Pune	Ambegaon	Hardrock	99717.67	21046.95	20088.77	58581.95	0.00	-	-	15.45
233	Pune	Baramati	Hardrock	138363.37	578.70	35947.73	96741.92	5095.02	-	-	15.30
234	Pune	Bhor	Hardrock	84937.12	50866.88	1238.14	32832.10	0.00	-	-	11.85
235	Pune	Daund	Hardrock	131094.83	4701.82	53834.00	57563.34	14995.67	-	-	15.80
236	Pune	Haveli	Hardrock	137258.38	15704.73	15814.87	105738.78	0.00	-	-	15.80
237	Pune	Indapur	Hardrock	146938.22	176.11	97050.00	42762.80	6949.31	-	-	18.30
238	Pune	Junnar	Hardrock	140445.56	30688.12	20308.97	89448.47	0.00	-	-	24.60
239	Pune	Khed	Hardrock	138849.33	10534.64	15954.98	112359.71	0.00	-	-	22.15
240	Pune	Maval	Hardrock	116806.95	38191.42	2526.50	76089.03	0.00	-	-	15.25
241	Pune	Mulshi	Hardrock	108952.60	64551.02	2519.75	41881.83	0.00	-	-	10.85
242	Pune	Purandhar	Hardrock	108246.37	10727.12	1917.88	94919.76	681.61	-	-	36.10
243	Pune	Shirur	Hardrock	153121.69	4430.99	70492.79	78197.91	0.00	-	-	18.90
244	Pune	Velhe	Hardrock	55902.98	32708.55	122.72	23071.71	0.00	-	-	14.15
245	Raigad	Alibag	Hardrock	42829.00	17516.00	424.00	24889.00	0.00	-	-	11.40
246	Raigad	Karjat	Hardrock	69792.00	31653.00	2478.00	35661.00	0.00	-	-	9.05
247	Raigad	Khalapur	Hardrock	59725.00	28164.00	788.00	30773.00	0.00	-	-	11.40
248	Raigad	Mahad	Hardrock	80456.00	53093.00	793.00	26570.00	0.00	-	-	12.30
249	Raigad	Mangaon	Hardrock	69606.00	18470.00	5239.00	45897.00	0.00	-	-	7.60
250	Raigad	Mhasala	Hardrock	35923.00	21093.00	275.00	14555.00	0.00	-	-	7.70
251	Raigad	Murud	Hardrock	25253.00	12664.00	433.00	12156.00	0.00	-	-	7.30
252	Raigad	Panvel	Hardrock	52228.00	16644.00	346.00	35238.00	0.00	-	-	9.30
253	Raigad	Pen	Hardrock	42435.00	20271.00	510.00	21654.00	0.00	-	-	12.70
254	Raigad	Poladpur	Hardrock	42488.00	30929.00	108.00	11451.00	0.00	-	-	12.30
255	Raigad	Roha	Hardrock	64395.00	23414.00	2204.00	38777.00	0.00	-	-	11.40
256	Raigad	Shriwardhan	Hardrock	28413.00	15885.00	227.00	12301.00	0.00	-	-	7.70
257	Raigad	Sudhagad	Hardrock	48030.00	22318.00	739.00	24973.00	0.00	-	-	12.70
258	Raigad	Tala	Hardrock	25327.00	17133.00	646.00	7548.00	0.00	-	-	7.60
259	Raigad	Uran	Hardrock	28300.00	11194.00	84.00	17022.00	0.00	-	-	9.30
260	Ratnagiri	Chiplun	Hardrock	116900.00	37639.00	1008.00	78253.00	0.00	-	-	12.70
261	Ratnagiri	Dapoli	Hardrock	82400.00	41669.00	404.00	40327.00	0.00	-	-	8.05
262	Ratnagiri	Guhagar	Hardrock	81500.00	23955.00	0.00	57545.00	0.00	-	-	16.00
263	Ratnagiri	Khed	Hardrock	99500.00	26435.00	2484.00	70581.00	0.00	-	-	11.90
264	Ratnagiri	Lanja	Hardrock	71400.00	28769.00	1069.00	41562.00	0.00	-	-	14.00
265	Ratnagiri	Mandangad	Hardrock	41300.00	14620.00	0.00	26680.00	0.00	-	-	5.60
266	Ratnagiri	Rajapur	Hardrock	115800.00	39328.00	721.00	75751.00	0.00	-	-	14.00
267	Ratnagiri	Ratnagiri	Hardrock	90400.00	39859.00	0.00	50541.00	0.00	-	-	17.35
268	Ratnagiri	Sangameshwar	Hardrock	121600.00	57219.00	561.00	63820.00	0.00	-	-	17.35
269	Sangli	Atpadi	Hardrock	84406.00	0.00	4873.00	79533.00	0.00	-	-	16.75
270	Sangli	Jat	Hardrock	224761.00	0.00	978.15	223782.85	0.00	-	-	13.20
271	Sangli	Kadegaon	Hardrock	57971.00	0.00	9851.00	48120.00	0.00	-	-	14.80
272	Sangli	Kavathe Mahankal	Hardrock	74953.00	0.00	3647.00	71306.00	0.00	-	-	12.90
273	Sangli	Khanapur	Hardrock	50445.79	0.00	4560.40	45885.39	0.00	-	-	14.10
274	Sangli	Miraj	Hardrock	95406.00	368.00	3769.07	76493.17	14775.76	-	-	20.10
275	Sangli	Palus	Hardrock	31457.80	245.76	2073.35	22339.14	6799.55	-	-	14.80
276	Sangli	Shirala	Hardrock	71868.27	13134.00	1283.00	57397.20	54.07	-	-	15.80
277	Sangli	Tasgaon	Hardrock	89315.17	0.00	9863.60	76207.16	3244.41	-	-	20.10
278	Sangli	Walwa	Hardrock	76615.07	693.10	736.30	56751.54	18434.13	-	-	15.80
279	Satara	Jaoli	Hardrock	79624.00	24409.00	522.00	54693.00	0.00	-	-	26.05
280	Satara	Karad	Hardrock	106297.00	17974.00	3579.00	84744.00	0.00	-	-	17.00
281	Satara	Khandala	Hardrock	52374.00	6823.00	730.00	44821.00	0.00	-	-	16.60
282	Satara	Khatav	Hardrock	135790.00	8885.00	2064.00	124841.00	0.00	-	-	16.00
283	Satara	Koregaon	Hardrock	85516.00	6818.00	15532.75	63165.25	0.00	-	-	20.80
284	Satara	Mahabaleshwar	Hardrock	22483.00	16471.00	0.00	6012.00	0.00	-	-	26.05
285	Satara	Man	Hardrock	157549.00	15032.00	795.00	141722.00	0.00	-	-	18.20
286	Satara	Patan	Hardrock	140502.00	47364.00	0.00	93138.00	0.00	-	-	15.00
287	Satara	Phaltan	Hardrock	116704.00	6359.00	20604.00	89741.00	0.00	-	-	18.20
288	Satara	Satara	Hardrock	88883.00	10547.00	21282.00	57054.00	0.00	-	-	15.00
289	Satara	Wai	Hardrock	62278.00	9811.00	9217.00	43250.00	0.00	-	-	26.05
290	Sindhudurg	Devgad	Hardrock	82304.84	34075.49	0.00	48229.35	0.00	-	-	14.10
291	Sindhudurg	Doudamarg	Hardrock	50820.51	39310.92	0.00	11509.59	0.00	-	-	14.00
292	Sindhudurg	Kankavali	Hardrock	79243.22	32302.64	284.00	46656.58	0.00	-	-	11.30
293	Sindhudurg	Kudal	Hardrock	83441.00	34188.85	1441.56	47810.59	0.00	-	-	10.80
294	Sindhudurg	Malwan	Hardrock	62992.68	24883.71	105.00	38003.97	0.00	-	-	11.30
295	Sindhudurg	Sawantwadi	Hardrock	89471.19	45099.52	430.00	43941.67	0.00	-	-	14.00
296	Sindhudurg	Vaibhavvadi	Hardrock	42347.56	24564.69	0.00	17782.87	0.00	-	-	10.60
297	Sindhudurg	Vengurla	Hardrock	30079.00	6968.68	0.00	23110.32	0.00	-	-	14.00
298	Solapur	Akkalkot	Hardrock	140705.00	0.00	0.00	140705.00	0.00	-	-	17.90
299	Solapur	Barshi	Hardrock	150994.00	1432.00	0.00	149562.00	0.00	-	-	19.00
300	Solapur	Karmala	Hardrock	165983.00	0.00	263.40	165719.60	0.00	-	-	16.65
301	Solapur	Madha	Hardrock	155933.00	0.00	4981.60	150951.40	0.00	-	-	19.00

Annexure III A-2

GENERAL DESCRIPTION OF THE GROUND WATER ASSESSMENT UNIT OF THE MAHARASHTRA - 2008-2009

Type of Administrative Unit - Taluka

Sr. No.	District	Name of Administrative Unit	Type of rock formation	Areal extent (in hectares)							
				Total Geographical Area	Hilly Area	Ground Water Recharge Worthy Area			Shallow Water Table Area	Flood Prone Area	Bottom of the unconfined aquifer in soft rock areas and depth of weathered zone and /or maximum depth of fractures under unconfined zone
						Command area	Non-command area	Poor ground water quality area			
302	Solapur	Malshiras	Hardrock	152801.00	3502.00	55646.00	93653.00	0.00	-	-	13.00
303	Solapur	Mangalwedha	Hardrock	113510.00	0.00	17737.00	95773.00	0.00	-	-	16.00
304	Solapur	Mohol	Hardrock	136046.00	0.00	27042.00	109004.00	0.00	-	-	19.00
305	Solapur	N.Solapur	Hardrock	58927.00	0.00	6989.00	51938.00	0.00	-	-	14.90
306	Solapur	Pandharpur	Hardrock	129010.00	0.00	60713.00	68297.00	0.00	-	-	17.45
307	Solapur	S.Solapur	Hardrock	108415.00	0.00	6943.00	101472.00	0.00	-	-	17.90
308	Solapur	Sangola	Hardrock	177176.00	676.00	16971.00	159529.00	0.00	-	-	16.40
309	Thane	Ambarnath	Hardrock	48738.00	21645.00	625.00	26468.00	0.00	-	-	11.90
310	Thane	Bhivandi	Hardrock	65633.00	24999.00	1524.00	39110.00	0.00	-	-	8.30
311	Thane	Dahanu	Hardrock	92705.00	39985.00	147.00	52573.00	0.00	-	-	12.05
312	Thane	Jawhar	Hardrock	60994.00	28150.00	300.00	32544.00	0.00	-	-	12.05
313	Thane	Kalyan	Hardrock	24913.00	12270.00	0.00	12643.00	0.00	-	-	11.90
314	Thane	Mokhada	Hardrock	50307.00	32680.00	242.00	17385.00	0.00	-	-	9.00
315	Thane	Murbad	Hardrock	107383.00	52869.00	1637.00	52877.00	0.00	-	-	11.90
316	Thane	Palghar	Hardrock	97451.00	40152.00	4697.00	52602.00	0.00	-	-	10.50
317	Thane	Shahapur	Hardrock	159527.00	84101.00	8690.00	66736.00	0.00	-	-	9.00
318	Thane	Talasari	Hardrock	27584.00	9066.00	0.00	18518.00	0.00	-	-	14.00
319	Thane	Thane	Hardrock	36646.00	14809.00	0.00	21837.00	0.00	-	-	9.50
320	Thane	Ulhasnagar	Hardrock	1300.00	0.00	0.00	1300.00	0.00	-	-	9.50
321	Thane	Vasai	Hardrock	52502.00	19752.00	0.00	32750.00	0.00	-	-	9.40
322	Thane	Vikramgad	Hardrock	55154.00	26780.00	534.00	27840.00	0.00	-	-	7.65
323	Thane	Wada	Hardrock	74963.00	39009.00	1335.00	34619.00	0.00	-	-	9.20
324	Wardha	Arvi	Hardrock	95863.00	16387.00	10116.00	69360.00	0.00	-	-	16.80
325	Wardha	Ashti	Hardrock	56878.00	10943.00	20060.00	25875.00	0.00	-	-	22.30
326	Wardha	Deoli	Hardrock	68218.00	40.00	0.00	68178.00	0.00	-	-	18.50
327	Wardha	Hinganghat	Hardrock	92045.00	80.00	14061.00	77904.00	0.00	-	-	18.50
328	Wardha	Karanja	Hardrock	71263.00	10943.00	366.00	59954.00	0.00	-	-	16.80
329	Wardha	Samudrapur	Hardrock	92917.00	365.00	33939.00	58613.00	0.00	-	-	16.20
330	Wardha	Seloo	Hardrock	74931.00	10791.00	38524.00	25616.00	0.00	-	-	20.60
331	Wardha	Wardha	Hardrock	81005.00	2355.00	12968.00	65682.00	0.00	-	-	18.50
332	Washim	Karanja	Hardrock	86557.00	4670.44	1458.83	80427.73	0.00	-	-	14.00
333	Washim	Malegaon	Hardrock	93636.00	8992.92	3454.46	81188.62	0.00	-	-	12.50
334	Washim	Mangrulpir	Hardrock	77888.00	6879.47	6234.42	64774.11	0.00	-	-	12.50
335	Washim	Manora	Hardrock	77793.00	7304.85	6942.44	63545.71	0.00	-	-	14.40
336	Washim	Risod	Hardrock	87494.00	2569.81	3431.00	81493.19	0.00	-	-	15.15
337	Washim	Washim	Hardrock	91972.00	3726.09	5826.34	82419.57	0.00	-	-	15.15
338	Yeotmal	Arni	Hardrock	85454.29	19686.90	22161.77	43605.62	0.00	-	-	15.00
339	Yeotmal	Babulgaon	Hardrock	54586.31	1457.16	2831.84	50297.31	0.00	-	-	13.00
340	Yeotmal	Daravha	Hardrock	84618.22	7746.01	9767.39	67104.82	0.00	-	-	14.50
341	Yeotmal	Digras	Hardrock	55338.61	8968.01	8650.68	37719.92	0.00	-	-	12.20
342	Yeotmal	Ghatanji	Hardrock	94780.48	18990.46	12644.02	63146.00	0.00	-	-	15.00
343	Yeotmal	Kalamb	Hardrock	75445.44	12613.09	5705.21	57127.14	0.00	-	-	15.20
344	Yeotmal	Mahagaon	Hardrock	88947.75	16754.19	13319.56	58874.00	0.00	-	-	17.15
345	Yeotmal	Maregaon	Hardrock	60792.30	3205.51	5326.19	52260.60	0.00	-	-	19.90
346	Yeotmal	Ner	Hardrock	68108.97	4736.65	3140.95	60231.37	0.00	-	-	14.50
347	Yeotmal	Omarkhed	Hardrock	129704.02	31868.29	23419.76	74415.97	0.00	-	-	17.15
348	Yeotmal	Pandharkavada	Hardrock	80753.95	10828.39	15573.96	54351.60	0.00	-	-	15.00
349	Yeotmal	Pusad	Hardrock	123666.11	25225.95	24885.53	73554.63	0.00	-	-	15.60
350	Yeotmal	Ralegaon	Hardrock	76055.28	7379.19	7331.92	61344.17	0.00	-	-	15.20
351	Yeotmal	Wani	Hardrock	88304.05	7707.27	5142.52	75454.26	0.00	-	-	19.90
352	Yeotmal	Yeotmal	Hardrock	115721.72	22437.77	22253.24	71030.71	0.00	-	-	13.25
353	Yeotmal	Zara Zamani	Hardrock	75536.37	14142.36	1132.43	60261.58	0.00	-	-	15.00
	Total			30711101.00	4719698.43	3422751.93	22231849.50	336801.14	-	-	

Annexure III B-2

DATA VARIABLES USED IN DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Sr.No.	District	Administrative Unit	Command / Non-command / Poor GW Quality	Rainfall (mm)	Average Pre-monsoon Water level (mbgl)	Average Post-monsoon Water level (mbgl)	Average Fluctuation (m)
1	2	3	4	5	6	7	8
1	Ahmednagar	Akola	Command	626.15	15.65	9.75	5.90
2	Ahmednagar	Akola	Non Command	559.13	7.34	2.72	4.61
3	Ahmednagar	Jamkhed	Non Command	591.33	7.27	3.07	4.20
4	Ahmednagar	Karjat	Command	462.58	10.64	6.44	4.19
5	Ahmednagar	Karjat	Non Command	462.46	9.79	5.89	3.90
6	Ahmednagar	Kopargaon	Command	390.14	8.11	4.28	3.83
7	Ahmednagar	Kopargaon	Non Command	397.58	8.84	5.34	3.50
8	Ahmednagar	Nagar	Non Command	495.75	9.53	5.34	4.19
9	Ahmednagar	Newasa	Command	415.60	10.80	5.66	5.14
10	Ahmednagar	Newasa	Non Command	421.50	8.42	4.97	3.45
11	Ahmednagar	Parner	Command	465.44	10.29	6.22	4.07
12	Ahmednagar	Parner	Non Command	470.88	9.09	5.22	3.87
13	Ahmednagar	Pathardi	Command	492.08	11.75	7.28	4.47
14	Ahmednagar	Pathardi	Non Command	476.12	6.84	3.46	3.38
15	Ahmednagar	Rahuri	Command	445.27	9.84	6.00	3.84
16	Ahmednagar	Rahuri	Non Command	452.64	7.54	3.77	3.77
17	Ahmednagar	Rhata	Command	428.24	7.63	3.96	3.68
18	Ahmednagar	Rhata	Non Command	435.70	6.65	4.76	1.89
19	Ahmednagar	Sangamner	Command	485.82	10.13	4.90	5.23
20	Ahmednagar	Sangamner	Non Command	461.66	8.54	5.00	3.54
21	Ahmednagar	Shevgaon	Command	447.44	10.38	5.20	5.17
22	Ahmednagar	Shevgaon	Non Command	431.61	10.20	5.84	4.36
23	Ahmednagar	Shrigonda	Command	462.56	6.66	3.49	3.17
24	Ahmednagar	Shrigonda	Non Command	465.94	7.98	4.64	3.33
25	Ahmednagar	Shrirampur	Command	432.18	9.00	4.67	4.33
26	Ahmednagar	Shrirampur	Non Command	440.00	6.88	3.95	2.93
27	Akola	Akola	Command	661.22	10.56	7.51	3.05
28	Akola	Akola	Non Command	648.52	10.09	5.60	4.49
29	Akola	Akot	Command	627.52	9.01	5.52	3.49
30	Akola	Akot	Non Command	677.92	15.42	11.92	3.50
31	Akola	Balapur	Command	789.99	7.16	4.44	2.72
32	Akola	Balapur	Non Command	660.21	8.40	4.71	3.69
33	Akola	Barsi Takli	Command	662.91	7.50	5.22	2.29
34	Akola	Barsi Takli	Non Command	656.87	9.13	4.69	4.43
35	Akola	Murtizapur	Command	669.06	7.84	5.51	2.33
36	Akola	Murtizapur	Non Command	668.29	9.84	6.53	3.31
37	Akola	Patur	Command	829.80	7.08	4.74	2.34
38	Akola	Patur	Non Command	775.61	7.70	4.31	3.39
39	Akola	Telhara	Command	632.38	11.24	7.69	3.54
40	Akola	Telhara	Non Command	677.92	15.52	11.92	3.61
41	Amravati	Achlapur	Command	785.77	15.34	11.08	4.26
42	Amravati	Achlapur	Non Command	831.67	16.08	12.62	3.46
43	Amravati	Amravati	Command	919.07	11.81	9.78	2.03
44	Amravati	Amravati	Non Command	907.08	6.87	4.15	2.72
45	Amravati	Anjangaon Surji	Command	730.80	14.88	8.77	6.11
46	Amravati	Anjangaon Surji	Non Command	785.58	11.60	9.82	1.78
47	Amravati	Bhatkuli	Non Command	845.13	6.93	4.77	2.16
48	Amravati	Chandur Bazar	Command	828.02	6.55	4.31	2.24
49	Amravati	Chandur Bazar	Non Command	827.36	10.29	7.21	3.08
50	Amravati	Chandur Railway	Command	877.62	5.51	2.32	3.19
51	Amravati	Chandur Railway	Non Command	897.75	9.12	4.73	4.39
52	Amravati	Chikhaldara	Non Command	1515.52	5.99	2.77	3.22
53	Amravati	Daryapur	Non Command	806.18	17.73	11.49	6.24
54	Amravati	Dhamangaon Railway	Command	874.68	6.81	2.69	4.12
55	Amravati	Dhamangaon Railway	Non Command	879.09	8.28	3.87	4.42

Annexure III B-2

DATA VARIABLES USED IN DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Sr.No.	District	Administrative Unit	Command / Non-command / Poor GW Quality	Rainfall (mm)	Average Pre-monsoon Water level (mbgl)	Average Post-monsoon Water level (mbgl)	Average Fluctuation (m)
56	Amravati	Dharni	Command	1169.48	9.28	6.12	3.16
57	Amravati	Dharni	Non Command	1342.92	5.19	1.96	3.22
58	Amravati	Morshi	Command	840.64	6.85	4.40	2.45
59	Amravati	Morshi	Non Command	871.30	7.88	5.33	2.55
60	Amravati	Nandgaon	Command	881.33	5.19	2.98	2.21
61	Amravati	Nandgaon	Non Command	887.69	7.56	3.82	3.74
62	Amravati	Tiwsa	Command	865.86	6.69	4.12	2.57
63	Amravati	Tiwsa	Non Command	876.86	10.43	6.11	4.32
64	Amravati	Warud	Command	1084.18	10.38	5.42	4.96
65	Amravati	Warud	Non Command	1000.34	10.17	6.86	3.31
66	Aurangabad	Aurangabad	Command	609.77	11.47	6.45	5.02
67	Aurangabad	Aurangabad	Non Command	643.49	10.43	6.08	4.35
68	Aurangabad	Fulambre	Command	656.71	11.74	7.53	4.21
69	Aurangabad	Fulambre	Non Command	620.70	10.45	5.25	5.20
70	Aurangabad	Gangapur	Command	525.08	11.18	6.53	4.65
71	Aurangabad	Gangapur	Non Command	557.42	10.87	6.72	4.15
72	Aurangabad	Kannad	Command	566.17	10.84	6.90	3.94
73	Aurangabad	Kannad	Non Command	590.48	11.09	6.38	4.72
74	Aurangabad	Khuldabad	Command	581.29	11.63	7.34	4.29
75	Aurangabad	Khuldabad	Non Command	651.38	10.24	6.05	4.18
76	Aurangabad	Paithan	Command	523.81	11.12	7.11	4.01
77	Aurangabad	Paithan	Non Command	537.85	11.67	7.09	4.59
78	Aurangabad	Sillod	Command	542.16	10.26	5.40	4.87
79	Aurangabad	Sillod	Non Command	576.28	11.04	5.74	5.30
80	Aurangabad	Soyegaon	Command	679.46	6.40	2.89	3.52
81	Aurangabad	Soyegaon	Non Command	667.51	7.91	3.23	4.68
82	Aurangabad	Vaijapur	Command	490.41	12.03	7.46	4.57
83	Aurangabad	Vaijapur	Non Command	514.52	12.37	8.37	4.00
84	Beed	Ambejogai	Command	618.33	8.28	5.45	2.83
85	Beed	Ambejogai	Non Command	669.79	7.43	3.28	4.16
86	Beed	Ashti	Command	647.44	7.72	3.81	3.90
87	Beed	Ashti	Non Command	639.51	8.35	4.24	4.11
88	Beed	Beed	Command	611.97	8.40	5.04	3.35
89	Beed	Beed	Non Command	585.74	9.51	4.71	4.80
90	Beed	Dharur	Command	616.46	5.93	0.90	5.03
91	Beed	Dharur	Non Command	649.53	9.74	4.49	5.25
92	Beed	Gevrai	Command	586.01	9.08	4.52	4.56
93	Beed	Gevrai	Non Command	586.48	11.22	7.18	4.05
94	Beed	Kaij	Non Command	640.89	8.99	3.94	5.05
95	Beed	Majalgaon	Command	624.29	9.77	6.61	3.15
96	Beed	Majalgaon	Non Command	617.24	9.21	4.51	4.69
97	Beed	Parli	Command	618.33	8.28	5.45	2.83
98	Beed	Parli	Non Command	635.72	8.10	4.06	4.04
99	Beed	Patoda	Command	611.78	8.57	5.36	3.21
100	Beed	Patoda	Non Command	575.58	9.84	5.68	4.16
101	Beed	Shirur Ka	Command	576.12	12.43	7.96	4.47
102	Beed	Shirur Ka	Non Command	576.94	9.74	5.77	3.97
103	Beed	Wadvani	Command	618.96	8.47	5.09	3.37
104	Beed	Wadvani	Non Command	617.83	9.10	4.19	4.91
105	Bhandara	Bhandara	Command	1186.08	6.54	1.33	5.21
106	Bhandara	Bhandara	Non Command	1205.03	9.50	4.26	5.24
107	Bhandara	Lakhandur	Command	1163.27	7.45	2.49	4.96
108	Bhandara	Lakhandur	Non Command	1164.27	8.57	4.44	4.13
109	Bhandara	Lakhani	Command	1255.78	8.48	1.35	7.13
110	Bhandara	Lakhani	Non Command	1255.78	7.75	1.83	5.93
111	Bhandara	Mohadi	Command	1087.72	7.64	2.03	5.61
112	Bhandara	Mohadi	Non Command	1093.11	7.48	2.80	4.68
113	Bhandara	Pauni	Command	1214.55	7.04	1.24	5.80

Annexure III B-2

DATA VARIABLES USED IN DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Sr.No.	District	Administrative Unit	Command / Non-command / Poor GW Quality	Rainfall (mm)	Average Pre-monsoon Water level (mbgl)	Average Post-monsoon Water level (mbgl)	Average Fluctuation (m)
114	Bhandara	Pauni	Non Command	1184.21	9.44	4.09	5.36
115	Bhandara	Sakoli	Command	1237.28	8.52	1.72	6.80
116	Bhandara	Sakoli	Non Command	1255.78	8.87	1.39	7.48
117	Bhandara	Tumsar	Command	1030.19	7.08	1.80	5.28
118	Bhandara	Tumsar	Non Command	1029.67	6.83	2.74	4.09
119	Buldhana	Buldhana	Command	733.09	10.50	5.28	5.23
120	Buldhana	Buldhana	Non Command	752.25	7.65	3.83	3.82
121	Buldhana	Chikhali	Command	732.68	8.95	3.97	4.98
122	Buldhana	Chikhali	Non Command	710.34	8.08	3.86	4.22
123	Buldhana	Deulgaon Raja	Command	705.86	6.81	2.70	4.12
124	Buldhana	Deulgaon Raja	Non Command	734.58	8.99	4.02	4.97
125	Buldhana	Jalgaon	Command	695.43	1.81	1.02	0.79
126	Buldhana	Jalgaon	Non Command	693.16	10.62	6.98	3.65
127	Buldhana	Khamgaon	Command	615.03	7.98	4.86	3.12
128	Buldhana	Khamgaon	Non Command	629.99	9.29	5.91	3.38
129	Buldhana	Lonar	Command	804.92	10.49	5.85	4.64
130	Buldhana	Lonar	Non Command	804.92	8.54	3.19	5.35
131	Buldhana	Malakapur	Command	637.79	8.33	4.94	3.39
132	Buldhana	Malakapur	Non Command	622.06	11.54	7.79	3.75
133	Buldhana	Mehkar	Command	772.81	8.02	3.11	4.90
134	Buldhana	Mehkar	Non Command	743.67	7.98	3.40	4.59
135	Buldhana	Motala	Command	638.68	9.18	5.89	3.29
136	Buldhana	Motala	Non Command	623.85	9.94	6.46	3.48
137	Buldhana	Nandura	Command	628.70	9.01	5.85	3.16
138	Buldhana	Nandura	Non Command	590.51	11.10	7.63	3.47
139	Buldhana	Sangrapur	Command	672.23	7.15	4.81	2.34
140	Buldhana	Sangrapur	Non Command	684.44	8.91	5.31	3.61
141	Buldhana	Shegaon	Command	615.03	6.48	3.82	2.67
142	Buldhana	Shegaon	Non Command	635.15	10.45	6.57	3.89
143	Buldhana	S'indkhed Raja	Command	770.20	7.73	3.58	4.14
144	Buldhana	S'indkhed Raja	Non Command	755.78	8.59	3.66	4.93
145	Chandrapur	Ballapur	Non Command	1075.60	7.67	3.20	4.47
146	Chandrapur	Bhadravati	Command	1014.18	6.85	2.45	4.40
147	Chandrapur	Bhadravati	Non Command	1032.82	7.90	3.12	4.78
148	Chandrapur	Brahmapuri	Non Command	1117.15	8.89	3.28	5.61
149	Chandrapur	Chandrapur	Non Command	1085.56	7.57	3.17	4.40
150	Chandrapur	Chimmur	Non Command	918.84	7.67	2.25	5.42
151	Chandrapur	Gondpipri	Non Command	1025.04	8.31	3.19	5.12
152	Chandrapur	Jiwati	Non Command	1011.10	6.99	2.60	4.39
153	Chandrapur	Korpana	Command	1021.66	6.64	3.10	3.54
154	Chandrapur	Korpana	Non Command	1012.99	7.67	3.11	4.56
155	Chandrapur	Mul	Command	1037.70	4.71	1.01	3.69
156	Chandrapur	Mul	Non Command	1073.45	7.86	2.44	5.42
157	Chandrapur	Nagbhind	Command	1087.66	8.65	2.33	6.32
158	Chandrapur	Nagbhind	Non Command	1029.06	8.41	2.15	6.26
159	Chandrapur	Pobhurna	Command	1024.89	8.29	2.59	5.70
160	Chandrapur	Pobhurna	Non Command	1047.96	7.79	2.39	5.39
161	Chandrapur	Rajura	Command	1021.13	5.35	1.43	3.92
162	Chandrapur	Rajura	Non Command	1018.44	7.70	3.02	4.68
163	Chandrapur	Sawali	Command	1042.85	8.05	2.39	5.66
164	Chandrapur	Sawali	Non Command	1086.43	8.12	2.20	5.91
165	Chandrapur	Sindewali	Command	1080.52	8.03	2.45	5.57
166	Chandrapur	Sindewali	Non Command	1080.14	8.03	2.29	5.73
167	Chandrapur	Warora	Command	1014.18	6.92	2.23	4.69
168	Chandrapur	Warora	Non Command	955.35	8.24	2.87	5.36
169	Dhule	Dhule	Command	526.92	7.70	4.70	3.00
170	Dhule	Dhule	Non Command	525.48	7.87	3.57	4.30
171	Dhule	Sakri	Command	555.72	7.79	4.86	2.93

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DATA VARIABLES USED IN DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Sr.No.	District	Administrative Unit	Command / Non-command / Poor GW Quality	Rainfall (mm)	Average Pre-monsoon Water level (mbgl)	Average Post-monsoon Water level (mbgl)	Average Fluctuation (m)
172	Dhule	Sakri	Non Command	538.52	8.46	3.86	4.60
173	Dhule	Shirpur	Command	688.06	15.77	12.33	3.44
174	Dhule	Shirpur	Non Command	692.42	13.27	9.94	3.32
175	Dhule	Sindkheda	Command	572.53	8.87	5.11	3.76
176	Dhule	Sindkheda	Non Command	566.67	12.13	8.14	3.98
177	Gadchiroli	Aheri	Non Command	1257.70	8.94	4.17	4.77
178	Gadchiroli	Armori	Command	1302.32	2.78	0.99	1.79
179	Gadchiroli	Armori	Non Command	1327.95	8.34	1.97	6.37
180	Gadchiroli	Bhamragad	Non Command	1514.37	8.69	2.35	6.34
181	Gadchiroli	Chamorshi	Command	971.16	8.55	4.01	4.54
182	Gadchiroli	Chamorshi	Non Command	1213.03	8.14	2.49	5.65
183	Gadchiroli	Dhanora	Non Command	1488.18	8.32	2.49	5.83
184	Gadchiroli	Etapalli	Non Command	1406.74	8.48	2.43	6.05
185	Gadchiroli	Gadchiroli	Non Command	1445.64	9.11	2.27	6.84
186	Gadchiroli	Korchi	Non Command	1521.66	9.19	3.04	6.15
187	Gadchiroli	Kurkheda	Non Command	1457.36	8.85	2.32	6.52
188	Gadchiroli	Mulchera	Command	1327.14	7.50	2.74	4.77
189	Gadchiroli	Mulchera	Non Command	1267.81	7.09	2.69	4.40
190	Gadchiroli	Soroncha	Non Command	1157.17	9.07	3.74	5.33
191	Gadchiroli	Wadsa	Command	1302.32	2.78	0.99	1.79
192	Gadchiroli	Wadsa	Non Command	1336.20	7.10	2.12	4.98
193	Gondia	Amgaon	Command	1375.80	9.10	3.37	5.74
194	Gondia	Amgaon	Non Command	1361.49	8.21	2.25	5.96
195	Gondia	Arjuni Moregaon	Command	1295.26	3.93	1.61	2.32
196	Gondia	Arjuni Moregaon	Non Command	1273.18	11.08	2.67	8.41
197	Gondia	Deori	Command	1407.85	8.24	2.84	5.40
198	Gondia	Deori	Non Command	1219.46	9.63	2.13	7.50
199	Gondia	Gondia	Command	1181.91	8.44	2.54	5.90
200	Gondia	Gondia	Non Command	1255.56	5.90	1.33	4.57
201	Gondia	Goregaon	Command	1279.67	9.85	3.38	6.47
202	Gondia	Goregaon	Non Command	1247.75	7.31	2.46	4.84
203	Gondia	Sadak Arjuni	Command	1230.25	6.64	2.33	4.31
204	Gondia	Sadak Arjuni	Non Command	1214.00	10.37	3.66	6.72
205	Gondia	Salekasa	Command	1334.85	9.29	3.15	6.14
206	Gondia	Salekasa	Non Command	1331.58	12.63	2.23	10.40
207	Gondia	Tirora	Command	1170.61	7.32	2.24	5.08
208	Gondia	Tirora	Non Command	1175.39	6.44	2.05	4.39
209	Hingoli	Aundha	Command	790.06	8.35	4.10	4.25
210	Hingoli	Aundha	Non Command	798.08	10.28	4.70	5.58
211	Hingoli	Basmath	Command	806.81	8.39	4.22	4.17
212	Hingoli	Basmath	Non Command	770.98	11.10	5.46	5.64
213	Hingoli	Hingoli	Command	831.85	7.11	3.03	4.08
214	Hingoli	Hingoli	Non Command	815.67	8.76	3.90	4.85
215	Hingoli	Kalmnuri	Command	787.03	7.13	3.01	4.13
216	Hingoli	Kalmnuri	Non Command	791.97	9.18	3.96	5.22
217	Hingoli	Sengaon	Command	776.19	7.32	3.23	4.09
218	Hingoli	Sengaon	Non Command	782.60	9.24	4.56	4.68
219	Jalgaon	Amalner	Command	603.11	12.28	7.62	4.66
220	Jalgaon	Amalner	Non Command	599.57	9.37	6.26	3.11
221	Jalgaon	Bhadgaon	Command	656.21	7.22	4.63	2.59
222	Jalgaon	Bhadgaon	Non Command	651.16	8.51	3.76	4.75
223	Jalgaon	Bhusawal	Command	659.05	11.43	7.31	4.12
224	Jalgaon	Bhusawal	Non Command	659.93	9.17	4.44	4.73
225	Jalgaon	Bodwad	Command	651.98	10.29	5.87	4.42
226	Jalgaon	Bodwad	Non Command	669.44	8.37	4.36	4.01
227	Jalgaon	Chalisgaon	Command	636.95	8.26	4.63	3.63
228	Jalgaon	Chalisgaon	Non Command	637.64	8.49	4.20	4.28
229	Jalgaon	Chopda	Command	687.34	19.51	16.44	3.07

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DATA VARIABLES USED IN DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Sr.No.	District	Administrative Unit	Command / Non-command / Poor GW Quality	Rainfall (mm)	Average Pre-monsoon Water level (mbgl)	Average Post-monsoon Water level (mbgl)	Average Fluctuation (m)
230	Jalgaon	Chopda	Non Command	684.16	14.74	10.89	3.84
231	Jalgaon	Dharangaon	Command	684.36	7.54	4.03	3.51
232	Jalgaon	Dharangaon	Non Command	681.60	10.69	6.80	3.89
233	Jalgaon	Erandol	Command	683.54	8.22	4.13	4.10
234	Jalgaon	Erandol	Non Command	679.70	10.01	5.19	4.82
235	Jalgaon	Jalgaon	Command	737.84	9.35	5.43	3.92
236	Jalgaon	Jalgaon	Non Command	737.84	18.56	14.24	4.32
237	Jalgaon	Jamner	Command	711.22	8.70	5.79	2.91
238	Jalgaon	Jamner	Non Command	711.22	9.80	5.74	4.06
239	Jalgaon	Muktainagar	Command	631.93	13.05	9.30	3.75
240	Jalgaon	Muktainagar	Non Command	638.06	10.60	7.05	3.55
241	Jalgaon	Pachora	Command	634.34	7.73	4.29	3.45
242	Jalgaon	Pachora	Non Command	645.32	9.08	4.63	4.45
243	Jalgaon	Parola	Command	657.47	8.76	4.27	4.48
244	Jalgaon	Parola	Non Command	658.76	8.53	4.94	3.59
245	Jalgaon	Raver	Command	658.75	28.49	23.12	5.37
246	Jalgaon	Raver	Non Command	668.05	18.59	15.62	2.97
247	Jalgaon	Yawal	Command	675.92	35.28	31.25	4.03
248	Jalgaon	Yawal	Non Command	685.08	26.35	22.31	4.05
249	Jalna	Ambad	Command	619.24	9.44	5.55	3.89
250	Jalna	Ambad	Non Command	616.08	10.19	5.71	4.48
251	Jalna	Badnapur	Command	589.18	8.78	3.16	5.63
252	Jalna	Badnapur	Non Command	592.44	9.82	5.19	4.63
253	Jalna	Bhokardan	Command	578.16	10.77	6.00	4.78
254	Jalna	Bhokardan	Non Command	566.70	8.78	3.97	4.81
255	Jalna	Ghat Sawangi	Command	633.44	6.57	3.24	3.33
256	Jalna	Ghat Sawangi	Non Command	629.38	9.67	4.86	4.81
257	Jalna	Jafrabad	Command	597.88	9.65	4.26	5.39
258	Jalna	Jafrabad	Non Command	586.43	9.71	4.24	5.47
259	Jalna	Jalna	Command	616.29	7.27	3.07	4.20
260	Jalna	Jalna	Non Command	645.66	8.46	4.41	4.05
261	Jalna	Mantha	Command	635.41	7.89	2.76	5.13
262	Jalna	Mantha	Non Command	661.54	9.14	4.49	4.65
263	Jalna	Partur	Command	609.28	8.61	4.68	3.92
264	Jalna	Partur	Non Command	609.28	8.01	4.26	3.75
265	Kolhapur	Ajara	Non Command	1436.96	6.56	2.59	3.97
266	Kolhapur	Bhudargad	Non Command	1409.00	4.84	2.64	2.21
267	Kolhapur	Chandgad	Non Command	2487.37	9.36	5.41	3.95
268	Kolhapur	Gadhinglaj	Non Command	1453.12	7.92	3.71	4.20
269	Kolhapur	Gaganbawada	Non Command	2981.70	3.87	2.51	1.36
270	Kolhapur	Hatkanangale	Non Command	1059.22	6.29	2.59	3.71
271	Kolhapur	Kagal	Non Command	1671.68	3.65	1.72	1.93
272	Kolhapur	Karvir	Non Command	2034.27	4.02	2.07	1.95
273	Kolhapur	Panhala	Non Command	2039.57	3.97	2.28	1.69
274	Kolhapur	Radhanagari	Non Command	2587.54	2.55	1.60	0.95
275	Kolhapur	Shahuwadi	Non Command	1895.21	5.80	3.08	2.72
276	Kolhapur	Shirol	Non Command	545.93	5.62	2.86	2.75
277	Latur	Ahmedpur	Command	916.28	11.26	3.53	7.74
278	Latur	Ahmedpur	Non Command	943.53	9.20	2.90	6.30
279	Latur	Anantpal Sh	Non Command	1035.39	11.48	4.78	6.69
280	Latur	Ausa	Command	926.79	10.07	5.01	5.06
281	Latur	Ausa	Non Command	946.74	10.88	5.10	5.78
282	Latur	Chakur	Command	946.33	11.58	4.26	7.32
283	Latur	Chakur	Non Command	1067.19	9.41	3.27	6.14
284	Latur	Devani	Non Command	1141.77	9.82	3.68	6.14
285	Latur	Jalkot	Non Command	1066.60	9.75	2.74	7.00
286	Latur	Latur	Command	1062.59	9.19	5.12	4.08
287	Latur	Latur	Non Command	1088.52	11.02	5.61	5.42

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DATA VARIABLES USED IN DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Sr.No.	District	Administrative Unit	Command / Non-command / Poor GW Quality	Rainfall (mm)	Average Pre-monsoon Water level (mbgl)	Average Post-monsoon Water level (mbgl)	Average Fluctuation (m)
288	Latur	Nilanga	Command	997.10	10.01	4.48	5.53
289	Latur	Nilanga	Non Command	1032.64	10.70	4.72	5.98
290	Latur	Renapur	Command	934.50	12.03	4.45	7.58
291	Latur	Renapur	Non Command	953.18	8.55	3.93	4.62
292	Latur	Udgir	Command	1108.61	9.44	2.65	6.79
293	Latur	Udgir	Non Command	1141.77	9.73	3.12	6.61
294	Nagpur	Bhiwapur	Command	1069.20	8.61	3.46	5.14
295	Nagpur	Bhiwapur	Non Command	1046.21	7.40	2.61	4.79
296	Nagpur	Hingana	Command	703.24	5.65	1.83	3.82
297	Nagpur	Hingana	Non Command	812.43	7.79	3.11	4.67
298	Nagpur	Kalameshwar	Command	890.01	10.09	4.23	5.86
299	Nagpur	Kalameshwar	Non Command	914.75	10.43	2.98	7.45
300	Nagpur	Kamtee	Command	960.01	9.45	5.27	4.18
301	Nagpur	Kamtee	Non Command	986.54	10.98	5.95	5.03
302	Nagpur	Katol	Command	767.14	8.58	3.69	4.89
303	Nagpur	Katol	Non Command	795.52	9.15	4.17	4.98
304	Nagpur	Kuhi	Command	984.36	8.49	4.64	3.85
305	Nagpur	Kuhi	Non Command	1030.82	7.66	2.90	4.76
306	Nagpur	Mouda	Command	1011.26	7.25	4.08	3.17
307	Nagpur	Mouda	Non Command	1048.80	5.37	2.87	2.50
308	Nagpur	Nagpur	Command	953.16	10.70	6.11	4.59
309	Nagpur	Nagpur	Non Command	871.23	9.15	4.05	5.10
310	Nagpur	Narkhed	Command	787.08	8.56	3.00	5.55
311	Nagpur	Narkhed	Non Command	761.50	9.29	5.12	4.17
312	Nagpur	Parshioni	Command	941.04	8.55	4.99	3.56
313	Nagpur	Parshioni	Non Command	915.34	8.29	4.87	3.41
314	Nagpur	Ramtek	Command	975.95	6.36	2.44	3.92
315	Nagpur	Ramtek	Non Command	966.85	6.77	2.93	3.84
316	Nagpur	Saoner	Command	892.42	9.35	5.96	3.40
317	Nagpur	Saoner	Non Command	893.22	8.04	6.18	1.86
318	Nagpur	Umred	Command	1018.49	7.40	2.18	5.22
319	Nagpur	Umred	Non Command	1026.63	7.23	2.48	4.75
320	Nanded	Ardhapur	Command	824.20	9.19	3.85	5.34
321	Nanded	Ardhapur	Non Command	813.79	7.10	3.33	3.77
322	Nanded	Bhokar	Command	799.01	6.43	2.51	3.93
323	Nanded	Bhokar	Non Command	792.20	7.76	3.38	4.37
324	Nanded	Biloli	Command	760.33	8.05	4.45	3.60
325	Nanded	Biloli	Non Command	752.89	9.75	6.32	3.43
326	Nanded	Degloor	Command	681.30	10.24	6.98	3.26
327	Nanded	Degloor	Non Command	698.25	8.10	4.26	3.84
328	Nanded	Dharmabad	Command	775.22	7.67	4.68	2.99
329	Nanded	Dharmabad	Non Command	762.97	9.80	5.81	3.98
330	Nanded	Hadgaon	Command	790.08	8.29	4.31	3.97
331	Nanded	Hadgaon	Non Command	784.94	8.45	3.65	4.81
332	Nanded	Himataytnahar	Command	873.96	7.16	3.31	3.85
333	Nanded	Himataytnahar	Non Command	805.67	8.77	4.36	4.41
334	Nanded	Kandhar	Command	757.65	7.15	2.44	4.72
335	Nanded	Kandhar	Non Command	758.34	8.05	3.27	4.78
336	Nanded	Kinwat	Command	955.90	6.08	2.71	3.37
337	Nanded	Kinwat	Non Command	944.49	7.15	2.94	4.21
338	Nanded	Loha	Command	741.59	9.74	3.39	6.36
339	Nanded	Loha	Non Command	757.79	8.48	2.96	5.52
340	Nanded	Mahur	Command	946.57	7.50	3.30	4.20
341	Nanded	Mahur	Non Command	951.23	7.65	2.96	4.69
342	Nanded	Mudkhed	Command	814.38	8.49	3.32	5.18
343	Nanded	Mudkhed	Non Command	798.33	7.48	3.35	4.13
344	Nanded	Mukhed	Command	717.57	5.71	2.23	3.48
345	Nanded	Mukhed	Non Command	715.36	9.04	3.51	5.53

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DATA VARIABLES USED IN DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Sr.No.	District	Administrative Unit	Command / Non-command / Poor GW Quality	Rainfall (mm)	Average Pre-monsoon Water level (mbgl)	Average Post-monsoon Water level (mbgl)	Average Fluctuation (m)
346	Nanded	Naigaon	Command	766.16	8.18	4.00	4.18
347	Nanded	Naigaon	Non Command	755.40	7.95	5.10	2.85
348	Nanded	Nanded	Command	757.75	8.44	3.67	4.76
349	Nanded	Nanded	Non Command	723.75	8.79	3.55	5.24
350	Nanded	Umari	Command	787.21	7.04	2.85	4.19
351	Nanded	Umari	Non Command	784.59	8.39	4.08	4.30
352	Nandurbar	Akkalkuva	Non Command	1061.22	4.69	2.40	2.29
353	Nandurbar	Akrani	Non Command	994.01	4.72	2.58	2.14
354	Nandurbar	Nandurbar	Command	893.11	5.83	2.76	3.07
355	Nandurbar	Nandurbar	Non Command	981.81	7.31	3.47	3.84
356	Nandurbar	Nawapur	Command	1114.86	7.51	3.72	3.79
357	Nandurbar	Nawapur	Non Command	1167.66	6.18	2.66	3.52
358	Nandurbar	Shahada	Command	602.39	11.43	7.67	3.76
359	Nandurbar	Shahada	Non Command	699.07	9.38	6.59	2.78
360	Nandurbar	Taloda	Command	899.56	20.61	14.81	5.80
361	Nandurbar	Taloda	Non Command	1023.67	6.84	4.37	2.48
362	Nashik	Baglan Satana	Command	511.53	11.45	6.92	4.53
363	Nashik	Baglan Satana	Non Command	508.59	9.71	6.12	3.59
364	Nashik	Chandwad	Command	570.63	10.48	5.91	4.57
365	Nashik	Chandwad	Non Command	534.83	11.33	5.58	5.76
366	Nashik	Deola	Command	521.36	10.02	4.86	5.15
367	Nashik	Deola	Non Command	544.67	10.13	6.16	3.97
368	Nashik	Dindori	Command	633.75	9.62	4.01	5.61
369	Nashik	Dindori	Non Command	749.38	7.55	2.65	4.91
370	Nashik	Igatpuri	Command	3037.64	5.09	0.79	4.30
371	Nashik	Igatpuri	Non Command	2556.15	6.26	0.95	5.31
372	Nashik	Kalwan	Command	660.84	12.88	7.05	5.83
373	Nashik	Kalwan	Non Command	970.54	8.05	3.25	4.80
374	Nashik	Malegaon	Command	502.49	9.09	4.68	4.41
375	Nashik	Malegaon	Non Command	500.14	7.77	4.00	3.77
376	Nashik	Nandgaon	Command	497.74	8.35	3.82	4.53
377	Nashik	Nandgaon	Non Command	500.84	8.62	3.97	4.65
378	Nashik	Nasik	Command	700.02	7.92	2.82	5.10
379	Nashik	Nasik	Non Command	1014.26	6.91	2.14	4.77
380	Nashik	Niphad	Command	572.72	9.77	4.63	5.14
381	Nashik	Niphad	Non Command	560.75	9.08	4.23	4.86
382	Nashik	Peth	Command	1745.68	5.64	1.73	3.91
383	Nashik	Peth	Non Command	1996.73	4.72	0.71	4.01
384	Nashik	Sinnar	Command	502.92	10.30	4.33	5.97
385	Nashik	Sinnar	Non Command	488.88	7.60	3.23	4.37
386	Nashik	Surgana	Command	1267.40	3.71	0.36	3.34
387	Nashik	Surgana	Non Command	1771.80	6.10	1.31	4.79
388	Nashik	Trambakeshwar	Command	725.89	7.05	1.03	6.02
389	Nashik	Trambakeshwar	Non Command	2460.43	5.77	0.78	4.99
390	Nashik	Yeola	Command	509.10	8.56	4.00	4.56
391	Nashik	Yeola	Non Command	491.72	9.05	3.57	5.48
392	Osmanabad	Bhoom	Command	541.22	13.99	6.54	7.45
393	Osmanabad	Bhoom	Non Command	582.15	10.90	4.51	6.39
394	Osmanabad	Kalamb	Command	710.52	6.86	2.77	4.09
395	Osmanabad	Kalamb	Non Command	693.72	10.70	4.73	5.96
396	Osmanabad	Lohara	Command	602.14	10.39	5.48	4.90
397	Osmanabad	Lohara	Non Command	625.30	9.47	4.57	4.90
398	Osmanabad	Omerga	Command	611.28	9.65	5.81	3.83
399	Osmanabad	Omerga	Non Command	610.14	9.99	5.14	4.84
400	Osmanabad	Osmanabad	Command	646.55	10.65	5.35	5.30
401	Osmanabad	Osmanabad	Non Command	656.78	10.82	5.34	5.48
402	Osmanabad	Paranda	Command	461.24	10.86	5.81	5.05
403	Osmanabad	Paranda	Non Command	524.75	11.55	5.73	5.82

Annexure III B-2

DATA VARIABLES USED IN DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Sr.No.	District	Administrative Unit	Command / Non-command / Poor GW Quality	Rainfall (mm)	Average Pre-monsoon Water level (mbgl)	Average Post-monsoon Water level (mbgl)	Average Fluctuation (m)
404	Osmanabad	Tuljapur	Command	670.05	10.04	4.42	5.62
405	Osmanabad	Tuljapur	Non Command	660.31	9.32	3.96	5.36
406	Osmanabad	Washi	Command	603.54	11.46	5.11	6.35
407	Osmanabad	Washi	Non Command	658.42	10.80	4.11	6.69
408	Parbhani	Gangakhed	Command	776.18	8.35	3.81	4.54
409	Parbhani	Gangakhed	Non Command	773.85	8.94	4.23	4.71
410	Parbhani	Jintur	Command	752.56	8.26	3.79	4.48
411	Parbhani	Jintur	Non Command	762.67	9.33	4.79	4.54
412	Parbhani	Manwat	Command	828.19	10.76	6.74	4.03
413	Parbhani	Manwat	Non Command	807.93	9.58	5.25	4.33
414	Parbhani	Palam	Command	775.29	9.68	3.99	5.69
415	Parbhani	Palam	Non Command	775.29	10.82	3.43	7.38
416	Parbhani	Parbhani	Command	799.80	7.54	3.39	4.16
417	Parbhani	Parbhani	Non Command	806.95	9.98	5.45	4.52
418	Parbhani	Pathari	Command	841.07	10.30	6.04	4.26
419	Parbhani	Pathari	Non Command	828.19	12.48	6.25	6.24
420	Parbhani	Purna	Command	778.21	6.31	2.70	3.60
421	Parbhani	Selu	Command	752.56	8.15	4.74	3.40
422	Parbhani	Selu	Non Command	800.42	10.30	6.05	4.26
423	Parbhani	Sonpepth	Command	777.06	10.30	4.08	6.22
424	Parbhani	Sonpepth	Non Command	743.21	8.00	3.89	4.10
425	Pune	Ambegaon	Command	852.94	6.30	3.34	2.96
426	Pune	Ambegaon	Non Command	726.67	7.95	2.95	5.00
427	Pune	Baramati	Command	546.14	8.65	4.87	3.78
428	Pune	Baramati	Non Command	577.69	7.75	3.39	4.37
429	Pune	Bhor	Command	963.03	7.15	3.55	3.60
430	Pune	Bhor	Non Command	1110.16	4.97	1.75	3.22
431	Pune	Daund	Command	543.22	7.43	3.89	3.54
432	Pune	Daund	Non Command	607.71	8.22	4.06	4.16
433	Pune	Haveli	Command	951.33	6.35	3.04	3.31
434	Pune	Haveli	Non Command	1077.30	6.44	2.77	3.67
435	Pune	Indapur	Command	535.68	8.15	4.00	4.15
436	Pune	Indapur	Non Command	532.29	7.91	3.82	4.09
437	Pune	Junnar	Command	767.53	7.33	3.40	3.94
438	Pune	Junnar	Non Command	772.88	9.59	5.34	4.25
439	Pune	Khed	Command	630.08	7.47	4.12	3.35
440	Pune	Khed	Non Command	698.90	6.59	2.15	4.43
441	Pune	Maval	Command	1452.60	4.30	1.05	3.24
442	Pune	Maval	Non Command	1252.44	4.96	1.27	3.69
443	Pune	Mulshi	Command	1616.43	4.25	1.40	2.85
444	Pune	Mulshi	Non Command	1656.84	4.18	0.89	3.30
445	Pune	Purandhar	Command	607.25	8.07	5.20	2.87
446	Pune	Purandhar	Non Command	754.24	8.69	4.17	4.53
447	Pune	Shirur	Command	519.24	7.90	3.93	3.97
448	Pune	Shirur	Non Command	515.55	7.38	2.90	4.47
449	Pune	Velhe	Command	751.87	5.35	1.32	4.02
450	Pune	Velhe	Non Command	1774.44	4.41	1.07	3.34
451	Raigad	Alibag	Command	3496.33	2.64	1.26	1.37
452	Raigad	Alibag	Non Command	2752.77	4.63	1.64	2.99
453	Raigad	Karjat	Command	3383.94	5.57	0.92	4.65
454	Raigad	Karjat	Non Command	3383.94	7.45	1.98	5.46
455	Raigad	Khalapur	Command	3470.67	6.37	2.34	4.03
456	Raigad	Khalapur	Non Command	3037.38	6.49	2.14	4.35
457	Raigad	Mahad	Command	3350.42	5.14	2.78	2.36
458	Raigad	Mahad	Non Command	3230.48	4.88	1.64	3.25
459	Raigad	Mangaon	Command	3163.07	3.30	1.17	2.13
460	Raigad	Mangaon	Non Command	3042.91	3.79	0.94	2.85
461	Raigad	Mhasala	Command	3008.07	3.59	1.11	2.48

Annexure III B-2

DATA VARIABLES USED IN DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Sr.No.	District	Administrative Unit	Command / Non-command / Poor GW Quality	Rainfall (mm)	Average Pre-monsoon Water level (mbgl)	Average Post-monsoon Water level (mbgl)	Average Fluctuation (m)
462	Raigad	Mhasala	Non Command	2940.30	3.63	0.79	2.83
463	Raigad	Murud	Command	3044.61	4.12	1.45	2.67
464	Raigad	Murud	Non Command	2864.36	4.07	1.03	3.04
465	Raigad	Panvel	Command	3470.67	6.37	2.34	4.03
466	Raigad	Panvel	Non Command	2601.40	5.11	1.06	4.04
467	Raigad	Pen	Command	3470.67	6.37	2.34	4.03
468	Raigad	Pen	Non Command	2978.57	6.38	2.34	4.04
469	Raigad	Poladpur	Command	3737.11	6.80	3.73	3.07
470	Raigad	Poladpur	Non Command	3514.47	8.36	3.74	4.62
471	Raigad	Roha	Command	3163.07	3.30	1.17	2.13
472	Raigad	Roha	Non Command	3045.30	4.35	1.49	2.86
473	Raigad	Shriwardhan	Command	2812.11	4.56	1.36	3.20
474	Raigad	Shriwardhan	Non Command	2710.44	3.81	0.80	3.01
475	Raigad	Sudhagad	Command	3496.33	2.64	1.26	1.37
476	Raigad	Sudhagad	Non Command	2938.05	4.87	2.32	2.56
477	Raigad	Tala	Command	2996.44	3.63	1.12	2.51
478	Raigad	Tala	Non Command	3114.00	4.47	0.88	3.59
479	Raigad	Uran	Command	3470.67	6.37	2.34	4.03
480	Raigad	Uran	Non Command	2534.45	4.92	1.00	3.91
481	Ratnagiri	Chiplun	Command	3556.17	4.43	0.74	3.69
482	Ratnagiri	Chiplun	Non Command	3465.34	6.82	3.82	2.99
483	Ratnagiri	Dapoli	Command	3425.77	5.74	2.40	3.34
484	Ratnagiri	Dapoli	Non Command	3556.95	4.80	1.54	3.26
485	Ratnagiri	Guhagar	Non Command	3004.77	7.15	4.66	2.50
486	Ratnagiri	Khed	Command	3684.94	3.89	0.96	2.93
487	Ratnagiri	Khed	Non Command	3578.72	5.74	2.44	3.31
488	Ratnagiri	Lanja	Command	2993.19	6.64	2.85	3.79
489	Ratnagiri	Lanja	Non Command	3592.61	8.96	6.13	2.83
490	Ratnagiri	Mandangad	Non Command	3737.09	3.65	0.85	2.80
491	Ratnagiri	Rajapur	Command	3793.94	10.56	8.59	1.97
492	Ratnagiri	Rajapur	Non Command	3619.63	8.71	5.25	3.46
493	Ratnagiri	Ratnagiri	Non Command	3388.16	11.00	7.20	3.80
494	Ratnagiri	Sangameshwar	Command	3865.34	5.14	2.42	2.72
495	Ratnagiri	Sangameshwar	Non Command	3709.66	10.07	6.69	3.37
496	Sangli	Atpadi	Command	320.25	9.97	6.17	3.80
497	Sangli	Atpadi	Non Command	320.25	7.44	4.32	3.11
498	Sangli	Jat	Command	516.02	6.54	3.65	2.89
499	Sangli	Jat	Non Command	521.31	7.94	4.53	3.41
500	Sangli	Kadegaon	Command	554.43	8.15	4.90	3.25
501	Sangli	Kadegaon	Non Command	586.05	9.25	5.77	3.49
502	Sangli	Kavathe Mahankal	Command	464.89	7.29	4.92	2.37
503	Sangli	Kavathe Mahankal	Non Command	499.63	9.19	5.89	3.30
504	Sangli	Khanapur	Command	585.35	7.47	5.43	2.04
505	Sangli	Khanapur	Non Command	585.71	8.77	5.60	3.17
506	Sangli	Miraj	Command	539.82	9.50	5.49	4.01
507	Sangli	Miraj	Non Command	607.84	7.58	3.47	4.10
508	Sangli	Palus	Command	459.29	6.50	2.89	3.61
509	Sangli	Palus	Non Command	626.68	7.17	4.26	2.92
510	Sangli	Shirala	Command	706.94	3.70	1.41	2.29
511	Sangli	Shirala	Non Command	946.24	5.26	2.04	3.22
512	Sangli	Tasgaon	Command	529.92	8.37	4.92	3.45
513	Sangli	Tasgaon	Non Command	585.75	7.90	5.09	2.82
514	Sangli	Walwa	Command	624.39	5.51	2.11	3.41
515	Sangli	Walwa	Non Command	742.76	6.36	2.57	3.79
516	Satara	Jaoli	Command	965.12	6.16	2.41	3.75
517	Satara	Jaoli	Non Command	3622.59	9.52	5.75	3.77

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DATA VARIABLES USED IN DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Sr.No.	District	Administrative Unit	Command / Non-command / Poor GW Quality	Rainfall (mm)	Average Pre-monsoon Water level (mbgl)	Average Post-monsoon Water level (mbgl)	Average Fluctuation (m)
518	Satara	Karad	Command	694.10	4.13	1.29	2.85
519	Satara	Karad	Non Command	808.75	4.59	2.03	2.56
520	Satara	Khandala	Command	395.75	4.78	2.68	2.10
521	Satara	Khandala	Non Command	460.98	6.62	2.48	4.14
522	Satara	Khatav	Command	420.14	9.21	7.32	1.89
523	Satara	Khatav	Non Command	414.07	8.42	4.52	3.90
524	Satara	Koregaon	Command	701.68	6.47	3.59	2.88
525	Satara	Koregaon	Non Command	607.83	8.48	4.15	4.33
526	Satara	Mahabaleshwar	Non Command	4281.55	14.53	8.84	5.68
527	Satara	Man	Command	377.64	8.49	4.87	3.62
528	Satara	Man	Non Command	382.17	8.49	4.06	4.43
529	Satara	Patan	Non Command	1452.39	5.01	1.96	3.05
530	Satara	Phaltan	Command	395.75	6.20	3.86	2.34
531	Satara	Phaltan	Non Command	406.99	8.03	3.90	4.13
532	Satara	Satara	Command	877.31	5.37	2.83	2.54
533	Satara	Satara	Non Command	1889.22	5.69	2.69	3.00
534	Satara	Wai	Command	912.00	7.37	5.01	2.36
535	Satara	Wai	Non Command	2466.54	13.02	6.36	6.66
536	Sindhudurg	Devgad	Non Command	2639.35	7.28	4.40	2.87
537	Sindhudurg	Doudamarg	Non Command	3563.20	9.25	6.37	2.88
538	Sindhudurg	Kankavali	Command	2745.58	8.90	5.94	2.96
539	Sindhudurg	Kankavali	Non Command	2765.76	7.31	4.14	3.17
540	Sindhudurg	Kudal	Command	2745.58	7.32	2.61	4.71
541	Sindhudurg	Kudal	Non Command	2809.30	7.30	4.26	3.04
542	Sindhudurg	Malwan	Command	2745.58	7.32	2.61	4.71
543	Sindhudurg	Malwan	Non Command	2701.66	7.09	4.10	2.99
544	Sindhudurg	Sawantwadi	Command	3656.76	4.88	0.64	4.24
545	Sindhudurg	Sawantwadi	Non Command	3445.27	7.67	4.47	3.20
546	Sindhudurg	Vaibhavwadi	Non Command	2802.79	6.84	3.79	3.05
547	Sindhudurg	Vengurla	Non Command	3085.14	7.81	5.04	2.77
548	Solapur	Akkalkot	Non Command	591.91	9.10	5.90	3.21
549	Solapur	Barshi	Non Command	598.42	8.97	4.35	4.61
550	Solapur	Karmala	Command	578.38	7.67	2.86	4.81
551	Solapur	Karmala	Non Command	563.59	8.28	4.19	4.09
552	Solapur	Madha	Command	551.24	6.91	3.22	3.69
553	Solapur	Madha	Non Command	576.66	9.25	5.15	4.10
554	Solapur	Malshiras	Command	556.02	6.71	3.93	2.78
555	Solapur	Malshiras	Non Command	561.39	5.93	3.25	2.68
556	Solapur	Mangalwedha	Command	510.81	9.20	5.86	3.35
557	Solapur	Mangalwedha	Non Command	517.94	7.85	4.22	3.63
558	Solapur	Mohol	Command	541.61	8.97	5.02	3.96
559	Solapur	Mohol	Non Command	556.56	8.73	5.24	3.49
560	Solapur	N.Solapur	Command	560.48	9.62	4.47	5.14
561	Solapur	N.Solapur	Non Command	579.36	9.32	4.48	4.84
562	Solapur	Pandharpur	Command	510.45	7.58	4.61	2.97
563	Solapur	Pandharpur	Non Command	533.31	7.86	4.77	3.09
564	Solapur	S.Solapur	Command	569.93	8.09	4.83	3.27
565	Solapur	S.Solapur	Non Command	584.20	9.03	5.51	3.52
566	Solapur	Sangola	Command	496.95	8.20	5.26	2.94
567	Solapur	Sangola	Non Command	516.21	8.01	4.02	3.99
568	Thane	Ambarnath	Command	2398.31	2.46	0.53	1.93
569	Thane	Ambarnath	Non Command	2555.81	6.66	1.02	5.64
570	Thane	Bhivandi	Command	2696.86	3.52	0.83	2.69
571	Thane	Bhivandi	Non Command	2676.06	4.58	0.99	3.60
572	Thane	Dahanu	Command	2241.72	6.50	0.86	5.64
573	Thane	Dahanu	Non Command	2158.39	6.39	2.27	4.12
574	Thane	Jawhar	Command	2489.63	5.13	1.22	3.92
575	Thane	Jawhar	Non Command	2399.51	5.43	1.13	4.30

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DATA VARIABLES USED IN DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Sr.No.	District	Administrative Unit	Command / Non-command / Poor GW Quality	Rainfall (mm)	Average Pre-monsoon Water level (mbgl)	Average Post-monsoon Water level (mbgl)	Average Fluctuation (m)
576	Thane	Kalyan	Non Command	2807.22	5.65	0.98	4.67
577	Thane	Mokhada	Command	2525.86	6.15	1.18	4.97
578	Thane	Mokhada	Non Command	2529.59	4.79	0.88	3.91
579	Thane	Murbad	Command	2925.07	3.32	0.68	2.64
580	Thane	Murbad	Non Command	2963.60	6.29	1.05	5.24
581	Thane	Palghar	Command	2387.93	5.88	1.49	4.40
582	Thane	Palghar	Non Command	2388.90	5.36	1.67	3.69
583	Thane	Shahapur	Command	2781.93	4.01	0.73	3.28
584	Thane	Shahapur	Non Command	2716.36	5.05	0.92	4.13
585	Thane	Talasari	Non Command	2116.78	8.61	4.06	4.55
586	Thane	Thane	Non Command	2561.61	3.17	1.03	2.13
587	Thane	Ulhasnagar	Non Command	2353.28	3.97	0.86	3.12
588	Thane	Vasai	Non Command	2824.50	4.76	1.22	3.54
589	Thane	Vikramgad	Command	2417.17	3.11	1.30	1.81
590	Thane	Vikramgad	Non Command	2560.98	5.39	0.97	4.43
591	Thane	Wada	Command	2636.53	5.06	1.28	3.78
592	Thane	Wada	Non Command	2590.02	4.87	1.19	3.69
593	Wardha	Arvi	Command	799.59	6.55	3.76	2.79
594	Wardha	Arvi	Non Command	833.28	7.65	3.55	4.09
595	Wardha	Ashti	Command	761.30	11.57	8.95	2.62
596	Wardha	Ashti	Non Command	760.31	8.75	4.37	4.38
597	Wardha	Deoli	Non Command	872.38	8.15	3.43	4.73
598	Wardha	Hinganghat	Command	959.49	7.00	2.71	4.29
599	Wardha	Hinganghat	Non Command	939.88	7.71	2.81	4.89
600	Wardha	Karanja	Command	825.04	6.10	3.62	2.48
601	Wardha	Karanja	Non Command	810.42	7.08	2.96	4.13
602	Wardha	Samudrapur	Command	992.15	6.87	3.03	3.84
603	Wardha	Samudrapur	Non Command	1014.25	7.68	3.96	3.72
604	Wardha	Seloo	Command	997.49	9.49	6.29	3.21
605	Wardha	Seloo	Non Command	942.43	7.86	4.71	3.15
606	Wardha	Wardha	Command	923.58	7.37	3.73	3.64
607	Wardha	Wardha	Non Command	889.43	7.57	3.12	4.45
608	Washim	Karanja	Command	744.16	7.32	3.19	4.12
609	Washim	Karanja	Non Command	745.17	8.19	3.60	4.59
610	Washim	Malegaon	Command	953.59	7.71	2.40	5.31
611	Washim	Malegaon	Non Command	899.98	7.92	2.27	5.65
612	Washim	Mangrulpir	Command	787.25	6.30	2.08	4.22
613	Washim	Mangrulpir	Non Command	770.56	7.73	3.47	4.26
614	Washim	Manora	Command	736.57	7.35	3.20	4.15
615	Washim	Manora	Non Command	737.41	8.03	4.07	3.96
616	Washim	Risod	Command	787.07	9.24	2.81	6.43
617	Washim	Risod	Non Command	751.01	8.25	2.15	6.10
618	Washim	Washim	Command	914.29	8.12	2.46	5.66
619	Washim	Washim	Non Command	882.27	7.04	2.42	4.62
620	Yeotmal	Arni	Command	618.71	6.52	3.61	2.91
621	Yeotmal	Arni	Non Command	754.99	7.52	3.46	4.06
622	Yeotmal	Babulgaon	Command	742.75	4.97	2.86	2.11
623	Yeotmal	Babulgaon	Non Command	742.75	7.58	4.25	3.33
624	Yeotmal	Daravha	Command	731.92	7.10	4.42	2.67
625	Yeotmal	Daravha	Non Command	739.06	6.45	2.93	3.53
626	Yeotmal	Digras	Command	707.55	5.33	2.65	2.68
627	Yeotmal	Digras	Non Command	763.23	7.22	3.06	4.15
628	Yeotmal	Ghatanji	Command	908.34	5.98	3.73	2.25
629	Yeotmal	Ghatanji	Non Command	885.81	7.11	3.57	3.54
630	Yeotmal	Kalamb	Command	924.15	5.93	3.59	2.34
631	Yeotmal	Kalamb	Non Command	893.36	7.81	4.42	3.39
632	Yeotmal	Mahagaon	Command	780.45	7.68	3.54	4.14
633	Yeotmal	Mahagaon	Non Command	816.65	7.61	3.18	4.43

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DATA VARIABLES USED IN DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Sr.No.	District	Administrative Unit	Command / Non-command / Poor GW Quality	Rainfall (mm)	Average Pre-monsoon Water level (mbgl)	Average Post-monsoon Water level (mbgl)	Average Fluctuation (m)
634	Yeotmal	Maregaon	Command	758.21	7.29	4.59	2.70
635	Yeotmal	Maregaon	Non Command	814.68	7.87	3.39	4.48
636	Yeotmal	Ner	Command	624.73	7.21	3.81	3.40
637	Yeotmal	Ner	Non Command	653.16	7.47	3.80	3.67
638	Yeotmal	Omarkhed	Command	697.22	9.19	2.53	6.65
639	Yeotmal	Omarkhed	Non Command	719.12	9.16	2.76	6.40
640	Yeotmal	Pandharkavada	Command	862.82	6.49	3.80	2.69
641	Yeotmal	Pandharkavada	Non Command	845.96	6.25	2.86	3.38
642	Yeotmal	Pusad	Command	838.23	7.23	2.81	4.41
643	Yeotmal	Pusad	Non Command	833.29	7.07	3.47	3.59
644	Yeotmal	Ralegaon	Command	936.68	6.16	3.48	2.68
645	Yeotmal	Ralegaon	Non Command	933.77	7.14	3.73	3.42
646	Yeotmal	Wani	Command	864.74	7.44	3.89	3.56
647	Yeotmal	Wani	Non Command	800.33	9.69	4.01	5.69
648	Yeotmal	Yeotmal	Command	848.00	6.18	3.72	2.45
649	Yeotmal	Yeotmal	Non Command	829.54	7.59	4.13	3.46
650	Yeotmal	Zara Zamani	Command	647.16	5.46	2.94	2.52
651	Yeotmal	Zara Zamani	Non Command	736.44	7.75	3.17	4.59

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non-monsoon season	Recharge from other sources during non-monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
1	Ahmednagar	Akola	Command	267.18	24.87	64.44	453.59	810.08	40.50	769.57
2	Ahmednagar	Akola	Non Command	5884.35	262.85	1465.01	1701.71	9313.91	465.70	8848.21
3	Ahmednagar	Akola	Total	6151.52	287.72	1529.44	2155.30	10123.99	506.20	9617.79
4	Ahmednagar	Jamkhed	Command	-	-	-	-	-	-	-
5	Ahmednagar	Jamkhed	Non Command	4240.57	401.24	1364.57	1092.54	7098.92	354.95	6743.97
6	Ahmednagar	Jamkhed	Total	4240.57	401.24	1364.57	1092.54	7098.92	354.95	6743.97
7	Ahmednagar	Karjat	Command	352.94	197.16	115.54	398.16	1063.80	53.19	1010.61
8	Ahmednagar	Karjat	Non Command	7763.43	752.25	2661.36	2616.94	13793.98	689.70	13104.28
9	Ahmednagar	Karjat	Total	8116.37	949.41	2776.90	3015.10	14857.78	742.89	14114.89
10	Ahmednagar	Kopargaon	Command	1274.13	851.45	339.12	2612.07	5076.77	263.88	4812.89
11	Ahmednagar	Kopargaon	Non Command	2499.55	92.65	703.00	939.08	4234.28	211.71	4022.57
12	Ahmednagar	Kopargaon	Total	3773.68	944.10	1042.12	3551.15	9311.05	475.59	8835.46
13	Ahmednagar	Nagar	Command	-	-	-	-	-	-	-
14	Ahmednagar	Nagar	Non Command	8996.03	830.84	2664.62	3458.64	15950.13	797.51	15152.62
15	Ahmednagar	Nagar	Total	8996.03	830.84	2664.62	3458.64	15950.13	797.51	15152.62
16	Ahmednagar	Newasa	Command	5972.83	1571.55	1430.72	6496.71	15471.80	773.59	14698.21
17	Ahmednagar	Newasa	Non Command	3502.95	130.43	873.28	1608.81	6115.48	308.61	5806.88
18	Ahmednagar	Newasa	Total	9475.78	1701.98	2304.00	8105.52	21587.28	1082.20	20505.09
19	Ahmednagar	Parner	Command	2108.59	679.67	661.17	2252.65	5702.09	301.08	5401.01
20	Ahmednagar	Parner	Non Command	8448.49	1111.42	2390.00	2302.72	14252.63	770.70	13481.93
21	Ahmednagar	Parner	Total	10557.08	1791.09	3051.17	4555.38	19954.72	1071.78	18882.94
22	Ahmednagar	Pathardi	Command	2899.77	83.51	680.52	1366.16	5029.96	251.50	4778.47
23	Ahmednagar	Pathardi	Non Command	5641.54	265.87	1476.75	1177.47	8561.63	690.68	7870.95
24	Ahmednagar	Pathardi	Total	8541.31	349.38	2157.27	2543.63	13591.59	942.18	12649.42
25	Ahmednagar	Rahuri	Command	2775.11	1872.46	785.19	5585.74	11018.50	550.92	10467.57
26	Ahmednagar	Rahuri	Non Command	2689.34	283.65	780.60	1040.49	4794.08	239.70	4554.38
27	Ahmednagar	Rahuri	Total	5464.45	2156.11	1565.79	6626.23	15812.58	790.63	15021.95
28	Ahmednagar	Rhata	Command	3270.02	932.19	774.88	3486.08	8463.17	423.16	8040.01
29	Ahmednagar	Rhata	Non Command	738.23	52.88	270.74	345.04	1406.89	70.34	1336.54
30	Ahmednagar	Rhata	Total	4008.25	985.06	1045.62	3831.12	9870.06	493.50	9376.55
31	Ahmednagar	Sangamner	Command	815.47	203.83	184.09	1062.26	2265.65	113.28	2152.36
32	Ahmednagar	Sangamner	Non Command	8990.37	518.74	1961.15	3120.88	14591.15	729.56	13861.59
33	Ahmednagar	Sangamner	Total	9805.84	722.58	2145.24	4183.15	16856.80	842.84	16013.96
34	Ahmednagar	Shevgaon	Command	438.57	54.45	102.02	369.22	964.26	48.21	916.05

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non-monsoon season	Recharge from other sources during non-monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
35	Ahmednagar	Shevgaon	Non Command	7186.93	320.04	1555.40	1682.25	10744.63	667.46	10077.16
36	Ahmednagar	Shevgaon	Total	7625.50	374.49	1657.42	2051.47	11708.89	715.68	10993.21
37	Ahmednagar	Shrigonda	Command	1363.46	640.52	488.81	2117.64	4610.43	230.52	4379.90
38	Ahmednagar	Shrigonda	Non Command	5723.32	303.74	2152.69	1526.40	9706.16	485.31	9220.85
39	Ahmednagar	Shrigonda	Total	7086.78	944.25	2641.50	3644.04	14316.58	715.83	13600.75
40	Ahmednagar	Shrirampur	Command	2795.74	975.99	712.77	3514.82	7999.32	399.97	7599.35
41	Ahmednagar	Shrirampur	Non Command	1029.33	43.99	311.96	375.83	1761.11	88.06	1673.05
42	Ahmednagar	Shrirampur	Total	3825.07	1019.97	1024.74	3890.65	9760.43	488.02	9272.41
43	Akola	Akola	Command	596.36	106.21	69.58	499.60	1271.74	63.59	1208.16
44	Akola	Akola	Non Command	3768.80	108.29	412.68	325.46	4615.24	287.64	4327.60
45	Akola	Akola	Total	4365.16	214.50	482.26	825.06	5886.98	351.23	5535.75
46	Akola	Akot	Command	378.86	33.85	33.52	1034.39	1480.62	74.03	1406.59
47	Akola	Akot	Non Command	3444.99	86.10	322.15	408.13	4261.36	227.75	4033.61
48	Akola	Akot	Total	3823.84	119.95	355.67	1442.52	5741.98	301.78	5440.20
49	Akola	Balapur	Command	203.64	13.72	6.17	302.54	526.07	26.30	499.76
50	Akola	Balapur	Non Command	4162.48	51.14	330.20	177.79	4721.61	269.07	4452.54
51	Akola	Balapur	Total	4366.12	64.86	336.37	480.32	5247.67	295.37	4952.30
52	Akola	Barsi Takli	Command	378.23	58.52	53.50	273.62	763.89	38.19	725.69
53	Akola	Barsi Takli	Non Command	5586.74	180.64	375.57	523.75	6666.71	333.34	6333.37
54	Akola	Barsi Takli	Total	5964.98	239.17	429.07	797.38	7430.60	371.53	7059.07
55	Akola	Murtizapur	Command	242.79	45.35	10.88	575.19	874.21	43.71	830.50
56	Akola	Murtizapur	Non Command	4365.69	78.64	65.34	444.03	4953.70	308.58	4645.12
57	Akola	Murtizapur	Total	4608.47	123.99	76.22	1019.22	5827.90	352.29	5475.61
58	Akola	Patur	Command	519.70	52.80	12.14	836.72	1421.36	71.07	1350.29
59	Akola	Patur	Non Command	4503.15	127.52	65.68	353.27	5049.62	299.51	4750.11
60	Akola	Patur	Total	5022.85	180.32	77.83	1189.99	6470.98	370.58	6100.40
61	Akola	Telhara	Command	1541.05	11.16	0.06	4552.80	6105.08	305.25	5799.83
62	Akola	Telhara	Non Command	4313.04	76.35	37.39	265.06	4691.84	234.59	4457.24
63	Akola	Telhara	Total	5854.09	87.51	37.45	4817.87	10796.92	539.85	10257.07
64	Amravati	Achlapur	Command	954.39	27.13	133.97	1356.36	2471.86	123.59	2348.26
65	Amravati	Achlapur	Non Command	4368.43	157.38	619.56	1526.68	6672.05	414.97	6257.08
66	Amravati	Achlapur	Total	5322.82	184.51	753.53	2883.05	9143.91	538.57	8605.34
67	Amravati	Amravati	Command	120.17	8.81	20.63	474.76	624.37	31.22	593.15
68	Amravati	Amravati	Non Command	6755.61	254.04	1016.72	1478.06	9504.44	475.22	9029.22

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non-monsoon season	Recharge from other sources during non-monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
69	Amravati	Amravati	Total	6875.78	262.85	1037.35	1952.83	10128.81	506.44	9622.37
70	Amravati	Anjangaon Surji	Command	566.47	23.20	81.98	1968.83	2640.48	174.13	2466.34
71	Amravati	Anjangaon Surji	Non Command	2257.56	91.64	309.46	545.47	3204.12	182.78	3021.34
72	Amravati	Anjangaon Surji	Total	2824.03	114.84	391.43	2514.30	5844.60	356.91	5487.69
73	Amravati	Bhatkuli	Command							
74	Amravati	Bhatkuli	Non Command	461.77	10.25	77.51	63.94	613.46	30.67	582.79
75	Amravati	Bhatkuli	Total	461.77	10.25	77.51	63.94	613.46	30.67	582.79
76	Amravati	Chandur Bazar	Command	50.95	10.24	0.00	262.71	323.90	16.20	307.71
77	Amravati	Chandur Bazar	Non Command	5797.65	275.72	562.19	2000.13	8635.69	431.78	8203.91
78	Amravati	Chandur Bazar	Total	5848.61	285.97	562.19	2262.83	8959.60	447.98	8511.62
79	Amravati	Chandur Railway	Command	216.49	9.03	36.54	415.35	677.41	33.87	643.54
80	Amravati	Chandur Railway	Non Command	3896.94	117.76	607.34	576.10	5198.14	259.91	4938.24
81	Amravati	Chandur Railway	Total	4113.44	126.79	643.87	991.45	5875.55	293.78	5581.77
82	Amravati	Chikhaldara	Command	26.58	0.00	2.27	153.15	182.01	18.20	163.81
83	Amravati	Chikhaldara	Non Command	2328.79	195.20	264.32	500.72	3289.02	200.76	3088.27
84	Amravati	Chikhaldara	Total	2355.37	195.20	266.59	653.87	3471.03	218.96	3252.07
85	Amravati	Daryapur	Command	-	-	-	-	-	-	-
86	Amravati	Daryapur	Non Command	499.31	45.71	60.59	256.58	862.18	43.11	819.07
87	Amravati	Daryapur	Total	499.31	45.71	60.59	256.58	862.18	43.11	819.07
88	Amravati	Dhamangaon Railway	Command	177.72	8.02	23.96	365.99	575.69	28.78	546.91
89	Amravati	Dhamangaon Railway	Non Command	4696.80	141.50	785.05	875.85	6499.20	333.16	6166.04
90	Amravati	Dhamangaon Railway	Total	4874.52	149.52	809.01	1241.84	7074.89	361.94	6712.95
91	Amravati	Dharni	Command	263.85	10.73	0.00	752.59	1027.17	51.36	975.81
92	Amravati	Dharni	Non Command	2755.90	81.37	14.86	229.85	3081.98	154.10	2927.88
93	Amravati	Dharni	Total	3019.74	92.10	14.86	982.44	4109.15	205.46	3903.69
94	Amravati	Morshi	Command	276.65	37.93	17.22	1347.08	1678.88	83.94	1594.94
95	Amravati	Morshi	Non Command	5261.12	365.82	209.86	2279.45	8116.25	405.81	7710.44
96	Amravati	Morshi	Total	5537.77	403.75	227.08	3626.53	9795.13	489.76	9305.38
97	Amravati	Nandgaon	Command	62.10	3.65	12.55	181.77	260.07	13.00	247.06
98	Amravati	Nandgaon	Non Command	5464.06	205.38	963.72	1000.42	7633.59	381.68	7251.91
99	Amravati	Nandgaon	Total	5526.16	209.03	976.27	1182.20	7893.66	394.68	7498.98
100	Amravati	Tiwsa	Command	853.40	50.05	147.61	3516.13	4567.19	228.36	4338.83
101	Amravati	Tiwsa	Non Command	4006.15	131.72	585.84	676.71	5400.41	270.02	5130.39
102	Amravati	Tiwsa	Total	4859.54	181.77	733.45	4192.84	9967.60	498.38	9469.22

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non- monsoon season	Recharge from other sources during non- monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
103	Amravati	Warud	Command	315.36	157.11	35.52	1082.91	1590.90	79.54	1511.35
104	Amravati	Warud	Non Command	7379.20	754.00	880.34	3947.82	12961.36	648.07	12313.29
105	Amravati	Warud	Total	7694.56	911.10	915.85	5030.74	14552.26	727.61	13824.64
106	Aurangabad	Aurangabad	Command	1102.06	267.27	4.12	4887.04	6260.49	313.02	5947.46
107	Aurangabad	Aurangabad	Non Command	7181.26	1415.47	38.76	3213.99	11849.48	592.47	11257.00
108	Aurangabad	Aurangabad	Total	8283.32	1682.73	42.88	8101.03	18109.96	905.50	17204.47
109	Aurangabad	Fulambre	Command	144.21	36.81	0.00	417.08	598.10	29.90	568.19
110	Aurangabad	Fulambre	Non Command	2963.45	533.81	26.50	1460.96	4984.72	249.24	4735.48
111	Aurangabad	Fulambre	Total	3107.66	570.62	26.50	1878.04	5582.82	279.14	5303.68
112	Aurangabad	Gangapur	Command	2183.21	286.50	0.00	2107.13	4576.84	228.84	4348.00
113	Aurangabad	Gangapur	Non Command	6648.41	631.45	0.00	2409.80	9689.66	484.48	9205.17
114	Aurangabad	Gangapur	Total	8831.61	917.95	0.00	4516.93	14266.50	713.32	13553.17
115	Aurangabad	Kannad	Command	678.18	685.64	12.31	2750.95	4127.08	280.00	3847.08
116	Aurangabad	Kannad	Non Command	10268.87	1495.75	40.36	2887.57	14692.55	734.63	13957.93
117	Aurangabad	Kannad	Total	10947.05	2181.39	52.67	5638.52	18819.64	1014.63	17805.01
118	Aurangabad	Khuldabad	Command	175.57	188.30	0.00	1292.27	1656.14	82.81	1573.33
119	Aurangabad	Khuldabad	Non Command	3561.86	409.25	0.00	923.13	4894.23	244.71	4649.52
120	Aurangabad	Khuldabad	Total	3737.43	597.54	0.00	2215.40	6550.37	327.52	6222.85
121	Aurangabad	Paithan	Command	2198.24	40.37	105.28	5177.36	7521.25	376.06	7145.19
122	Aurangabad	Paithan	Non Command	7682.60	939.88	660.74	2033.18	11316.40	565.82	10750.58
123	Aurangabad	Paithan	Total	9880.85	980.25	766.02	7210.54	18837.65	941.88	17895.77
124	Aurangabad	Sillod	Command	597.71	83.03	0.00	2978.84	3659.57	182.98	3476.60
125	Aurangabad	Sillod	Non Command	8847.29	725.25	337.99	2280.61	12191.15	609.56	11581.59
126	Aurangabad	Sillod	Total	9445.00	808.29	337.99	5259.45	15850.73	792.54	15058.19
127	Aurangabad	Soyegaon	Command	114.95	163.20	13.51	2755.17	3046.83	204.98	2841.85
128	Aurangabad	Soyegaon	Non Command	2044.34	498.35	237.84	931.99	3712.52	219.86	3492.67
129	Aurangabad	Soyegaon	Total	2159.29	661.55	251.35	3687.16	6759.35	424.84	6334.52
130	Aurangabad	Vaijapur	Command	2531.13	484.15	304.17	3931.24	7250.68	362.53	6888.15
131	Aurangabad	Vaijapur	Non Command	5759.13	3184.47	834.65	3824.99	13603.24	680.16	12923.08
132	Aurangabad	Vaijapur	Total	8290.26	3668.62	1138.82	7756.23	20853.92	1042.70	19811.23
133	Beed	Ambejogai	Command	153.26	158.34	29.55	500.93	842.09	52.51	789.58
134	Beed	Ambejogai	Non Command	7638.47	550.84	1173.99	1112.72	10476.02	523.80	9952.22
135	Beed	Ambejogai	Total	7791.74	709.18	1203.54	1613.66	11318.11	576.31	10741.80
136	Beed	Ashti	Command	743.79	810.76	177.09	1636.51	3368.16	190.12	3178.03

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ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non-monsoon season	Recharge from other sources during non-monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
137	Beed	Ashti	Non Command	9632.98	1225.82	2119.78	2067.09	15045.68	752.28	14293.39
138	Beed	Ashti	Total	10376.78	2036.58	2296.87	3703.60	18413.83	942.41	17471.42
139	Beed	Beed	Command	669.10	376.06	138.53	1239.51	2423.20	121.16	2302.04
140	Beed	Beed	Non Command	9241.66	987.01	1911.55	1977.25	14117.47	705.87	13411.60
141	Beed	Beed	Total	9910.75	1363.07	2050.09	3216.76	16540.67	827.03	15713.64
142	Beed	Dharur	Command	111.38	66.83	20.86	291.96	491.03	24.55	466.47
143	Beed	Dharur	Non Command	1959.36	185.75	302.92	367.46	2815.49	140.77	2674.71
144	Beed	Dharur	Total	2070.74	252.57	323.78	659.42	3306.51	165.33	3141.19
145	Beed	Gevrai	Command	1801.35	1514.94	399.68	4251.87	7967.85	398.39	7569.46
146	Beed	Gevrai	Non Command	9479.45	892.12	2169.49	2019.45	14560.51	728.03	13832.48
147	Beed	Gevrai	Total	11280.80	2407.06	2569.18	6271.33	22528.36	1126.42	21401.94
148	Beed	Kaij	Command	-	-	-	-	-	-	-
149	Beed	Kaij	Non Command	12335.09	865.69	1840.20	1855.74	16896.72	844.84	16051.88
150	Beed	Kaij	Total	12335.09	865.69	1840.20	1855.74	16896.72	844.84	16051.88
151	Beed	Majalgaon	Command	2475.86	1351.94	529.82	4015.79	8373.42	418.67	7954.75
152	Beed	Majalgaon	Non Command	4454.77	310.96	913.12	686.92	6365.77	318.29	6047.48
153	Beed	Majalgaon	Total	6930.62	1662.90	1442.94	4702.72	14739.19	736.96	14002.23
154	Beed	Parli	Command	896.23	873.38	180.58	2908.45	4858.63	242.93	4615.70
155	Beed	Parli	Non Command	4269.46	487.50	704.09	822.05	6283.10	314.15	5968.94
156	Beed	Parli	Total	5165.68	1360.88	884.67	3730.50	11141.73	557.09	10584.64
157	Beed	Patoda	Command	139.92	170.53	34.02	435.87	780.34	39.02	741.32
158	Beed	Patoda	Non Command	5346.07	628.58	992.32	1159.24	8126.21	406.31	7719.90
159	Beed	Patoda	Total	5485.99	799.11	1026.34	1595.11	8906.55	445.33	8461.22
160	Beed	Shirur Ka	Command	117.90	228.29	27.22	654.21	1027.61	51.38	976.23
161	Beed	Shirur Ka	Non Command	4208.44	458.61	824.60	843.77	6335.42	316.77	6018.65
162	Beed	Shirur Ka	Total	4326.34	686.89	851.82	1497.98	7363.04	368.15	6994.88
163	Beed	Wadvani	Command	333.96	574.77	70.95	1766.75	2746.43	247.01	2499.41
164	Beed	Wadvani	Non Command	5356.75	471.83	1020.32	912.59	7761.49	388.07	7373.41
165	Beed	Wadvani	Total	5690.71	1046.60	1091.27	2679.33	10507.92	635.09	9872.83
166	Bhandara	Bhandara	Command	977.72	1550.39	144.31	2055.43	4727.84	411.33	4316.52
167	Bhandara	Bhandara	Non Command	4115.87	189.20	463.42	278.72	5047.22	259.92	4787.30
168	Bhandara	Bhandara	Total	5093.59	1739.59	607.73	2334.15	9775.06	671.25	9103.81
169	Bhandara	Lakhandur	Command	755.75	1413.52	86.92	2438.09	4694.27	469.43	4224.85
170	Bhandara	Lakhandur	Non Command	3066.37	186.31	364.88	574.62	4192.18	223.88	3968.30

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non- monsoon season	Recharge from other sources during non- monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
171	Bhandara	Lakhandur	Total	3822.12	1599.82	451.81	3012.71	8886.45	693.31	8193.15
172	Bhandara	Lakhani	Command	719.59	75.82	70.57	713.44	1579.43	78.97	1500.45
173	Bhandara	Lakhani	Non Command	3304.55	139.53	376.51	273.82	4094.41	204.72	3889.69
174	Bhandara	Lakhani	Total	4024.14	215.35	447.08	987.27	5673.83	283.69	5390.14
175	Bhandara	Mohadi	Command	1642.50	622.22	242.96	914.54	3422.22	176.51	3245.71
176	Bhandara	Mohadi	Non Command	1833.64	167.85	247.86	257.66	2507.01	156.90	2350.11
177	Bhandara	Mohadi	Total	3476.14	790.07	490.82	1172.20	5929.23	333.41	5595.82
178	Bhandara	Pauni	Command	117.15	67.56	15.96	81.19	281.86	14.09	267.76
179	Bhandara	Pauni	Non Command	5469.47	405.26	687.33	1087.80	7649.85	382.49	7267.36
180	Bhandara	Pauni	Total	5586.62	472.81	703.29	1168.99	7931.71	396.59	7535.12
181	Bhandara	Sakoli	Command	954.30	207.56	98.39	1041.60	2301.85	115.09	2186.76
182	Bhandara	Sakoli	Non Command	4150.43	148.71	414.25	191.53	4904.92	255.40	4649.51
183	Bhandara	Sakoli	Total	5104.73	356.27	512.64	1233.13	7206.77	370.50	6836.28
184	Bhandara	Tumsar	Command	2116.84	571.24	285.74	1482.84	4456.67	222.83	4233.83
185	Bhandara	Tumsar	Non Command	3032.80	156.63	405.30	319.35	3914.08	195.70	3718.37
186	Bhandara	Tumsar	Total	5149.64	727.87	691.05	1802.18	8370.74	418.54	7952.20
187	Buldhana	Buldhana	Command	326.52	58.32	26.31	277.78	688.94	34.45	654.49
188	Buldhana	Buldhana	Non Command	5399.28	455.35	615.03	1144.08	7613.75	535.00	7078.75
189	Buldhana	Buldhana	Total	5725.80	513.67	641.35	1421.86	8302.68	569.45	7733.24
190	Buldhana	Chikhali	Command	201.11	59.65	12.52	192.69	465.97	31.05	434.92
191	Buldhana	Chikhali	Non Command	8254.98	691.67	932.26	2213.34	12092.25	750.63	11341.62
192	Buldhana	Chikhali	Total	8456.09	751.32	944.78	2406.03	12558.22	781.68	11776.54
193	Buldhana	Deulgaon Raja	Command	181.51	71.99	14.65	180.00	448.16	22.41	425.75
194	Buldhana	Deulgaon Raja	Non Command	4173.43	287.90	219.70	1098.70	5779.72	288.99	5490.73
195	Buldhana	Deulgaon Raja	Total	4354.94	359.89	234.35	1278.70	6227.88	311.39	5916.49
196	Buldhana	Jalgaon	Command	77.25	23.09	10.64	52.00	162.98	8.15	154.83
197	Buldhana	Jalgaon	Non Command	4229.75	215.97	449.30	1471.63	6366.65	318.33	6048.31
198	Buldhana	Jalgaon	Total	4307.00	239.06	459.94	1523.63	6529.63	326.48	6203.15
199	Buldhana	Khamgaon	Command	974.43	175.62	54.28	817.92	2022.25	101.11	1921.14
200	Buldhana	Khamgaon	Non Command	6184.14	337.40	481.66	1078.76	8081.96	404.10	7677.86
201	Buldhana	Khamgaon	Total	7158.57	513.02	535.95	1896.68	10104.22	505.21	9599.01
202	Buldhana	Lonar	Command	504.15	115.55	67.21	361.98	1048.89	52.44	996.44
203	Buldhana	Lonar	Non Command	5170.79	245.18	585.14	888.53	6889.64	480.32	6409.32
204	Buldhana	Lonar	Total	5674.95	360.73	652.35	1250.50	7938.53	532.77	7405.76

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ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non- monsoon season	Recharge from other sources during non- monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
205	Buldhana	Malakapur	Command	551.23	22.46	28.13	254.78	856.61	42.83	813.78
206	Buldhana	Malakapur	Non Command	3613.04	129.17	180.86	614.42	4537.50	256.16	4281.34
207	Buldhana	Malakapur	Total	4164.27	151.64	209.00	869.20	5394.11	298.99	5095.12
208	Buldhana	Mehkar	Command	1010.94	88.99	21.52	404.97	1526.41	76.32	1450.09
209	Buldhana	Mehkar	Non Command	7335.43	450.28	364.20	1458.46	9608.37	480.42	9127.95
210	Buldhana	Mehkar	Total	8346.37	539.27	385.72	1863.43	11134.79	556.74	10578.05
211	Buldhana	Motala	Command	313.64	65.05	0.00	268.89	647.58	32.38	615.20
212	Buldhana	Motala	Non Command	4060.45	234.45	114.41	933.63	5342.93	345.05	4997.89
213	Buldhana	Motala	Total	4374.09	299.50	114.41	1202.51	5990.51	377.43	5613.09
214	Buldhana	Nandura	Command	217.34	26.14	9.38	188.99	441.84	22.09	419.75
215	Buldhana	Nandura	Non Command	3582.46	130.14	229.09	802.20	4743.88	257.67	4486.21
216	Buldhana	Nandura	Total	3799.79	156.28	238.47	991.18	5185.72	279.76	4905.96
217	Buldhana	Sangrapur	Command	395.53	7.06	42.27	222.09	666.95	33.35	633.61
218	Buldhana	Sangrapur	Non Command	3380.26	174.56	396.93	1029.65	4981.39	355.24	4626.15
219	Buldhana	Sangrapur	Total	3775.79	181.61	439.20	1251.74	5648.34	388.59	5259.75
220	Buldhana	Shegaon	Command	54.99	16.68	0.00	47.40	119.07	5.95	113.12
221	Buldhana	Shegaon	Non Command	2588.90	98.19	154.79	344.15	3186.03	159.30	3026.73
222	Buldhana	Shegaon	Total	2643.89	114.87	154.79	391.55	3305.10	165.25	3139.84
223	Buldhana	S'indkhed Raja	Command	294.96	58.66	35.88	241.87	631.37	31.57	599.80
224	Buldhana	S'indkhed Raja	Non Command	5725.99	420.76	610.00	1481.83	8238.58	411.93	7826.65
225	Buldhana	S'indkhed Raja	Total	6020.95	479.42	645.88	1723.69	8869.95	443.50	8426.45
226	Chandrapur	Ballarpur	Command	-	-	-	-	-	-	-
227	Chandrapur	Ballarpur	Non Command	6297.89	51.29	0.00	102.67	6451.85	322.59	6129.26
228	Chandrapur	Ballarpur	Total	6297.89	51.29	0.00	102.67	6451.85	322.59	6129.26
229	Chandrapur	Bhadravati	Command	153.07	112.18	0.00	204.94	470.19	23.51	446.68
230	Chandrapur	Bhadravati	Non Command	12457.84	90.63	0.00	185.18	12733.65	636.68	12096.97
231	Chandrapur	Bhadravati	Total	12610.91	202.81	0.00	390.12	13203.84	660.19	12543.65
232	Chandrapur	Brahmapuri	Command	-	-	-	-	-	-	-
233	Chandrapur	Brahmapuri	Non Command	7247.66	137.09	0.00	208.85	7593.61	379.68	7213.93
234	Chandrapur	Brahmapuri	Total	7247.66	137.09	0.00	208.85	7593.61	379.68	7213.93
235	Chandrapur	Chandrapur	Command	-	-	-	-	-	-	-
236	Chandrapur	Chandrapur	Non Command	10375.53	60.62	0.00	164.33	10600.49	530.02	10070.46
237	Chandrapur	Chandrapur	Total	10375.53	60.62	0.00	164.33	10600.49	530.02	10070.46
238	Chandrapur	Chimmur	Command	-	-	-	-	-	-	-

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non-monsoon season	Recharge from other sources during non-monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
239	Chandrapur	Chimmur	Non Command	4961.77	74.16	0.00	132.63	5168.56	258.43	4910.13
240	Chandrapur	Chimmur	Total	4961.77	74.16	0.00	132.63	5168.56	258.43	4910.13
241	Chandrapur	Gondpipri	Command	-	-	-	-	-	-	-
242	Chandrapur	Gondpipri	Non Command	7922.91	78.96	0.00	188.36	8190.23	414.18	7776.05
243	Chandrapur	Gondpipri	Total	7922.91	78.96	0.00	188.36	8190.23	414.18	7776.05
244	Chandrapur	Jiwati	Command	-	-	-	-	-	-	-
245	Chandrapur	Jiwati	Non Command	3369.52	20.63	0.00	45.97	3436.12	171.81	3264.31
246	Chandrapur	Jiwati	Total	3369.52	20.63	0.00	45.97	3436.12	171.81	3264.31
247	Chandrapur	Korpana	Command	436.95	198.20	0.00	355.80	990.94	49.55	941.39
248	Chandrapur	Korpana	Non Command	1939.82	14.59	0.00	26.52	1980.93	99.05	1881.88
249	Chandrapur	Korpana	Total	2376.76	212.79	0.00	382.32	2971.87	148.59	2823.28
250	Chandrapur	Mul	Command	644.77	359.05	0.00	66.09	1069.92	93.34	976.58
251	Chandrapur	Mul	Non Command	3309.18	43.58	0.00	38.01	3390.77	180.25	3210.52
252	Chandrapur	Mul	Total	3953.95	402.63	0.00	104.10	4460.68	273.58	4187.10
253	Chandrapur	Nagbhind	Command	783.60	537.53	0.00	498.13	1819.25	109.49	1709.76
254	Chandrapur	Nagbhind	Non Command	5669.89	131.24	0.00	107.93	5909.06	295.45	5613.61
255	Chandrapur	Nagbhind	Total	6453.49	668.77	0.00	606.05	7728.31	404.94	7323.37
256	Chandrapur	Pobhurna	Command	900.02	114.45	0.00	75.35	1089.83	54.49	1035.34
257	Chandrapur	Pobhurna	Non Command	3462.68	30.55	0.00	60.07	3553.30	230.11	3323.19
258	Chandrapur	Pobhurna	Total	4362.71	145.00	0.00	135.42	4643.13	284.60	4358.53
259	Chandrapur	Rajura	Command	241.36	22.30	0.00	38.77	302.42	15.12	287.30
260	Chandrapur	Rajura	Non Command	7406.27	43.45	0.00	115.92	7565.64	378.28	7187.36
261	Chandrapur	Rajura	Total	7647.63	65.75	0.00	154.68	7868.07	393.40	7474.66
262	Chandrapur	Sawali	Command	2229.97	1207.49	0.00	291.17	3728.62	186.43	3542.19
263	Chandrapur	Sawali	Non Command	3383.24	54.51	0.00	50.84	3488.60	176.51	3312.08
264	Chandrapur	Sawali	Total	5613.21	1262.00	0.00	342.01	7217.22	362.95	6854.28
265	Chandrapur	Sindewali	Command	1007.68	642.55	0.00	150.79	1801.01	135.99	1665.03
266	Chandrapur	Sindewali	Non Command	6543.48	156.54	0.00	117.06	6817.08	340.85	6476.23
267	Chandrapur	Sindewali	Total	7551.16	799.09	0.00	267.85	8618.10	476.84	8141.26
268	Chandrapur	Warora	Command	359.70	275.49	0.00	506.10	1141.29	57.06	1084.23
269	Chandrapur	Warora	Non Command	8989.74	63.81	0.00	221.10	9274.65	463.73	8810.92
270	Chandrapur	Warora	Total	9349.45	339.30	0.00	727.20	10415.94	520.80	9895.14
271	Dhule	Dhule	Command	1201.54	2663.47	0.00	5164.53	9029.54	572.02	8457.52
272	Dhule	Dhule	Non Command	12568.95	7577.10	0.00	9542.82	29688.87	1519.56	28169.31

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ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

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1		2	3	4	5	6	7	8	9	10
273	Dhule	Dhule	Total	13770.49	10240.57	0.00	14707.35	38718.41	2091.59	36626.82
274	Dhule	Sakri	Command	1166.18	3911.38	0.00	6832.49	11910.04	1022.70	10887.34
275	Dhule	Sakri	Non Command	8996.30	8402.70	0.00	10007.96	27406.96	1684.99	25721.97
276	Dhule	Sakri	Total	10162.48	12314.07	0.00	16840.45	39317.00	2707.69	36609.31
277	Dhule	Shirpur	Command	1080.68	1054.51	0.00	4651.91	6787.10	559.96	6227.14
278	Dhule	Shirpur	Non Command	10604.81	4845.91	0.00	5416.50	20867.23	1043.36	19823.87
279	Dhule	Shirpur	Total	11685.49	5900.42	0.00	10068.42	27654.33	1603.32	26051.01
280	Dhule	Sindkheda	Command	271.92	972.56	0.00	3115.41	4359.89	297.39	4062.51
281	Dhule	Sindkheda	Non Command	8237.13	3630.19	0.00	4429.30	16296.61	856.00	15440.61
282	Dhule	Sindkheda	Total	8509.04	4602.75	0.00	7544.71	20656.50	1153.39	19503.12
283	Gadchiroli	Aheri	Command	-	-	-	-	-	-	-
284	Gadchiroli	Aheri	Non Command	9845.14	12.84	0.00	259.82	10117.80	505.89	9611.91
285	Gadchiroli	Aheri	Total	9845.14	12.84	0.00	259.82	10117.80	505.89	9611.91
286	Gadchiroli	Armori	Command	277.17	4038.45	0.00	5973.02	10288.64	1028.86	9259.78
287	Gadchiroli	Armori	Non Command	5925.81	58.71	0.00	800.21	6784.73	339.24	6445.50
288	Gadchiroli	Armori	Total	6202.98	4097.16	0.00	6773.23	17073.37	1368.10	15705.27
289	Gadchiroli	Bhamragad	Command	-	-	-	-	-	-	-
290	Gadchiroli	Bhamragad	Non Command	3668.42	1.78	0.00	72.09	3742.29	187.11	3555.17
291	Gadchiroli	Bhamragad	Total	3668.42	1.78	0.00	72.09	3742.29	187.11	3555.17
292	Gadchiroli	Chamorshi	Command	815.58	2072.54	0.00	640.04	3528.16	352.82	3175.34
293	Gadchiroli	Chamorshi	Non Command	10720.21	32.37	0.00	592.96	11345.54	567.28	10778.27
294	Gadchiroli	Chamorshi	Total	11535.79	2104.92	0.00	1232.99	14873.70	920.09	13953.61
295	Gadchiroli	Dhanora	Command	-	-	-	-	-	-	-
296	Gadchiroli	Dhanora	Non Command	7836.61	45.20	0.00	867.97	8749.78	437.49	8312.29
297	Gadchiroli	Dhanora	Total	7836.61	45.20	0.00	867.97	8749.78	437.49	8312.29
298	Gadchiroli	Etapalli	Command	-	-	-	-	-	-	-
299	Gadchiroli	Etapalli	Non Command	10918.88	7.47	0.00	694.56	11620.91	581.05	11039.86
300	Gadchiroli	Etapalli	Total	10918.88	7.47	0.00	694.56	11620.91	581.05	11039.86
301	Gadchiroli	Gadchiroli	Command	-	-	-	-	-	-	-
302	Gadchiroli	Gadchiroli	Non Command	5399.64	42.97	0.00	582.39	6025.00	301.25	5723.75
303	Gadchiroli	Gadchiroli	Total	5399.64	42.97	0.00	582.39	6025.00	301.25	5723.75
304	Gadchiroli	Korchi	Command	-	-	-	-	-	-	-
305	Gadchiroli	Korchi	Non Command	3577.40	10.57	0.00	241.13	3829.10	191.45	3637.64
306	Gadchiroli	Korchi	Total	3577.40	10.57	0.00	241.13	3829.10	191.45	3637.64

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ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

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1		2	3	4	5	6	7	8	9	10
307	Gadchiroli	Kurkheda	Command	-	-	-	-	-	-	-
308	Gadchiroli	Kurkheda	Non Command	7857.93	38.28	0.00	933.54	8829.75	441.49	8388.26
309	Gadchiroli	Kurkheda	Total	7857.93	38.28	0.00	933.54	8829.75	441.49	8388.26
310	Gadchiroli	Mulchera	Command	20.10	310.22	0.00	476.79	807.11	80.71	726.40
311	Gadchiroli	Mulchera	Non Command	6121.65	9.78	0.00	272.47	6403.90	320.20	6083.71
312	Gadchiroli	Mulchera	Total	6141.75	320.00	0.00	749.26	7211.01	400.91	6810.11
313	Gadchiroli	Soroncha	Command	-	-	-	-	-	-	-
314	Gadchiroli	Soroncha	Non Command	8785.34	9.44	0.00	896.07	9690.85	484.54	9206.31
315	Gadchiroli	Soroncha	Total	8785.34	9.44	0.00	896.07	9690.85	484.54	9206.31
316	Gadchiroli	Wadsa	Command	943.34	12892.68	0.00	19070.22	32906.25	3290.62	29615.62
317	Gadchiroli	Wadsa	Non Command	2279.95	30.04	0.00	332.70	2642.68	132.13	2510.55
318	Gadchiroli	Wadsa	Total	3223.29	12922.72	0.00	19402.92	35548.93	3422.76	32126.17
319	Gondia	Amgaon	Command	556.10	373.93	78.23	1144.43	2152.69	107.66	2045.03
320	Gondia	Amgaon	Non Command	2557.60	33.54	318.37	34.57	2944.09	150.59	2793.50
321	Gondia	Amgaon	Total	3113.70	407.47	396.60	1179.00	5096.77	258.25	4838.53
322	Gondia	Arjuni Moregaon	Command	1635.31	2254.79	40.10	3918.44	7848.64	668.31	7180.33
323	Gondia	Arjuni Moregaon	Non Command	6536.53	138.32	96.12	86.82	6857.79	342.89	6514.90
324	Gondia	Arjuni Moregaon	Total	8171.84	2393.10	136.22	4005.26	14706.43	1011.20	13695.22
325	Gondia	Deori	Command	189.50	99.12	0.00	20.22	308.84	22.23	286.61
326	Gondia	Deori	Non Command	7262.42	112.36	9.00	83.39	7467.18	411.99	7055.18
327	Gondia	Deori	Total	7451.92	211.48	9.00	103.61	7776.01	434.23	7341.79
328	Gondia	Gondia	Command	1481.82	611.63	184.24	2020.88	4298.56	214.93	4083.64
329	Gondia	Gondia	Non Command	3635.34	98.30	517.88	179.81	4431.33	221.57	4209.76
330	Gondia	Gondia	Total	5117.17	709.93	702.12	2200.68	8729.89	436.49	8293.40
331	Gondia	Goregaon	Command	99.90	43.59	11.73	31.92	187.15	9.36	177.79
332	Gondia	Goregaon	Non Command	3709.16	128.99	458.08	127.98	4424.20	221.21	4202.99
333	Gondia	Goregaon	Total	3809.06	172.58	469.81	159.90	4611.35	230.57	4380.78
334	Gondia	Sadak Arjuni	Command	482.09	108.63	59.24	1818.82	2468.78	123.44	2345.34
335	Gondia	Sadak Arjuni	Non Command	5123.81	113.20	533.76	86.94	5857.71	292.89	5564.83
336	Gondia	Sadak Arjuni	Total	5605.90	221.83	592.99	1905.77	8326.49	416.32	7910.17
337	Gondia	Salekasa	Command	686.29	853.13	96.85	1598.42	3234.69	298.09	2936.60

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non-monsoon season	Recharge from other sources during non-monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
338	Gondia	Salekasa	Non Command	2587.04	8.25	349.24	11.29	2955.82	287.48	2668.34
339	Gondia	Salekasa	Total	3273.33	861.38	446.09	1609.71	6190.51	585.57	5604.94
340	Gondia	Tirora	Command	1276.52	675.05	158.82	2289.70	4400.09	233.57	4166.52
341	Gondia	Tirora	Non Command	2294.68	9.53	297.40	31.20	2632.81	131.64	2501.17
342	Gondia	Tirora	Total	3571.20	684.58	456.22	2320.90	7032.90	365.21	6667.69
343	Hingoli	Aundha	Command	3485.39	20.89	546.24	12130.02	16182.54	809.13	15373.42
344	Hingoli	Aundha	Non Command	5601.03	134.18	708.79	1057.67	7501.67	375.08	7126.58
345	Hingoli	Aundha	Total	9086.42	155.07	1255.03	13187.69	23684.21	1184.21	22500.00
346	Hingoli	Basmath	Command	8314.35	99.64	1025.13	20907.46	30346.58	1517.33	28829.25
347	Hingoli	Basmath	Non Command	1637.65	92.56	199.75	546.54	2476.51	123.83	2352.68
348	Hingoli	Basmath	Total	9952.00	192.20	1224.89	21454.01	32823.09	1641.15	31181.94
349	Hingoli	Hingoli	Command	1577.43	45.90	253.24	2036.67	3913.24	195.66	3717.58
350	Hingoli	Hingoli	Non Command	8598.70	390.98	1204.54	1357.51	11551.73	577.59	10974.14
351	Hingoli	Hingoli	Total	10176.13	436.88	1457.78	3394.18	15464.97	773.25	14691.73
352	Hingoli	Kalmnuri	Command	4128.76	127.56	689.57	4437.76	9383.65	469.18	8914.47
353	Hingoli	Kalmnuri	Non Command	5978.23	308.03	849.21	1722.47	8857.94	442.90	8415.04
354	Hingoli	Kalmnuri	Total	10106.99	435.59	1538.78	6160.23	18241.59	912.08	17329.51
355	Hingoli	Sengaon	Command	966.38	44.65	161.35	3304.26	4476.64	223.83	4252.81
356	Hingoli	Sengaon	Non Command	9891.12	451.10	1573.65	1816.22	13732.08	686.60	13045.48
357	Hingoli	Sengaon	Total	10857.50	495.75	1735.00	5120.48	18208.72	910.44	17298.29
358	Jalgaon	Amalner	Command	1293.21	63.57	96.74	2605.61	4059.13	202.96	3856.17
359	Jalgaon	Amalner	Non Command	5512.39	590.18	262.97	1876.90	8242.45	412.12	7830.32
360	Jalgaon	Amalner	Total	6805.60	653.75	359.71	4482.51	12301.58	615.08	11686.50
361	Jalgaon	Bhadgaon	Command	1936.74	100.45	327.01	9150.34	11514.55	575.73	10938.82
362	Jalgaon	Bhadgaon	Non Command	1320.03	59.69	211.56	328.56	1919.84	95.99	1823.85
363	Jalgaon	Bhadgaon	Total	3256.77	160.15	538.56	9478.91	13434.39	671.72	12762.67
364	Jalgaon	Bhusawal	Command	81.48	65.94	0.00	185.81	333.23	16.66	316.57
365	Jalgaon	Bhusawal	Non Command	4100.29	362.68	0.00	883.15	5346.12	267.31	5078.81
366	Jalgaon	Bhusawal	Total	4181.76	428.62	0.00	1068.96	5679.35	283.97	5395.38
367	Jalgaon	Bodwad	Command	18.10	18.94	0.00	29.29	66.33	3.32	63.01
368	Jalgaon	Bodwad	Non Command	2359.92	233.32	176.90	769.48	3539.63	176.98	3362.64
369	Jalgaon	Bodwad	Total	2378.02	252.27	176.90	798.76	3605.95	180.30	3425.65
370	Jalgaon	Chalisgaon	Command	1007.69	297.62	158.45	2666.53	4130.29	206.51	3923.77
371	Jalgaon	Chalisgaon	Non Command	6012.95	1820.59	913.48	3279.80	12026.82	601.34	11425.48

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ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non- monsoon season	Recharge from other sources during non- monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
372	Jalgaon	Chalisgaon	Total	7020.63	2118.22	1071.93	5946.33	16157.11	807.86	15349.26
373	Jalgaon	Chopda	Command	2713.60	18.36	29.43	2777.79	5539.19	364.48	5174.71
374	Jalgaon	Chopda	Non Command	4885.01	151.43	57.94	859.22	5953.61	297.68	5655.93
375	Jalgaon	Chopda	Total	7598.61	169.80	87.37	3637.02	11492.80	662.16	10830.64
376	Jalgaon	Dharangaon	Command	443.59	70.84	6.21	3383.36	3903.99	195.20	3708.79
377	Jalgaon	Dharangaon	Non Command	2675.84	32.75	125.84	437.63	3272.05	163.60	3108.45
378	Jalgaon	Dharangaon	Total	3119.43	103.58	132.05	3820.98	7176.05	358.80	6817.24
379	Jalgaon	Erandol	Command	1149.69	51.28	136.16	2343.82	3680.95	184.05	3496.90
380	Jalgaon	Erandol	Non Command	2638.75	22.69	120.14	258.17	3039.75	151.99	2887.76
381	Jalgaon	Erandol	Total	3788.43	73.97	256.30	2602.00	6720.70	336.03	6384.66
382	Jalgaon	Jalgaon	Command	86.24	104.11	0.00	660.49	850.85	42.54	808.30
383	Jalgaon	Jalgaon	Non Command	6554.02	195.22	0.00	844.93	7594.17	379.71	7214.46
384	Jalgaon	Jalgaon	Total	6640.27	299.33	0.00	1505.42	8445.02	422.25	8022.77
385	Jalgaon	Jamner	Command	501.97	165.76	16.97	332.13	1016.84	50.84	966.00
386	Jalgaon	Jamner	Non Command	9959.41	299.77	404.13	1664.30	12327.62	616.38	11711.24
387	Jalgaon	Jamner	Total	10461.38	465.53	421.11	1996.44	13344.45	667.22	12677.23
388	Jalgaon	Muktainagar	Command	18.09	113.45	0.00	167.69	299.22	29.92	269.30
389	Jalgaon	Muktainagar	Non Command	4234.33	394.19	0.00	1233.29	5861.82	293.09	5568.73
390	Jalgaon	Muktainagar	Total	4252.42	507.64	0.00	1400.98	6161.04	323.01	5838.03
391	Jalgaon	Pachora	Command	646.05	197.84	4.33	2561.73	3409.95	170.50	3239.45
392	Jalgaon	Pachora	Non Command	6303.45	189.28	143.10	1187.73	7823.56	391.18	7432.39
393	Jalgaon	Pachora	Total	6949.50	387.11	147.43	3749.46	11233.51	561.68	10671.83
394	Jalgaon	Parola	Command	933.85	292.44	41.04	1314.02	2581.35	129.07	2452.29
395	Jalgaon	Parola	Non Command	3575.57	294.27	196.45	1239.58	5305.88	265.29	5040.58
396	Jalgaon	Parola	Total	4509.42	586.72	237.49	2553.60	7887.23	394.36	7492.87
397	Jalgaon	Raver	Command	435.20	92.04	54.66	800.15	1382.05	69.10	1312.95
398	Jalgaon	Raver	Non Command	6400.29	235.69	797.13	1521.29	8954.40	447.72	8506.68
399	Jalgaon	Raver	Total	6835.49	327.72	851.79	2321.45	10336.45	516.82	9819.62
400	Jalgaon	Yawal	Command	583.04	98.35	10.73	558.37	1250.48	62.52	1187.96
401	Jalgaon	Yawal	Non Command	5913.23	152.97	141.34	539.18	6746.71	337.34	6409.38
402	Jalgaon	Yawal	Total	6496.27	251.31	152.06	1097.56	7997.20	399.86	7597.34
403	Jalna	Ambad	Command	726.25	128.39	0.00	5033.85	5888.48	294.42	5594.05
404	Jalna	Ambad	Non Command	4870.49	638.12	0.00	1813.79	7322.40	366.12	6956.28
405	Jalna	Ambad	Total	5596.74	766.51	0.00	6847.64	13210.88	660.54	12550.34

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Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non-monsoon season	Recharge from other sources during non-monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
406	Jalna	Badnapur	Command	338.08	139.94	0.00	506.26	984.29	65.50	918.79
407	Jalna	Badnapur	Non Command	4209.71	328.18	8.25	1333.44	5879.59	293.98	5585.61
408	Jalna	Badnapur	Total	4547.80	468.13	8.25	1839.70	6863.88	359.48	6504.40
409	Jalna	Bhokardan	Command	301.18	109.22	0.00	569.13	979.53	48.98	930.55
410	Jalna	Bhokardan	Non Command	10087.35	1248.87	31.02	3327.06	14694.30	793.88	13900.42
411	Jalna	Bhokardan	Total	10388.52	1358.09	31.02	3896.19	15673.83	842.85	14830.97
412	Jalna	Ghat Sawangi	Command	1170.60	71.90	0.00	8361.83	9604.33	489.22	9115.11
413	Jalna	Ghat Sawangi	Non Command	6999.78	362.83	0.00	1379.29	8741.90	437.10	8304.81
414	Jalna	Ghat Sawangi	Total	8170.38	434.73	0.00	9741.13	18346.23	926.31	17419.92
415	Jalna	Jafrabad	Command	225.51	130.40	23.14	479.75	858.80	42.94	815.86
416	Jalna	Jafrabad	Non Command	6469.82	629.26	630.32	1935.46	9664.86	521.19	9143.66
417	Jalna	Jafrabad	Total	6695.33	759.66	653.46	2415.21	10523.66	564.13	9959.53
418	Jalna	Jalna	Command	174.03	142.64	0.00	1032.53	1349.20	67.46	1281.74
419	Jalna	Jalna	Non Command	9516.47	823.01	0.00	2447.67	12787.15	903.11	11884.04
420	Jalna	Jalna	Total	9690.50	965.65	0.00	3480.21	14136.35	970.57	13165.78
421	Jalna	Mantha	Command	129.97	46.81	0.00	487.98	664.76	43.49	621.28
422	Jalna	Mantha	Non Command	7117.52	349.58	0.00	1156.71	8623.81	467.73	8156.08
423	Jalna	Mantha	Total	7247.49	396.39	0.00	1644.69	9288.57	511.22	8777.35
424	Jalna	Partur	Command	345.81	40.17	0.00	3009.44	3395.42	169.77	3225.65
425	Jalna	Partur	Non Command	7561.95	294.56	0.00	1317.32	9173.83	553.39	8620.44
426	Jalna	Partur	Total	7907.77	334.73	0.00	4326.76	12569.25	723.16	11846.09
427	Kolhapur	Ajara	Command	-	-	-	-	-	-	-
428	Kolhapur	Ajara	Non Command	4724.30	249.87	315.47	1525.24	6814.88	340.74	6474.13
429	Kolhapur	Ajara	Total	4724.30	249.87	315.47	1525.24	6814.88	340.74	6474.13
430	Kolhapur	Bhudargad	Command	-	-	-	-	-	-	-
431	Kolhapur	Bhudargad	Non Command	3680.43	190.40	181.32	958.47	5010.62	250.53	4760.09
432	Kolhapur	Bhudargad	Total	3680.43	190.40	181.32	958.47	5010.62	250.53	4760.09
433	Kolhapur	Chandgad	Command	-	-	-	-	-	-	-
434	Kolhapur	Chandgad	Non Command	10632.67	408.27	59.64	2688.66	13789.24	689.46	13099.78
435	Kolhapur	Chandgad	Total	10632.67	408.27	59.64	2688.66	13789.24	689.46	13099.78
436	Kolhapur	Gadhinglaj	Command	-	-	-	-	-	-	-
437	Kolhapur	Gadhinglaj	Non Command	5718.33	489.46	739.92	2989.04	9936.75	496.84	9439.92
438	Kolhapur	Gadhinglaj	Total	5718.33	489.46	739.92	2989.04	9936.75	496.84	9439.92
439	Kolhapur	Gaganbawada	Command	-	-	-	-	-	-	-

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ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

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Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non-monsoon season	Recharge from other sources during non-monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
440	Kolhapur	Gaganbawada	Non Command	1369.82	67.81	16.76	302.50	1756.89	87.84	1669.04
441	Kolhapur	Gaganbawada	Total	1369.82	67.81	16.76	302.50	1756.89	87.84	1669.04
442	Kolhapur	Hatkanangale	Command	-	-	-	-	-	-	-
443	Kolhapur	Hatkanangale	Non Command	3980.31	294.82	538.22	2112.87	6926.23	346.31	6579.92
444	Kolhapur	Hatkanangale	Total	3980.31	294.82	538.22	2112.87	6926.23	346.31	6579.92
445	Kolhapur	Kagal	Command	-	-	-	-	-	-	-
446	Kolhapur	Kagal	Non Command	5894.90	289.30	537.78	1839.90	8561.88	428.09	8133.79
447	Kolhapur	Kagal	Total	5894.90	289.30	537.78	1839.90	8561.88	428.09	8133.79
448	Kolhapur	Karvir	Command	-	-	-	-	-	-	-
449	Kolhapur	Karvir	Non Command	3958.09	295.53	300.66	1811.25	6365.53	318.28	6047.26
450	Kolhapur	Karvir	Total	3958.09	295.53	300.66	1811.25	6365.53	318.28	6047.26
451	Kolhapur	Panhala	Command	-	-	-	-	-	-	-
452	Kolhapur	Panhala	Non Command	3695.03	301.93	13.60	1536.64	5547.21	277.36	5269.85
453	Kolhapur	Panhala	Total	3695.03	301.93	13.60	1536.64	5547.21	277.36	5269.85
454	Kolhapur	Radhanagari	Command	-	-	-	-	-	-	-
455	Kolhapur	Radhanagari	Non Command	6961.14	246.07	410.87	1500.64	9118.72	455.94	8662.79
456	Kolhapur	Radhanagari	Total	6961.14	246.07	410.87	1500.64	9118.72	455.94	8662.79
457	Kolhapur	Shahuwadi	Command	-	-	-	-	-	-	-
458	Kolhapur	Shahuwadi	Non Command	3320.17	235.87	0.00	553.59	4109.63	205.48	3904.15
459	Kolhapur	Shahuwadi	Total	3320.17	235.87	0.00	553.59	4109.63	205.48	3904.15
460	Kolhapur	Shirol	Command	-	-	-	-	-	-	-
461	Kolhapur	Shirol	Non Command	2642.17	247.56	656.45	860.13	4406.30	220.32	4185.99
462	Kolhapur	Shirol	Total	2642.17	247.56	656.45	860.13	4406.30	220.32	4185.99
463	Latur	Ahmedpur	Command	133.18	9.98	21.90	195.67	360.73	18.94	341.79
464	Latur	Ahmedpur	Non Command	4348.87	4568.97	947.50	5493.43	15358.77	998.91	14359.86
465	Latur	Ahmedpur	Total	4482.06	4578.95	969.40	5689.09	15719.50	1017.85	14701.65
466	Latur	Anantpal Sh	Command	-	-	-	-	-	-	-
467	Latur	Anantpal Sh	Non Command	1576.77	355.94	265.56	797.68	2995.95	149.80	2846.15
468	Latur	Anantpal Sh	Total	1576.77	355.94	265.56	797.68	2995.95	149.80	2846.15
469	Latur	Ausa	Command	488.57	20.00	5.66	1508.17	2022.40	101.12	1921.28
470	Latur	Ausa	Non Command	6776.62	7809.29	234.65	11185.12	26005.67	1300.28	24705.39
471	Latur	Ausa	Total	7265.18	7829.29	240.31	12693.29	28028.07	1401.40	26626.66
472	Latur	Chakur	Command	82.64	19.77	13.28	290.51	406.20	20.31	385.89
473	Latur	Chakur	Non Command	2469.32	2182.81	464.57	3482.77	8599.47	529.87	8069.61

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1		2	3	4	5	6	7	8	9	10
474	Latur	Chakur	Total	2551.96	2202.58	477.85	3773.28	9005.67	550.18	8455.50
475	Latur	Devani	Command	-	-	-	-	-	-	-
476	Latur	Devani	Non Command	1251.19	905.54	279.55	995.16	3431.43	171.57	3259.86
477	Latur	Devani	Total	1251.19	905.54	279.55	995.16	3431.43	171.57	3259.86
478	Latur	Jalkot	Command	-	-	-	-	-	-	-
479	Latur	Jalkot	Non Command	1165.72	953.81	224.26	1085.59	3429.38	171.47	3257.91
480	Latur	Jalkot	Total	1165.72	953.81	224.26	1085.59	3429.38	171.47	3257.91
481	Latur	Latur	Command	756.64	0.93	100.27	2330.01	3187.85	159.39	3028.46
482	Latur	Latur	Non Command	6983.57	3658.00	1212.47	6697.77	18551.81	927.59	17624.22
483	Latur	Latur	Total	7740.21	3658.93	1312.74	9027.78	21739.67	1086.98	20652.68
484	Latur	Nilanga	Command	328.34	40.20	36.35	861.25	1266.13	68.46	1197.68
485	Latur	Nilanga	Non Command	6633.28	4475.12	806.32	7748.08	19662.80	983.14	18679.66
486	Latur	Nilanga	Total	6961.62	4515.32	842.67	8609.33	20928.94	1051.60	19877.34
487	Latur	Renapur	Command	503.99	13.76	72.27	972.25	1562.27	78.11	1484.15
488	Latur	Renapur	Non Command	2012.41	1828.67	369.12	2813.84	7024.04	436.83	6587.21
489	Latur	Renapur	Total	2516.40	1842.43	441.39	3786.09	8586.31	514.94	8071.37
490	Latur	Udgir	Command	402.75	104.27	77.19	538.47	1122.68	64.31	1058.38
491	Latur	Udgir	Non Command	4354.66	2506.36	869.39	3546.07	11276.48	563.82	10712.65
492	Latur	Udgir	Total	4757.41	2610.62	946.58	4084.54	12399.16	628.13	11771.03
493	Nagpur	Bhiwapur	Command	276.97	62.13	31.43	125.01	495.54	24.78	470.77
494	Nagpur	Bhiwapur	Non Command	3660.48	12.71	451.41	201.65	4326.25	306.05	4020.20
495	Nagpur	Bhiwapur	Total	3937.45	74.84	482.84	326.66	4821.79	330.83	4490.97
496	Nagpur	Hingana	Command	507.69	27.90	99.45	125.45	760.50	38.02	722.47
497	Nagpur	Hingana	Non Command	6679.78	28.54	1180.81	466.75	8355.88	429.45	7926.43
498	Nagpur	Hingana	Total	7187.47	56.44	1280.27	592.20	9116.38	467.48	8648.90
499	Nagpur	Kalameshwar	Command	229.67	14.46	38.67	189.40	472.20	23.61	448.59
500	Nagpur	Kalameshwar	Non Command	5559.42	18.57	798.73	924.19	7300.91	502.28	6798.63
501	Nagpur	Kalameshwar	Total	5789.09	33.02	837.40	1113.59	7773.11	525.89	7247.22
502	Nagpur	Kamtee	Command	3241.98	940.40	581.04	1963.35	6726.76	336.34	6390.43
503	Nagpur	Kamtee	Non Command	540.03	0.68	75.47	48.09	664.27	47.77	616.51
504	Nagpur	Kamtee	Total	3782.00	941.08	656.51	2011.44	7391.04	384.11	7006.93
505	Nagpur	Katol	Command	428.39	34.41	73.77	881.79	1418.35	103.74	1314.62
506	Nagpur	Katol	Non Command	5966.32	45.86	961.12	1277.26	8250.57	426.34	7824.23
507	Nagpur	Katol	Total	6394.71	80.27	1034.89	2159.05	9668.92	530.08	9138.85

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non- monsoon season	Recharge from other sources during non- monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
508	Nagpur	Kuhi	Command	271.17	52.40	39.56	107.94	471.06	23.55	447.51
509	Nagpur	Kuhi	Non Command	6083.93	83.98	736.78	530.66	7435.35	372.56	7062.79
510	Nagpur	Kuhi	Total	6355.10	136.38	776.34	638.60	7906.42	396.11	7510.30
511	Nagpur	Mouda	Command	4831.06	2331.71	873.62	6426.99	14463.37	723.17	13740.20
512	Nagpur	Mouda	Non Command	314.55	0.00	56.76	38.76	410.07	20.50	389.57
513	Nagpur	Mouda	Total	5145.60	2331.71	930.37	6465.75	14873.44	743.67	14129.77
514	Nagpur	Nagpur	Command	115.11	44.86	22.55	76.82	259.34	12.97	246.37
515	Nagpur	Nagpur	Non Command	5312.91	17.74	866.25	412.21	6609.11	356.62	6252.49
516	Nagpur	Nagpur	Total	5428.03	62.59	888.80	489.03	6868.45	369.59	6498.86
517	Nagpur	Narkhed	Command	565.30	73.60	89.54	1141.37	1869.82	127.54	1742.28
518	Nagpur	Narkhed	Non Command	5807.80	55.43	1079.70	1359.23	8302.16	440.62	7861.53
519	Nagpur	Narkhed	Total	6373.10	129.03	1169.24	2500.60	10171.97	568.16	9603.81
520	Nagpur	Parshioni	Command	2338.02	1328.27	429.92	3467.58	7563.80	378.19	7185.61
521	Nagpur	Parshioni	Non Command	1215.79	6.48	194.99	115.19	1532.46	97.37	1435.09
522	Nagpur	Parshioni	Total	3553.81	1334.76	624.92	3582.77	9096.26	475.56	8620.70
523	Nagpur	Ramtek	Command	1147.00	408.49	207.28	1011.77	2774.56	138.73	2635.83
524	Nagpur	Ramtek	Non Command	3485.07	81.68	572.13	147.15	4286.03	218.23	4067.80
525	Nagpur	Ramtek	Total	4632.08	490.18	779.41	1158.92	7060.59	356.96	6703.63
526	Nagpur	Saoner	Command	1525.82	242.40	238.97	1118.75	3125.94	156.30	2969.64
527	Nagpur	Saoner	Non Command	2502.32	5.03	424.99	529.53	3461.88	286.81	3175.07
528	Nagpur	Saoner	Total	4028.15	247.43	663.96	1648.28	6587.82	443.11	6144.71
529	Nagpur	Umred	Command	951.85	132.33	124.81	301.28	1510.27	75.51	1434.75
530	Nagpur	Umred	Non Command	7567.76	71.50	1084.32	404.63	9128.21	495.01	8633.20
531	Nagpur	Umred	Total	8519.61	203.83	1209.13	705.91	10638.48	570.52	10067.95
532	Nanded	Ardhapur	Command	1512.25	7.80	243.15	1214.23	2977.43	148.87	2828.56
533	Nanded	Ardhapur	Non Command	1182.58	2.19	207.93	377.39	1770.10	88.50	1681.59
534	Nanded	Ardhapur	Total	2694.83	9.99	451.08	1591.63	4747.53	237.38	4510.15
535	Nanded	Bhokar	Command	446.78	3.51	76.11	1234.63	1761.03	88.05	1672.98
536	Nanded	Bhokar	Non Command	6247.91	25.71	972.26	557.93	7803.80	390.19	7413.61
537	Nanded	Bhokar	Total	6694.69	29.22	1048.36	1792.56	9564.83	478.24	9086.59
538	Nanded	Biloli	Command	426.34	4.17	88.36	810.17	1329.04	66.45	1262.59
539	Nanded	Biloli	Non Command	5210.88	11.82	988.35	356.64	6567.69	328.38	6239.30
540	Nanded	Biloli	Total	5637.22	15.99	1076.71	1166.81	7896.73	394.84	7501.89
541	Nanded	Degloor	Command	316.36	10.76	48.19	339.03	714.34	35.72	678.62

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non-monsoon season	Recharge from other sources during non-monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
542	Nanded	Degloor	Non Command	6068.45	37.11	1002.44	397.06	7505.05	375.25	7129.80
543	Nanded	Degloor	Total	6384.81	47.86	1050.63	736.09	8219.39	410.97	7808.42
544	Nanded	Dharmabad	Command	46.72	0.41	10.29	51.04	108.47	5.42	103.05
545	Nanded	Dharmabad	Non Command	2887.27	3.80	568.17	177.59	3636.83	181.84	3454.99
546	Nanded	Dharmabad	Total	2933.99	4.21	578.46	228.63	3745.30	187.26	3558.03
547	Nanded	Hadgaon	Command	1507.67	25.74	265.84	2497.14	4296.39	214.82	4081.57
548	Nanded	Hadgaon	Non Command	9153.88	37.61	1394.09	1048.05	11633.63	581.68	11051.95
549	Nanded	Hadgaon	Total	10661.54	63.35	1659.94	3545.19	15930.02	796.50	15133.52
550	Nanded	Himataytnahar	Command	168.67	26.42	26.86	292.57	514.50	25.73	488.78
551	Nanded	Himataytnahar	Non Command	4806.58	27.75	799.33	601.51	6235.16	311.76	5923.41
552	Nanded	Himataytnahar	Total	4975.24	54.17	826.18	894.08	6749.67	337.48	6412.18
553	Nanded	Kandhar	Command	695.28	14.11	102.05	1428.40	2239.85	111.99	2127.85
554	Nanded	Kandhar	Non Command	9007.72	24.68	1216.68	632.70	10881.79	544.09	10337.70
555	Nanded	Kandhar	Total	9703.00	38.79	1318.74	2061.10	13121.63	656.08	12465.55
556	Nanded	Kinwat	Command	948.13	16.18	115.83	941.89	2022.03	101.10	1920.93
557	Nanded	Kinwat	Non Command	14493.83	59.28	2012.68	740.56	17306.35	865.32	16441.04
558	Nanded	Kinwat	Total	15441.96	75.47	2128.51	1682.46	19328.39	966.42	18361.97
559	Nanded	Loha	Command	1128.46	6.24	149.42	886.45	2170.57	108.53	2062.04
560	Nanded	Loha	Non Command	8994.95	38.22	1265.37	1010.22	11308.76	565.44	10743.32
561	Nanded	Loha	Total	10123.41	44.47	1414.79	1896.66	13479.33	673.97	12805.36
562	Nanded	Mahur	Command	128.59	5.65	18.50	141.48	294.23	14.71	279.51
563	Nanded	Mahur	Non Command	4939.53	16.91	710.73	364.91	6032.09	301.60	5730.48
564	Nanded	Mahur	Total	5068.12	22.56	729.24	506.40	6326.32	316.32	6010.00
565	Nanded	Mudkhed	Command	989.62	8.07	165.71	863.47	2026.87	101.34	1925.53
566	Nanded	Mudkhed	Non Command	2001.44	10.03	352.90	365.41	2729.78	136.49	2593.29
567	Nanded	Mudkhed	Total	2991.06	18.10	518.61	1228.88	4756.65	237.83	4518.82
568	Nanded	Mukhed	Command	463.38	22.98	87.17	1004.66	1578.19	86.05	1492.14
569	Nanded	Mukhed	Non Command	8410.92	55.36	1404.07	584.96	10455.31	522.77	9932.55
570	Nanded	Mukhed	Total	8874.30	78.34	1491.24	1589.62	12033.50	608.82	11424.68
571	Nanded	Naigaon	Command	1278.53	8.13	276.42	1652.81	3215.90	160.79	3055.10
572	Nanded	Naigaon	Non Command	3710.21	8.75	803.16	320.46	4842.58	242.13	4600.45
573	Nanded	Naigaon	Total	4988.74	16.88	1079.58	1973.27	8058.48	402.92	7655.55
574	Nanded	Nanded	Command	2064.55	9.69	322.15	1553.07	3949.46	197.47	3751.99
575	Nanded	Nanded	Non Command	2294.58	0.46	328.34	345.81	2969.19	181.25	2787.94

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non-monsoon season	Recharge from other sources during non-monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
576	Nanded	Nanded	Total	4359.13	10.15	650.49	1898.88	6918.64	378.72	6539.92
577	Nanded	Umari	Command	278.76	0.15	47.35	423.91	750.17	37.51	712.66
578	Nanded	Umari	Non Command	3583.16	9.07	537.85	277.54	4407.62	220.38	4187.23
579	Nanded	Umari	Total	3861.92	9.22	585.20	701.44	5157.79	257.89	4899.90
580	Nandurbar	Akkalkuva	Command	84.49	39.11	0.00	176.76	300.36	30.04	270.32
581	Nandurbar	Akkalkuva	Non Command	4441.79	1378.13	0.00	1532.57	7352.49	502.70	6849.79
582	Nandurbar	Akkalkuva	Total	4526.28	1417.25	0.00	1709.32	7652.84	532.73	7120.11
583	Nandurbar	Akrani	Command	-	-	-	-	-	-	-
584	Nandurbar	Akrani	Non Command	3950.47	2210.22	0.00	2361.58	8522.28	659.40	7862.88
585	Nandurbar	Akrani	Total	3950.47	2210.22	0.00	2361.58	8522.28	659.40	7862.88
586	Nandurbar	Nandurbar	Command	299.08	482.34	0.00	1249.59	2031.02	170.40	1860.62
587	Nandurbar	Nandurbar	Non Command	7937.63	2798.47	0.00	4495.46	15231.57	962.31	14269.26
588	Nandurbar	Nandurbar	Total	8236.71	3280.81	0.00	5745.06	17262.59	1132.71	16129.88
589	Nandurbar	Nawapur	Command	1096.08	1411.00	0.00	3150.39	5657.47	497.21	5160.26
590	Nandurbar	Nawapur	Non Command	10269.04	3580.16	0.00	4388.56	18237.76	911.89	17325.88
591	Nandurbar	Nawapur	Total	11365.12	4991.16	0.00	7538.95	23895.23	1409.10	22486.14
592	Nandurbar	Shahada	Command	424.12	227.42	0.00	537.55	1189.10	93.97	1095.12
593	Nandurbar	Shahada	Non Command	8723.45	2036.67	0.00	2747.03	13507.15	759.70	12747.45
594	Nandurbar	Shahada	Total	9147.57	2264.09	0.00	3284.58	14696.24	853.67	13842.57
595	Nandurbar	Taloda	Command	27.98	398.84	0.00	616.04	1042.86	104.29	938.57
596	Nandurbar	Taloda	Non Command	3640.46	284.81	0.00	580.04	4505.31	225.27	4280.05
597	Nandurbar	Taloda	Total	3668.44	683.65	0.00	1196.08	5548.17	329.55	5218.62
598	Nashik	Baglan Satana	Command	851.92	140.40	0.00	3347.41	4339.73	216.99	4122.74
599	Nashik	Baglan Satana	Non Command	9140.07	722.32	0.00	1897.90	11760.30	616.74	11143.56
600	Nashik	Baglan Satana	Total	9992.00	862.72	0.00	5245.31	16100.03	833.72	15266.30
601	Nashik	Chandwad	Command	839.23	155.33	0.00	892.56	1887.13	94.36	1792.77
602	Nashik	Chandwad	Non Command	6328.70	460.78	0.00	1671.48	8460.97	473.30	7987.66
603	Nashik	Chandwad	Total	7167.94	616.11	0.00	2564.05	10348.09	567.66	9780.43
604	Nashik	Deola	Command	307.02	85.11	0.00	673.48	1065.60	53.28	1012.32
605	Nashik	Deola	Non Command	3399.77	351.17	0.00	999.83	4750.77	237.54	4513.23
606	Nashik	Deola	Total	3706.79	436.28	0.00	1673.31	5816.37	290.82	5525.55
607	Nashik	Dindori	Command	1322.18	164.18	7.22	3721.92	5215.50	260.78	4954.73
608	Nashik	Dindori	Non Command	8437.22	302.37	50.14	1049.47	9839.20	529.38	9309.83
609	Nashik	Dindori	Total	9759.40	466.55	57.36	4771.40	15054.71	790.15	14264.56

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non- monsoon season	Recharge from other sources during non- monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
610	Nashik	Igatpuri	Command	317.70	40.37	0.00	1677.82	2035.88	101.79	1934.09
611	Nashik	Igatpuri	Non Command	20489.02	191.97	0.00	467.50	21148.50	1057.42	20091.07
612	Nashik	Igatpuri	Total	20806.72	232.34	0.00	2145.32	23184.38	1159.22	22025.16
613	Nashik	Kalwan	Command	276.55	40.91	0.00	89.53	406.98	20.35	386.63
614	Nashik	Kalwan	Non Command	5853.56	347.44	0.00	990.79	7191.79	359.59	6832.20
615	Nashik	Kalwan	Total	6130.11	388.35	0.00	1080.32	7598.78	379.94	7218.84
616	Nashik	Malegaon	Command	2020.24	870.28	0.00	3146.08	6036.60	301.83	5734.77
617	Nashik	Malegaon	Non Command	10332.08	702.99	0.00	2114.42	13149.49	697.03	12452.46
618	Nashik	Malegaon	Total	12352.32	1573.27	0.00	5260.50	19186.09	998.86	18187.24
619	Nashik	Nandgaon	Command	180.55	18.07	0.00	126.85	325.46	16.27	309.19
620	Nashik	Nandgaon	Non Command	9859.39	447.72	0.00	1103.18	11410.28	570.51	10839.77
621	Nashik	Nandgaon	Total	10039.93	465.78	0.00	1230.02	11735.74	586.79	11148.96
622	Nashik	Nasik	Command	4181.90	320.61	42.37	11303.70	15848.58	792.43	15056.16
623	Nashik	Nasik	Non Command	3682.63	367.68	52.09	1060.23	5162.63	374.79	4787.84
624	Nashik	Nasik	Total	7864.54	688.29	94.46	12363.93	21011.22	1167.22	19844.00
625	Nashik	Niphad	Command	3450.25	696.12	77.74	7348.45	11572.56	585.48	10987.08
626	Nashik	Niphad	Non Command	6262.00	508.78	31.64	1923.91	8726.33	602.04	8124.29
627	Nashik	Niphad	Total	9712.25	1204.90	109.38	9272.36	20298.89	1187.52	19111.37
628	Nashik	Peth	Command	221.76	27.93	0.00	694.74	944.43	47.22	897.21
629	Nashik	Peth	Non Command	10464.66	70.11	0.00	103.72	10638.49	531.92	10106.57
630	Nashik	Peth	Total	10686.41	98.04	0.00	798.46	11582.92	579.15	11003.77
631	Nashik	Sinnar	Command	637.72	188.30	1.28	2044.81	2872.11	146.23	2725.88
632	Nashik	Sinnar	Non Command	9464.03	1006.81	22.91	3494.32	13988.06	896.13	13091.93
633	Nashik	Sinnar	Total	10101.75	1195.11	24.19	5539.12	16860.17	1042.36	15817.81
634	Nashik	Surgana	Command	42.79	17.90	0.00	78.22	138.91	6.95	131.97
635	Nashik	Surgana	Non Command	13511.97	144.48	0.00	312.98	13969.42	698.47	13270.95
636	Nashik	Surgana	Total	13554.76	162.37	0.00	391.20	14108.34	705.42	13402.92
637	Nashik	Trambakeshwar	Command	46.49	21.30	0.00	35.54	103.34	5.17	98.17
638	Nashik	Trambakeshwar	Non Command	13746.71	145.41	0.00	245.99	14138.11	746.25	13391.85
639	Nashik	Trambakeshwar	Total	13793.20	166.71	0.00	281.53	14241.44	751.42	13490.02
640	Nashik	Yeola	Command	1284.48	422.17	0.00	2133.61	3840.26	192.01	3648.25
641	Nashik	Yeola	Non Command	7288.02	361.39	0.00	1495.93	9145.34	457.27	8688.07
642	Nashik	Yeola	Total	8572.50	783.56	0.00	3629.54	12985.60	649.28	12336.32
643	Osmanabad	Bhoom	Command	275.04	103.14	32.58	307.48	718.24	35.91	682.33

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

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1		2	3	4	5	6	7	8	9	10
644	Osmanabad	Bhoom	Non Command	3150.82	899.62	421.33	1307.79	5779.56	288.98	5490.59
645	Osmanabad	Bhoom	Total	3425.86	1002.75	453.91	1615.28	6497.80	324.89	6172.91
646	Osmanabad	Kalamb	Command	108.69	295.56	29.61	967.73	1401.59	126.52	1275.07
647	Osmanabad	Kalamb	Non Command	6608.14	2215.93	1443.29	4229.61	14496.98	724.85	13772.13
648	Osmanabad	Kalamb	Total	6716.83	2511.50	1472.90	5197.34	15898.57	851.37	15047.20
649	Osmanabad	Lohara	Command	265.17	97.30	54.68	336.22	753.37	37.67	715.70
650	Osmanabad	Lohara	Non Command	4618.05	1179.65	707.46	2132.96	8638.12	431.91	8206.22
651	Osmanabad	Lohara	Total	4883.22	1276.94	762.14	2469.19	9391.49	469.57	8921.91
652	Osmanabad	Omerga	Command	680.76	84.22	112.36	568.23	1445.56	72.28	1373.28
653	Osmanabad	Omerga	Non Command	8293.75	1956.92	1506.78	3627.62	15385.07	769.25	14615.82
654	Osmanabad	Omerga	Total	8974.51	2041.14	1619.13	4195.85	16830.63	841.53	15989.09
655	Osmanabad	Osmanabad	Command	739.28	260.74	0.00	816.56	1816.58	90.83	1725.75
656	Osmanabad	Osmanabad	Non Command	9556.75	3468.21	0.00	6335.16	19360.12	968.01	18392.12
657	Osmanabad	Osmanabad	Total	10296.03	3728.95	0.00	7151.72	21176.71	1058.84	20117.87
658	Osmanabad	Paranda	Command	631.07	339.78	82.31	867.81	1920.97	96.05	1824.92
659	Osmanabad	Paranda	Non Command	7318.11	1556.25	892.38	2346.39	12113.13	605.66	11507.48
660	Osmanabad	Paranda	Total	7949.18	1896.04	974.69	3214.20	14034.10	701.71	13332.40
661	Osmanabad	Tuljapur	Command	909.20	38.55	125.63	947.54	2020.91	101.05	1919.86
662	Osmanabad	Tuljapur	Non Command	14028.12	2248.29	1519.70	3588.14	21384.25	1069.21	20315.04
663	Osmanabad	Tuljapur	Total	14937.32	2286.84	1645.32	4535.68	23405.16	1170.26	22234.90
664	Osmanabad	Washi	Command	299.30	85.12	36.13	252.77	673.32	33.67	639.65
665	Osmanabad	Washi	Non Command	5348.91	919.92	680.36	2096.95	9046.14	452.31	8593.83
666	Osmanabad	Washi	Total	5648.21	1005.04	716.50	2349.71	9719.46	485.97	9233.49
667	Parbhani	Gangakhed	Command	1067.51	17.89	0.00	3781.32	4866.72	243.34	4623.38
668	Parbhani	Gangakhed	Non Command	2766.15	231.85	21.36	524.39	3543.74	185.51	3358.24
669	Parbhani	Gangakhed	Total	3833.66	249.73	21.36	4305.71	8410.46	428.84	7981.62
670	Parbhani	Jintur	Command	2968.17	36.03	403.24	5017.19	8424.64	421.23	8003.40
671	Parbhani	Jintur	Non Command	8863.03	189.22	1340.18	1273.82	11666.25	583.31	11082.94
672	Parbhani	Jintur	Total	11831.20	225.25	1743.42	6291.01	20090.89	1004.54	19086.35
673	Parbhani	Manwat	Command	1709.40	18.40	0.00	1316.47	3044.27	152.21	2892.06
674	Parbhani	Manwat	Non Command	3065.43	72.27	0.00	395.64	3533.33	176.67	3356.66
675	Parbhani	Manwat	Total	4774.83	90.67	0.00	1712.11	6577.60	328.88	6248.72
676	Parbhani	Palam	Command	309.71	0.00	0.00	498.64	808.34	40.42	767.93
677	Parbhani	Palam	Non Command	4787.25	41.52	0.00	406.57	5235.34	261.77	4973.57

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non- monsoon season	Recharge from other sources during non- monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
678	Parbhani	Palam	Total	5096.96	41.52	0.00	905.20	6043.68	302.18	5741.50
679	Parbhani	Parbhani	Command	5833.37	10.79	814.87	4988.47	11647.49	582.37	11065.12
680	Parbhani	Parbhani	Non Command	4818.04	94.03	629.50	657.51	6199.08	363.15	5835.93
681	Parbhani	Parbhani	Total	10651.40	104.82	1444.37	5645.99	17846.58	945.52	16901.05
682	Parbhani	Pathari	Command	5660.11	46.00	0.00	1634.33	7340.43	367.02	6973.41
683	Parbhani	Pathari	Non Command	934.77	16.63	0.00	97.71	1049.11	56.84	992.27
684	Parbhani	Pathari	Total	6594.87	62.63	0.00	1732.04	8389.54	423.87	7965.68
685	Parbhani	Purna	Command	5912.82	5.26	417.27	6972.56	13307.92	665.40	12642.52
686	Parbhani	Purna	Non Command	-	-	-	-	-	-	-
687	Parbhani	Purna	Total	5912.82	5.26	417.27	6972.56	13307.92	665.40	12642.52
688	Parbhani	Selu	Command	52.12	0.14	8.23	64.61	125.11	6.26	118.85
689	Parbhani	Selu	Non Command	6969.66	237.89	228.18	1024.13	8459.85	422.99	8036.86
690	Parbhani	Selu	Total	7021.78	238.03	236.41	1088.74	8584.96	429.25	8155.71
691	Parbhani	Sonpepth	Command	1136.57	33.89	0.00	227.99	1398.44	124.59	1273.86
692	Parbhani	Sonpepth	Non Command	2257.77	7.66	0.00	124.21	2389.64	119.48	2270.16
693	Parbhani	Sonpepth	Total	3394.33	41.54	0.00	352.21	3788.08	244.07	3544.01
694	Pune	Ambegaon	Command	1788.19	368.60	4.61	1214.54	3375.94	329.16	3046.78
695	Pune	Ambegaon	Non Command	5943.24	691.48	162.58	1878.98	8676.29	433.81	8242.47
696	Pune	Ambegaon	Total	7731.42	1060.08	167.20	3093.52	12052.22	762.98	11289.25
697	Pune	Baramati	Command	2022.31	1183.17	111.34	6313.01	9629.84	767.75	8862.09
698	Pune	Baramati	Non Command	5945.33	1187.11	651.45	2939.47	10723.35	536.17	10187.18
699	Pune	Baramati	Total	7967.64	2370.28	762.79	9252.48	20353.18	1303.91	19049.27
700	Pune	Bhor	Command	111.46	45.86	1.11	272.04	430.47	21.52	408.94
701	Pune	Bhor	Non Command	2909.01	149.04	55.55	425.94	3539.54	176.98	3362.56
702	Pune	Bhor	Total	3020.47	194.90	56.66	697.98	3970.01	198.50	3771.51
703	Pune	Daund	Command	3191.44	972.86	345.59	3974.51	8484.39	424.22	8060.17
704	Pune	Daund	Non Command	3541.00	748.25	298.90	1527.63	6115.77	305.79	5809.98
705	Pune	Daund	Total	6732.44	1721.11	644.49	5502.13	14600.16	730.01	13870.15
706	Pune	Haveli	Command	1063.54	301.96	0.00	1214.97	2580.48	129.02	2451.45
707	Pune	Haveli	Non Command	8069.39	520.50	0.00	1300.34	9890.24	494.51	9395.73
708	Pune	Haveli	Total	9132.93	822.47	0.00	2515.32	12470.71	623.54	11847.18
709	Pune	Indapur	Command	5768.64	2943.39	9.14	12624.72	21345.89	1067.29	20278.59
710	Pune	Indapur	Non Command	2555.96	518.41	10.99	1694.01	4779.38	238.97	4540.41
711	Pune	Indapur	Total	8324.60	3461.81	20.13	14318.73	26125.26	1306.26	24819.00

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non- monsoon season	Recharge from other sources during non- monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
712	Pune	Junnar	Command	1620.69	810.09	150.39	2501.59	5082.76	255.58	4827.18
713	Pune	Junnar	Non Command	7573.59	718.20	718.41	2509.41	11519.61	606.49	10913.13
714	Pune	Junnar	Total	9194.28	1528.28	868.80	5011.01	16602.37	862.06	15740.31
715	Pune	Khed	Command	1036.75	272.61	9.01	888.31	2206.69	110.33	2096.35
716	Pune	Khed	Non Command	9758.19	775.11	115.08	2029.11	12677.49	633.87	12043.61
717	Pune	Khed	Total	10794.94	1047.73	124.09	2917.41	14884.18	744.21	14139.97
718	Pune	Maval	Command	289.27	4.14	0.00	159.48	452.89	22.64	430.24
719	Pune	Maval	Non Command	8240.10	135.88	0.00	316.12	8692.10	434.61	8257.50
720	Pune	Maval	Total	8529.37	140.02	0.00	475.60	9144.99	457.25	8687.74
721	Pune	Mulshi	Command	365.05	52.74	0.00	244.62	662.41	33.12	629.29
722	Pune	Mulshi	Non Command	7376.24	119.98	0.00	223.11	7719.32	385.97	7333.36
723	Pune	Mulshi	Total	7741.29	172.72	0.00	467.73	8381.73	419.09	7962.64
724	Pune	Purandhar	Command	111.51	272.01	6.26	1435.66	1825.43	173.40	1652.03
725	Pune	Purandhar	Non Command	6844.59	1339.99	841.45	3524.57	12550.61	627.53	11923.08
726	Pune	Purandhar	Total	6956.10	1612.00	847.70	4960.23	14376.04	800.93	13575.11
727	Pune	Shirur	Command	4830.86	820.28	4.00	2744.11	8399.24	419.96	7979.28
728	Pune	Shirur	Non Command	5597.18	1121.66	196.63	2243.05	9158.53	457.93	8700.60
729	Pune	Shirur	Total	10428.04	1941.94	200.64	4987.16	17557.78	877.89	16679.89
730	Pune	Velhe	Command	7.46	13.53	0.00	45.20	66.19	3.31	62.88
731	Pune	Velhe	Non Command	4956.59	25.25	0.00	59.38	5041.22	252.06	4789.16
732	Pune	Velhe	Total	4964.05	38.77	0.00	104.59	5107.41	255.37	4852.04
733	Raigad	Alibag	Command	70.63	5.68	0.00	14.49	90.81	6.19	84.61
734	Raigad	Alibag	Non Command	3091.03	12.68	0.00	164.86	3268.57	163.43	3105.14
735	Raigad	Alibag	Total	3161.66	18.36	0.00	179.35	3359.37	169.62	3189.75
736	Raigad	Karjat	Command	436.71	20.38	0.00	203.59	660.68	39.56	621.12
737	Raigad	Karjat	Non Command	6078.63	93.11	0.00	137.29	6309.02	315.45	5993.57
738	Raigad	Karjat	Total	6515.34	113.49	0.00	340.88	6969.71	355.01	6614.70
739	Raigad	Khalapur	Command	127.11	29.13	0.00	69.78	226.02	14.83	211.19
740	Raigad	Khalapur	Non Command	4617.58	69.39	0.00	121.73	4808.70	240.43	4568.26
741	Raigad	Khalapur	Total	4744.69	98.52	0.00	191.50	5034.71	255.27	4779.45
742	Raigad	Mahad	Command	128.90	16.49	0.00	58.87	204.25	10.21	194.04
743	Raigad	Mahad	Non Command	4349.88	12.16	0.00	75.96	4437.99	221.90	4216.09
744	Raigad	Mahad	Total	4478.77	28.64	0.00	134.83	4642.24	232.11	4410.13
745	Raigad	Mangaon	Command	841.84	9.72	0.00	89.34	940.89	47.04	893.85

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non-monsoon season	Recharge from other sources during non-monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
746	Raigad	Mangaon	Non Command	7380.22	79.44	0.00	132.70	7592.36	379.62	7212.74
747	Raigad	Mangaon	Total	8222.05	89.16	0.00	222.04	8533.25	426.66	8106.59
748	Raigad	Mhasala	Command	34.16	8.76	0.00	18.80	61.72	3.09	58.64
749	Raigad	Mhasala	Non Command	1848.14	12.91	0.00	113.78	1974.84	98.74	1876.09
750	Raigad	Mhasala	Total	1882.30	21.67	0.00	132.58	2036.56	101.83	1934.73
751	Raigad	Murud	Command	70.04	4.16	0.00	16.59	90.79	4.54	86.25
752	Raigad	Murud	Non Command	1957.20	11.03	0.00	63.68	2031.92	101.60	1930.33
753	Raigad	Murud	Total	2027.24	15.19	0.00	80.27	2122.71	106.14	2016.57
754	Raigad	Panvel	Command	59.86	12.88	0.00	35.38	108.12	9.77	98.35
755	Raigad	Panvel	Non Command	5002.50	32.00	0.00	229.06	5263.56	263.18	5000.38
756	Raigad	Panvel	Total	5062.36	44.88	0.00	264.44	5371.68	272.95	5098.74
757	Raigad	Pen	Command	87.25	18.79	0.00	36.49	142.53	11.70	130.83
758	Raigad	Pen	Non Command	3198.82	31.79	0.00	69.81	3300.41	165.02	3135.39
759	Raigad	Pen	Total	3286.07	50.58	0.00	106.29	3442.94	176.72	3266.22
760	Raigad	Poladpur	Command	18.56	4.16	0.00	11.49	34.21	1.71	32.50
761	Raigad	Poladpur	Non Command	1967.97	4.01	0.00	16.96	1988.95	99.45	1889.50
762	Raigad	Poladpur	Total	1986.53	8.17	0.00	28.45	2023.16	101.16	1922.00
763	Raigad	Roha	Command	359.70	12.43	0.00	63.30	435.43	24.20	411.23
764	Raigad	Roha	Non Command	6150.39	24.99	0.00	103.95	6279.33	313.97	5965.36
765	Raigad	Roha	Total	6510.10	37.41	0.00	167.25	6714.76	338.16	6376.60
766	Raigad	Shriwardhan	Command	23.23	8.32	0.00	17.41	48.96	2.45	46.52
767	Raigad	Shriwardhan	Non Command	1332.89	8.08	0.00	99.58	1440.55	72.03	1368.52
768	Raigad	Shriwardhan	Total	1356.12	16.40	0.00	116.99	1489.51	74.48	1415.04
769	Raigad	Sudhagad	Command	128.60	18.79	0.00	32.79	180.18	15.57	164.62
770	Raigad	Sudhagad	Non Command	3690.11	18.16	0.00	60.83	3769.10	188.45	3580.64
771	Raigad	Sudhagad	Total	3818.71	36.94	0.00	93.63	3949.28	204.02	3745.26
772	Raigad	Tala	Command	103.66	5.58	0.00	17.94	127.18	6.36	120.82
773	Raigad	Tala	Non Command	1209.28	10.20	0.00	52.79	1272.28	63.61	1208.67
774	Raigad	Tala	Total	1312.94	15.79	0.00	70.73	1399.46	69.97	1329.49
775	Raigad	Uran	Command	12.88	2.78	0.00	8.69	24.36	1.22	23.14
776	Raigad	Uran	Non Command	1986.06	11.17	0.00	54.22	2051.45	102.57	1948.88
777	Raigad	Uran	Total	1998.94	13.95	0.00	62.91	2075.81	103.79	1972.02
778	Ratnagiri	Chiplun	Command	96.05	12.73	0.00	87.00	195.78	9.79	185.99
779	Ratnagiri	Chiplun	Non Command	7372.68	0.00	0.00	89.44	7462.11	373.11	7089.01

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ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

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1		2	3	4	5	6	7	8	9	10
780	Ratnagiri	Chiplun	Total	7468.72	12.73	0.00	176.44	7657.89	382.89	7274.99
781	Ratnagiri	Dapoli	Command	36.44	7.43	0.00	18.79	62.65	3.13	59.52
782	Ratnagiri	Dapoli	Non Command	3739.05	9.73	0.00	156.59	3905.37	195.27	3710.10
783	Ratnagiri	Dapoli	Total	3775.49	17.16	0.00	175.38	3968.02	198.40	3769.62
784	Ratnagiri	Guhagar	Command	-	-	-	-	-	-	-
785	Ratnagiri	Guhagar	Non Command	4779.78	9.06	0.00	209.49	4998.33	249.92	4748.41
786	Ratnagiri	Guhagar	Total	4779.78	9.06	0.00	209.49	4998.33	249.92	4748.41
787	Ratnagiri	Khed	Command	230.47	6.35	0.00	44.43	281.24	14.06	267.18
788	Ratnagiri	Khed	Non Command	6577.99	0.53	0.00	82.37	6660.88	333.04	6327.84
789	Ratnagiri	Khed	Total	6808.45	6.87	0.00	126.79	6942.12	347.11	6595.01
790	Ratnagiri	Lanja	Command	100.66	31.28	0.00	60.05	191.98	14.44	177.54
791	Ratnagiri	Lanja	Non Command	3719.28	0.00	0.00	65.31	3784.60	189.23	3595.37
792	Ratnagiri	Lanja	Total	3819.94	31.28	0.00	125.36	3976.58	203.67	3772.91
793	Ratnagiri	Mandangad	Command	-	-	-	-	-	-	-
794	Ratnagiri	Mandangad	Non Command	2772.27	9.92	0.00	50.05	2832.24	141.61	2690.63
795	Ratnagiri	Mandangad	Total	2772.27	9.92	0.00	50.05	2832.24	141.61	2690.63
796	Ratnagiri	Rajapur	Command	64.46	16.89	0.00	44.89	126.24	6.31	119.93
797	Ratnagiri	Rajapur	Non Command	6782.42	0.00	0.00	104.80	6887.21	344.36	6542.85
798	Ratnagiri	Rajapur	Total	6846.88	16.89	0.00	149.69	7013.46	350.67	6662.78
799	Ratnagiri	Ratnagiri	Command	-	-	-	-	-	-	-
800	Ratnagiri	Ratnagiri	Non Command	4852.11	0.00	0.00	190.49	5042.60	252.13	4790.47
801	Ratnagiri	Ratnagiri	Total	4852.11	0.00	0.00	190.49	5042.60	252.13	4790.47
802	Ratnagiri	Sangameshwar	Command	55.78	7.37	0.00	45.85	108.99	5.45	103.54
803	Ratnagiri	Sangameshwar	Non Command	6454.14	0.00	0.00	68.71	6522.85	326.14	6196.71
804	Ratnagiri	Sangameshwar	Total	6509.92	7.37	0.00	114.55	6631.84	331.59	6300.25
805	Sangli	Atpadi	Command	237.71	184.24	0.00	811.75	1233.71	61.69	1172.02
806	Sangli	Atpadi	Non Command	4188.22	944.77	0.00	1887.02	7020.01	550.99	6469.02
807	Sangli	Atpadi	Total	4425.93	1129.01	0.00	2698.78	8253.71	612.67	7641.04
808	Sangli	Jat	Command	58.94	46.57	8.53	303.15	417.18	20.86	396.32
809	Sangli	Jat	Non Command	15136.95	2765.74	1881.51	5540.06	25324.26	1579.54	23744.71
810	Sangli	Jat	Total	15195.89	2812.31	1890.03	5843.21	25741.44	1600.40	24141.04
811	Sangli	Kadegaon	Command	762.82	602.65	0.00	1677.05	3042.51	152.13	2890.39
812	Sangli	Kadegaon	Non Command	3153.93	531.99	0.00	1131.07	4816.99	240.85	4576.14
813	Sangli	Kadegaon	Total	3916.74	1134.64	0.00	2808.12	7859.50	392.98	7466.53

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Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non-monsoon season	Recharge from other sources during non-monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
814	Sangli	Kavathe Mahankal	Command	227.63	191.67	9.08	743.15	1171.54	75.10	1096.43
815	Sangli	Kavathe Mahankal	Non Command	4802.85	908.71	198.75	1887.64	7797.94	389.90	7408.04
816	Sangli	Kavathe Mahankal	Total	5030.47	1100.38	207.83	2630.79	8969.48	465.00	8504.48
817	Sangli	Khanapur	Command	346.82	140.82	0.00	552.08	1039.72	80.17	959.55
818	Sangli	Khanapur	Non Command	2888.49	424.10	0.00	1078.19	4390.77	242.04	4148.73
819	Sangli	Khanapur	Total	3235.30	564.92	0.00	1630.27	5430.49	322.21	5108.28
820	Sangli	Miraj	Command	243.73	402.17	16.96	1420.98	2083.83	150.85	1932.98
821	Sangli	Miraj	Non Command	6095.14	731.10	365.75	2288.97	9480.97	793.61	8687.36
822	Sangli	Miraj	Total	6338.87	1133.27	382.71	3709.95	11564.80	944.47	10620.34
823	Sangli	Palus	Command	168.13	105.78	0.00	319.52	593.43	29.67	563.75
824	Sangli	Palus	Non Command	1693.66	170.61	0.00	498.82	2363.09	118.15	2244.94
825	Sangli	Palus	Total	1861.79	276.39	0.00	818.34	2956.52	147.83	2808.69
826	Sangli	Shirala	Command	102.58	21.46	0.00	132.25	256.28	19.91	236.38
827	Sangli	Shirala	Non Command	4297.29	339.82	0.00	758.48	5395.59	269.78	5125.81
828	Sangli	Shirala	Total	4399.87	361.28	0.00	890.73	5651.87	289.69	5362.18
829	Sangli	Tasgaon	Command	723.27	506.72	0.00	2069.16	3299.14	180.68	3118.46
830	Sangli	Tasgaon	Non Command	5814.43	606.58	0.00	2064.12	8485.13	617.04	7868.09
831	Sangli	Tasgaon	Total	6537.70	1113.30	0.00	4133.28	11784.27	797.72	10986.55
832	Sangli	Walwa	Command	62.04	29.86	0.00	98.93	190.84	9.54	181.29
833	Sangli	Walwa	Non Command	4921.82	485.94	0.00	1204.37	6612.13	330.61	6281.52
834	Sangli	Walwa	Total	4983.85	515.81	0.00	1303.31	6802.97	340.15	6462.82
835	Satara	Jaoli	Command	43.97	24.49	9.50	62.61	140.57	7.03	133.54
836	Satara	Jaoli	Non Command	4149.68	151.62	408.06	330.64	5040.00	252.00	4788.00
837	Satara	Jaoli	Total	4193.65	176.11	417.56	393.25	5180.57	259.03	4921.54
838	Satara	Karad	Command	312.66	302.61	51.18	1050.68	1717.13	85.86	1631.27
839	Satara	Karad	Non Command	6167.28	573.27	1096.50	1236.52	9073.58	453.68	8619.90
840	Satara	Karad	Total	6479.95	875.88	1147.68	2287.20	10790.71	539.54	10251.17
841	Satara	Khandala	Command	50.11	109.83	9.22	526.94	696.10	58.17	637.93
842	Satara	Khandala	Non Command	4232.97	496.31	560.71	918.99	6208.98	310.45	5898.53
843	Satara	Khandala	Total	4283.08	606.14	569.93	1445.93	6905.07	368.62	6536.46
844	Satara	Khatav	Command	89.10	146.50	26.05	297.90	559.56	27.98	531.58
845	Satara	Khatav	Non Command	8291.90	1567.60	1789.03	2980.78	14629.32	731.47	13897.85
846	Satara	Khatav	Total	8381.00	1714.10	1815.09	3278.69	15188.87	759.44	14429.43
847	Satara	Koregaon	Command	987.01	510.97	212.22	2139.29	3849.50	192.48	3657.03

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ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

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(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non-monsoon season	Recharge from other sources during non-monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
848	Satara	Koregaon	Non Command	5924.09	487.14	863.03	1211.16	8485.42	424.27	8061.15
849	Satara	Koregaon	Total	6911.10	998.11	1075.25	3350.46	12334.92	616.75	11718.17
850	Satara	Mahabaleshwar	Command	-	-	-	-	-	-	-
851	Satara	Mahabaleshwar	Non Command	324.08	24.83	7.88	62.80	419.59	20.98	398.61
852	Satara	Mahabaleshwar	Total	324.08	24.83	7.88	62.80	419.59	20.98	398.61
853	Satara	Man	Command	73.17	25.49	11.37	83.64	193.67	9.68	183.99
854	Satara	Man	Non Command	12627.41	2183.29	2011.10	3872.60	20694.40	1034.72	19659.68
855	Satara	Man	Total	12700.58	2208.78	2022.47	3956.24	20888.07	1044.40	19843.67
856	Satara	Patan	Command	-	-	-	-	-	-	-
857	Satara	Patan	Non Command	1844.52	207.99	317.05	360.04	2729.60	136.48	2593.12
858	Satara	Patan	Total	1844.52	207.99	317.05	360.04	2729.60	136.48	2593.12
859	Satara	Phaltan	Command	1209.10	855.20	251.37	3678.05	5993.72	351.03	5642.69
860	Satara	Phaltan	Non Command	5764.86	1145.59	1119.50	2189.23	10219.17	510.96	9708.21
861	Satara	Phaltan	Total	6973.96	2000.79	1370.86	5867.27	16212.89	861.99	15350.90
862	Satara	Satara	Command	1763.35	916.87	381.18	2790.12	5851.52	292.58	5558.94
863	Satara	Satara	Non Command	5680.34	282.36	1089.86	765.24	7817.80	390.89	7426.91
864	Satara	Satara	Total	7443.69	1199.22	1471.04	3555.36	13669.32	683.47	12985.85
865	Satara	Wai	Command	706.37	501.56	86.16	1446.65	2740.75	137.04	2603.71
866	Satara	Wai	Non Command	3013.22	230.78	207.01	708.44	4159.44	207.97	3951.47
867	Satara	Wai	Total	3719.60	732.34	293.17	2155.09	6900.19	345.01	6555.18
868	Sindhudurg	Devgad	Command	-	-	-	-	-	-	-
869	Sindhudurg	Devgad	Non Command	3651.31	41.37	134.19	277.12	4104.00	205.20	3898.80
870	Sindhudurg	Devgad	Total	3651.31	41.37	134.19	277.12	4104.00	205.20	3898.80
871	Sindhudurg	Doudamarg	Command	-	-	-	-	-	-	-
872	Sindhudurg	Doudamarg	Non Command	692.06	10.30	45.69	47.05	795.11	39.76	755.35
873	Sindhudurg	Doudamarg	Total	692.06	10.30	45.69	47.05	795.11	39.76	755.35
874	Sindhudurg	Kankavali	Command	32.86	19.16	0.00	28.77	80.80	4.04	76.76
875	Sindhudurg	Kankavali	Non Command	4854.34	26.92	63.33	254.85	5199.45	259.97	4939.47
876	Sindhudurg	Kankavali	Total	4887.20	46.08	63.33	283.62	5280.24	264.01	5016.23
877	Sindhudurg	Kudal	Command	142.17	28.17	0.00	409.43	579.77	28.99	550.78
878	Sindhudurg	Kudal	Non Command	4773.73	8.77	0.00	390.08	5172.57	258.63	4913.95
879	Sindhudurg	Kudal	Total	4915.90	36.94	0.00	799.50	5752.35	287.62	5464.73
880	Sindhudurg	Malwan	Command	10.36	2.05	0.00	29.82	42.23	2.11	40.12
881	Sindhudurg	Malwan	Non Command	3951.90	14.60	0.00	257.28	4223.79	211.19	4012.60

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ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

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(In ham)

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1		2	3	4	5	6	7	8	9	10
882	Sindhudurg	Malwan	Total	3962.26	16.65	0.00	287.11	4266.02	213.30	4052.71
883	Sindhudurg	Sawantwadi	Command	36.05	17.69	0.00	264.88	318.62	27.04	291.58
884	Sindhudurg	Sawantwadi	Non Command	3137.55	22.13	4.40	69.64	3233.72	161.69	3072.04
885	Sindhudurg	Sawantwadi	Total	3173.60	39.82	4.40	334.52	3552.34	188.73	3363.62
886	Sindhudurg	Vaibhavvadi	Command	-	-	-	-	-	-	-
887	Sindhudurg	Vaibhavvadi	Non Command	1579.74	10.44	100.15	74.88	1765.21	88.26	1676.95
888	Sindhudurg	Vaibhavvadi	Total	1579.74	10.44	100.15	74.88	1765.21	88.26	1676.95
889	Sindhudurg	Vengurla	Command	-	-	-	-	-	-	-
890	Sindhudurg	Vengurla	Non Command	1955.89	8.08	0.00	107.26	2071.23	103.56	1967.67
891	Sindhudurg	Vengurla	Total	1955.89	8.08	0.00	107.26	2071.23	103.56	1967.67
892	Solapur	Akkalkot	Command	-	-	-	-	-	-	-
893	Solapur	Akkalkot	Non Command	11750.55	532.80	1622.95	1654.93	15561.23	778.06	14783.17
894	Solapur	Akkalkot	Total	11750.55	532.80	1622.95	1654.93	15561.23	778.06	14783.17
895	Solapur	Barshi	Command	-	-	-	-	-	-	-
896	Solapur	Barshi	Non Command	8545.73	793.55	876.90	1994.51	12210.69	610.53	11600.15
897	Solapur	Barshi	Total	8545.73	793.55	876.90	1994.51	12210.69	610.53	11600.15
898	Solapur	Karmala	Command	23.90	12.89	2.74	56.40	95.93	4.80	91.13
899	Solapur	Karmala	Non Command	9029.73	929.22	1165.64	2098.63	13223.21	661.16	12562.05
900	Solapur	Karmala	Total	9053.63	942.10	1168.38	2155.03	13319.14	665.96	12653.18
901	Solapur	Madha	Command	376.34	191.83	44.74	856.12	1469.04	81.30	1387.74
902	Solapur	Madha	Non Command	11818.76	1064.00	1350.65	2510.43	16743.85	837.19	15906.65
903	Solapur	Madha	Total	12195.10	1255.84	1395.39	3366.55	18212.88	918.49	17294.39
904	Solapur	Malshiras	Command	3585.41	1204.94	664.42	6063.90	11518.67	575.93	10942.74
905	Solapur	Malshiras	Non Command	6003.52	975.87	1109.56	2646.59	10735.54	536.78	10198.77
906	Solapur	Malshiras	Total	9588.93	2180.81	1773.98	8710.50	22254.21	1112.71	21141.50
907	Solapur	Mangalwedha	Command	969.62	189.24	124.03	930.93	2213.83	110.69	2103.14
908	Solapur	Mangalwedha	Non Command	4838.05	752.06	618.83	1523.70	7732.64	386.63	7346.01
909	Solapur	Mangalwedha	Total	5807.67	941.30	742.87	2454.63	9946.47	497.32	9449.14
910	Solapur	Mohol	Command	1827.31	351.14	231.29	1746.56	4156.29	217.56	3938.74
911	Solapur	Mohol	Non Command	6583.84	721.38	824.06	1790.62	9919.89	495.99	9423.90
912	Solapur	Mohol	Total	8411.14	1072.52	1055.34	3537.18	14076.19	713.55	13362.63
913	Solapur	N.Solapur	Command	562.39	128.78	69.54	453.31	1214.02	60.70	1153.32
914	Solapur	N.Solapur	Non Command	4702.02	292.21	534.88	696.10	6225.22	311.26	5913.96
915	Solapur	N.Solapur	Total	5264.42	421.00	604.42	1149.41	7439.24	371.96	7067.28

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(In ham)

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1		2	3	4	5	6	7	8	9	10
916	Solapur	Pandharpur	Command	3659.59	762.35	460.78	3918.29	8801.02	446.23	8354.78
917	Solapur	Pandharpur	Non Command	4608.19	453.42	641.93	1186.05	6889.59	344.48	6545.11
918	Solapur	Pandharpur	Total	8267.79	1215.77	1102.71	5104.34	15690.61	790.71	14899.90
919	Solapur	S.Solapur	Command	515.18	70.33	71.73	459.66	1116.89	55.84	1061.05
920	Solapur	S.Solapur	Non Command	9014.40	498.23	1186.69	1322.29	12021.62	601.08	11420.54
921	Solapur	S.Solapur	Total	9529.57	568.56	1258.43	1781.95	13138.52	656.93	12481.59
922	Solapur	Sangola	Command	1087.27	189.61	206.08	807.02	2289.99	192.01	2097.97
923	Solapur	Sangola	Non Command	9612.07	1015.12	1629.42	2431.34	14687.96	734.40	13953.56
924	Solapur	Sangola	Total	10699.34	1204.73	1835.51	3238.36	16977.94	926.41	16051.53
925	Thane	Ambarnath	Command	74.00	12.87	0.00	136.28	223.15	11.16	211.99
926	Thane	Ambarnath	Non Command	2686.33	4.20	0.00	42.02	2732.55	193.36	2539.19
927	Thane	Ambarnath	Total	2760.32	17.07	0.00	178.30	2955.70	204.51	2751.18
928	Thane	Bhivandi	Command	131.35	154.08	0.00	322.45	607.88	50.38	557.50
929	Thane	Bhivandi	Non Command	4294.88	4.68	0.00	233.92	4533.48	226.67	4306.80
930	Thane	Bhivandi	Total	4426.23	158.75	0.00	556.37	5141.35	277.05	4864.30
931	Thane	Dahanu	Command	11.32	6.31	0.00	166.31	183.94	9.20	174.74
932	Thane	Dahanu	Non Command	4022.78	5.58	0.00	310.45	4338.80	216.94	4121.86
933	Thane	Dahanu	Total	4034.10	11.89	0.00	476.75	4522.74	226.14	4296.61
934	Thane	Jawhar	Command	29.39	12.53	0.00	285.43	327.35	18.65	308.70
935	Thane	Jawhar	Non Command	3252.65	1.35	0.00	27.12	3281.12	235.71	3045.41
936	Thane	Jawhar	Total	3282.04	13.88	0.00	312.55	3608.47	254.36	3354.11
937	Thane	Kalyan	Command	-	-	-	-	-	-	-
938	Thane	Kalyan	Non Command	1293.57	8.29	0.00	24.22	1326.08	89.97	1236.11
939	Thane	Kalyan	Total	1293.57	8.29	0.00	24.22	1326.08	89.97	1236.11
940	Thane	Mokhada	Command	19.94	15.51	0.00	61.18	96.63	9.12	87.51
941	Thane	Mokhada	Non Command	1606.35	2.50	0.00	14.41	1623.26	81.16	1542.09
942	Thane	Mokhada	Total	1626.29	18.01	0.00	75.59	1719.89	90.28	1629.60
943	Thane	Murbad	Command	140.46	20.46	0.00	334.45	495.37	24.77	470.60
944	Thane	Murbad	Non Command	5314.80	62.93	0.00	88.31	5466.05	273.30	5192.75
945	Thane	Murbad	Total	5455.26	83.39	0.00	422.77	5961.42	298.07	5663.35
946	Thane	Palghar	Command	476.41	37.16	0.00	9995.88	10509.46	525.47	9983.98
947	Thane	Palghar	Non Command	6070.05	9.58	0.00	334.86	6414.49	395.88	6018.61
948	Thane	Palghar	Total	6546.46	46.74	0.00	10330.75	16923.95	921.36	16002.60
949	Thane	Shahapur	Command	652.65	31.27	0.00	2625.32	3309.25	165.46	3143.79

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ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

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1		2	3	4	5	6	7	8	9	10
950	Thane	Shahapur	Non Command	6753.13	26.04	0.00	75.32	6854.49	342.72	6511.77
951	Thane	Shahapur	Total	7405.78	57.32	0.00	2700.64	10163.74	508.19	9655.56
952	Thane	Talasari	Command	-	-	-	-	-	-	-
953	Thane	Talasari	Non Command	1711.88	0.24	0.00	68.67	1780.79	89.04	1691.75
954	Thane	Talasari	Total	1711.88	0.24	0.00	68.67	1780.79	89.04	1691.75
955	Thane	Thane	Command							
956	Thane	Thane	Non Command	2540.73	0.03	0.00	38.19	2578.95	128.95	2450.00
957	Thane	Thane	Total	2540.73	0.03	0.00	38.19	2578.95	128.95	2450.00
958	Thane	Ulhasnagar	Command	-	-	-	-	-	-	-
959	Thane	Ulhasnagar	Non Command	89.73	0.01	0.00	4.20	93.94	4.70	89.24
960	Thane	Ulhasnagar	Total	89.73	0.01	0.00	4.20	93.94	4.70	89.24
961	Thane	Vasai	Command	-	-	-	-	-	-	-
962	Thane	Vasai	Non Command	3596.60	6.04	0.00	251.53	3854.18	192.71	3661.47
963	Thane	Vasai	Total	3596.60	6.04	0.00	251.53	3854.18	192.71	3661.47
964	Thane	Vikramgad	Command	73.22	10.17	0.00	1373.21	1456.60	72.83	1383.77
965	Thane	Vikramgad	Non Command	3958.13	1.66	0.00	43.87	4003.66	370.90	3632.76
966	Thane	Vikramgad	Total	4031.35	11.82	0.00	1417.08	5460.26	443.73	5016.53
967	Thane	Wada	Command	133.77	87.07	0.00	990.57	1211.41	60.57	1150.84
968	Thane	Wada	Non Command	3978.86	4.81	0.00	42.85	4026.53	225.22	3801.31
969	Thane	Wada	Total	4112.64	91.88	0.00	1033.42	5237.94	285.79	4952.15
970	Wardha	Arvi	Command	962.39	12.47	145.44	5953.34	7073.64	393.88	6679.77
971	Wardha	Arvi	Non Command	6641.94	90.55	1090.43	1029.30	8852.21	480.98	8371.23
972	Wardha	Arvi	Total	7604.33	103.01	1235.87	6982.64	15925.85	874.86	15050.99
973	Wardha	Ashti	Command	1706.02	6.45	289.47	14746.05	16747.98	837.40	15910.58
974	Wardha	Ashti	Non Command	2444.33	7.56	369.28	443.70	3264.86	176.48	3088.38
975	Wardha	Ashti	Total	4150.35	14.01	658.74	15189.74	20012.84	1013.88	18998.97
976	Wardha	Deoli	Command	-	-	-	-	-	-	-
977	Wardha	Deoli	Non Command	7697.31	25.43	1208.90	720.93	9652.56	482.63	9169.93
978	Wardha	Deoli	Total	7697.31	25.43	1208.90	720.93	9652.56	482.63	9169.93
979	Wardha	Hinganghat	Command	1487.04	3.60	241.29	169.64	1901.57	95.08	1806.49
980	Wardha	Hinganghat	Non Command	8657.86	11.98	1344.00	793.94	10807.78	540.39	10267.39
981	Wardha	Hinganghat	Total	10144.90	15.58	1585.29	963.58	12709.35	635.47	12073.88
982	Wardha	Karanja	Command	38.01	0.87	5.03	62.59	106.51	7.73	98.78
983	Wardha	Karanja	Non Command	5654.06	80.91	802.66	1153.60	7691.24	387.17	7304.07

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non- monsoon season	Recharge from other sources during non- monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
984	Wardha	Karanja	Total	5692.07	81.79	807.69	1216.19	7797.74	394.90	7402.85
985	Wardha	Samudrapur	Command	3705.76	14.91	554.56	1939.11	6214.35	357.68	5856.67
986	Wardha	Samudrapur	Non Command	6417.10	25.27	1000.23	607.29	8049.88	457.48	7592.40
987	Wardha	Samudrapur	Total	10122.86	40.18	1554.79	2546.40	14264.23	815.17	13449.07
988	Wardha	Seloo	Command	3854.83	10.88	546.84	6100.65	10513.20	525.66	9987.54
989	Wardha	Seloo	Non Command	2576.98	21.60	363.10	486.62	3448.31	184.67	3263.64
990	Wardha	Seloo	Total	6431.81	32.48	909.94	6587.27	13961.51	710.33	13251.17
991	Wardha	Wardha	Command	1465.43	2.47	232.65	1821.96	3522.51	297.38	3225.13
992	Wardha	Wardha	Non Command	7166.84	64.65	1172.62	1316.40	9720.51	486.03	9234.48
993	Wardha	Wardha	Total	8632.26	67.12	1405.27	3138.36	13243.02	783.40	12459.62
994	Washim	Karanja	Command	167.64	18.95	1.37	1213.77	1401.73	70.09	1331.64
995	Washim	Karanja	Non Command	6801.63	290.49	50.79	977.32	8120.23	485.56	7634.67
996	Washim	Karanja	Total	6969.28	309.44	52.17	2191.08	9521.96	555.64	8966.32
997	Washim	Malegaon	Command	220.36	62.70	17.05	527.40	827.51	41.38	786.14
998	Washim	Malegaon	Non Command	5469.43	353.39	484.24	854.24	7161.31	509.53	6651.77
999	Washim	Malegaon	Total	5689.79	416.09	501.29	1381.64	7988.82	550.91	7437.91
1000	Washim	Mangrulpir	Command	486.13	159.84	61.34	900.93	1608.25	80.41	1527.83
1001	Washim	Mangrulpir	Non Command	6392.45	335.95	631.79	689.63	8049.81	436.59	7613.23
1002	Washim	Mangrulpir	Total	6878.59	495.78	693.13	1590.56	9658.06	517.00	9141.06
1003	Washim	Manora	Command	624.61	128.11	15.55	641.49	1409.76	70.49	1339.27
1004	Washim	Manora	Non Command	6381.59	285.21	112.04	713.69	7492.53	388.41	7104.12
1005	Washim	Manora	Total	7006.20	413.32	127.59	1355.18	8902.29	458.90	8443.39
1006	Washim	Risod	Command	343.00	107.84	3.74	1105.21	1559.78	80.04	1479.75
1007	Washim	Risod	Non Command	9412.29	266.89	43.04	997.79	10720.02	637.70	10082.32
1008	Washim	Risod	Total	9755.29	374.73	46.78	2103.00	12279.80	717.73	11562.07
1009	Washim	Washim	Command	537.84	138.05	1.08	835.85	1512.81	75.64	1437.17
1010	Washim	Washim	Non Command	7949.01	322.95	182.41	919.94	9374.31	488.31	8886.01
1011	Washim	Washim	Total	8486.85	461.00	183.48	1755.79	10887.13	563.95	10323.18
1012	Yeotmal	Arni	Command	1786.31	44.14	364.05	1225.45	3419.96	171.00	3248.96
1013	Yeotmal	Arni	Non Command	4272.37	107.64	735.47	412.33	5527.81	276.39	5251.42
1014	Yeotmal	Arni	Total	6058.69	151.78	1099.52	1637.78	8947.76	447.39	8500.38
1015	Yeotmal	Babulgaon	Command	232.40	6.45	56.76	194.63	490.24	24.51	465.73
1016	Yeotmal	Babulgaon	Non Command	4574.50	210.92	1117.30	447.61	6350.33	317.52	6032.81
1017	Yeotmal	Babulgaon	Total	4806.90	217.36	1174.07	642.24	6840.57	342.03	6498.54

Annexure III D-2
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non- monsoon season	Recharge from other sources during non- monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
1018	Yeotmal	Daravha	Command	795.45	16.85	166.11	828.66	1807.07	90.35	1716.72
1019	Yeotmal	Daravha	Non Command	5730.96	179.33	1151.82	825.56	7887.66	394.38	7493.28
1020	Yeotmal	Daravha	Total	6526.41	196.18	1317.93	1654.22	9694.73	484.74	9209.99
1021	Yeotmal	Digras	Command	713.46	17.84	138.37	579.77	1449.44	72.47	1376.97
1022	Yeotmal	Digras	Non Command	3647.23	148.25	607.69	472.10	4875.26	243.76	4631.50
1023	Yeotmal	Digras	Total	4360.69	166.09	746.05	1051.86	6324.70	316.24	6008.47
1024	Yeotmal	Ghatanji	Command	1062.51	35.84	232.83	408.58	1739.76	86.99	1652.77
1025	Yeotmal	Ghatanji	Non Command	5469.72	119.43	1083.94	325.59	6998.68	349.93	6648.75
1026	Yeotmal	Ghatanji	Total	6532.23	155.27	1316.77	734.17	8738.44	436.92	8301.51
1027	Yeotmal	Kalamb	Command	514.16	7.28	93.19	192.72	807.36	40.37	766.99
1028	Yeotmal	Kalamb	Non Command	5398.43	170.44	1010.06	414.59	6993.52	478.18	6515.33
1029	Yeotmal	Kalamb	Total	5912.59	177.72	1103.25	607.31	7800.87	518.55	7282.32
1030	Yeotmal	Mahagaon	Command	1082.42	33.89	188.23	773.54	2078.09	103.90	1974.18
1031	Yeotmal	Mahagaon	Non Command	5951.67	244.63	941.50	662.45	7800.25	390.01	7410.24
1032	Yeotmal	Mahagaon	Total	7034.09	278.52	1129.73	1435.99	9878.34	493.92	9384.42
1033	Yeotmal	Maregaon	Command	345.80	9.50	59.44	150.62	565.36	32.15	533.21
1034	Yeotmal	Maregaon	Non Command	3815.27	106.96	630.63	217.51	4770.37	294.09	4476.29
1035	Yeotmal	Maregaon	Total	4161.07	116.46	690.07	368.13	5335.73	326.24	5009.50
1036	Yeotmal	Ner	Command	259.24	8.53	52.87	105.53	426.17	21.31	404.86
1037	Yeotmal	Ner	Non Command	5099.77	170.04	1105.37	558.32	6933.51	346.68	6586.83
1038	Yeotmal	Ner	Total	5359.01	178.57	1158.24	663.85	7359.68	367.98	6991.69
1039	Yeotmal	Omarkhed	Command	2508.55	44.97	391.44	954.06	3899.02	194.95	3704.07
1040	Yeotmal	Omarkhed	Non Command	9307.37	268.60	1242.45	938.71	11757.13	587.86	11169.28
1041	Yeotmal	Omarkhed	Total	11815.92	313.57	1633.89	1892.77	15656.15	782.81	14873.34
1042	Yeotmal	Pandharkavada	Command	1524.24	37.99	291.14	296.02	2149.39	107.47	2041.92
1043	Yeotmal	Pandharkavada	Non Command	5251.20	168.43	1021.36	378.75	6819.76	340.99	6478.77
1044	Yeotmal	Pandharkavada	Total	6775.45	206.42	1312.50	674.78	8969.15	448.46	8520.69
1045	Yeotmal	Pusad	Command	2295.21	79.93	427.01	1276.82	4078.98	203.95	3875.03
1046	Yeotmal	Pusad	Non Command	6820.84	374.34	1219.31	944.20	9358.70	650.64	8708.06
1047	Yeotmal	Pusad	Total	9116.06	454.27	1646.33	2221.02	13437.67	854.58	12583.09
1048	Yeotmal	Ralegaon	Command	709.46	8.92	146.14	295.74	1160.26	58.01	1102.25
1049	Yeotmal	Ralegaon	Non Command	5527.48	166.56	1115.66	429.74	7239.44	361.97	6877.47
1050	Yeotmal	Ralegaon	Total	6236.95	175.48	1261.80	725.48	8399.70	419.99	7979.72
1051	Yeotmal	Wani	Command	381.66	6.15	52.01	111.73	551.55	27.58	523.97

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ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(In ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Recharge from rainfall during monsoon season	Recharge from other sources during monsoon season	Recharge from rainfall during non- monsoon season	Recharge from other sources during non- monsoon season	Total Annual Ground Water Recharge (4+5+6+7)	Provision for Natural Discharges	Net Annual Ground Water Availability (8-9)
1		2	3	4	5	6	7	8	9	10
1052	Yeotmal	Wani	Non Command	6672.21	96.36	1034.11	214.15	8016.83	488.99	7527.84
1053	Yeotmal	Wani	Total	7053.87	102.51	1086.12	325.88	8568.38	516.56	8051.81
1054	Yeotmal	Yeotmal	Command	1845.77	31.15	478.90	693.32	3049.14	154.46	2894.69
1055	Yeotmal	Yeotmal	Non Command	5778.15	386.56	1344.77	820.26	8329.74	419.68	7910.06
1056	Yeotmal	Yeotmal	Total	7623.92	417.71	1823.67	1513.58	11378.88	574.13	10804.74
1057	Yeotmal	Zara Zamani	Command	114.56	3.03	19.27	65.97	202.83	13.88	188.95
1058	Yeotmal	Zara Zamani	Non Command	5061.81	94.14	883.47	251.10	6290.53	314.53	5976.00
1059	Yeotmal	Zara Zamani	Total	5176.37	97.17	902.74	317.07	6493.35	328.41	6164.95
	Gross Total		Command	272108.38	93592.61	30891.57	501593.23	898185.80	51285.25	846900.55
		Non Command	1932330.64	172994.42	158991.77	410717.15	2675033.98	141288.52	2533745.47	
		Total	2204439.02	266587.03	189883.34	912310.39	3573219.78	192573.76	3380646.02	

Annexure III D-2 (contd...)

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
1	Ahmednagar	Akola	Command	769.57	378.43	8.20	386.64			
2	Ahmednagar	Akola	Non Command	8848.21	6775.02	344.48	7119.50			
3	Ahmednagar	Akola	Total	9617.79	7153.45	352.69	7506.14	546.18	3078.90	78.04
4	Ahmednagar	Jamkhed	Command							
5	Ahmednagar	Jamkhed	Non Command	6743.97	3441.62	170.82	3612.44			
6	Ahmednagar	Jamkhed	Total	6743.97	3441.62	170.82	3612.44	341.64	2960.72	53.57
7	Ahmednagar	Karjat	Command	1010.61	232.58	9.13	241.70			
8	Ahmednagar	Karjat	Non Command	13104.28	8755.26	160.72	8915.98			
9	Ahmednagar	Karjat	Total	14114.89	8987.84	169.84	9157.68	339.69	4787.36	64.88
10	Ahmednagar	Kopargaon	Command	4812.89	4081.70	79.06	4160.76			
11	Ahmednagar	Kopargaon	Non Command	4022.57	3895.99	76.66	3972.65			
12	Ahmednagar	Kopargaon	Total	8835.46	7977.69	155.72	8133.41	290.14	1299.79	92.05
13	Ahmednagar	Nagar	Command							
14	Ahmednagar	Nagar	Non Command	15152.62	12888.61	305.85	13194.46			
15	Ahmednagar	Nagar	Total	15152.62	12888.61	305.85	13194.46	609.22	1860.47	87.08
16	Ahmednagar	Newasa	Command	14698.21	12942.11	122.38	13064.50			
17	Ahmednagar	Newasa	Non Command	5806.88	6631.95	98.31	6730.25			
18	Ahmednagar	Newasa	Total	20505.09	19574.06	220.69	19794.75	389.65	1940.75	96.54
19	Ahmednagar	Parner	Command	5401.01	2815.76	49.80	2865.56			
20	Ahmednagar	Parner	Non Command	13481.93	6975.74	227.86	7203.60			
21	Ahmednagar	Parner	Total	18882.94	9791.50	277.66	10069.16	553.60	8544.51	53.32
22	Ahmednagar	Pathardi	Command	4778.47	2662.76	19.04	2681.80			
23	Ahmednagar	Pathardi	Non Command	7870.95	4686.17	246.73	4932.90			
24	Ahmednagar	Pathardi	Total	12649.42	7348.92	265.77	7614.69	567.91	4470.07	60.20
25	Ahmednagar	Rahuri	Command	10467.57	8509.84	120.40	8630.24			
26	Ahmednagar	Rahuri	Non Command	4554.38	4453.97	53.70	4507.67			
27	Ahmednagar	Rahuri	Total	15021.95	12963.81	174.10	13137.91	274.46	2026.78	87.46
28	Ahmednagar	Rhata	Command	8040.01	8400.42	128.12	8528.54			
29	Ahmednagar	Rhata	Non Command	1336.54	1472.44	31.86	1504.30			
30	Ahmednagar	Rhata	Total	9376.55	9872.86	159.98	10032.84	275.82	255.63	107.00
31	Ahmednagar	Sangamner	Command	2152.36	2762.15	43.95	2806.10			
32	Ahmednagar	Sangamner	Non Command	13861.59	12111.23	485.27	12596.51			
33	Ahmednagar	Sangamner	Total	16013.96	14873.38	529.22	15402.60	751.98	3999.83	96.18
34	Ahmednagar	Shevgaon	Command	916.05	782.94	6.88	789.81			

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
35	Ahmednagar	Shevgaon	Non Command	10077.16	7343.33	236.37	7579.70			
36	Ahmednagar	Shevgaon	Total	10993.21	8126.27	243.25	8369.52	431.56	2991.28	76.13
37	Ahmednagar	Shrigonda	Command	4379.90	4221.90	59.81	4281.71			
38	Ahmednagar	Shrigonda	Non Command	9220.85	5653.66	136.35	5790.01			
39	Ahmednagar	Shrigonda	Total	13600.75	9875.55	196.17	10071.72	359.93	3432.79	74.05
40	Ahmednagar	Shrirampur	Command	7599.35	6444.36	100.78	6545.14			
41	Ahmednagar	Shrirampur	Non Command	1673.05	1617.82	62.34	1680.16			
42	Ahmednagar	Shrirampur	Total	9272.41	8062.18	163.12	8225.30	321.89	993.94	88.71
43	Akola	Akola	Command	1208.16	218.85	43.52	262.37			
44	Akola	Akola	Non Command	4327.60	956.53	152.85	1109.38			
45	Akola	Akola	Total	5535.75	1175.38	196.37	1371.74	389.02	3947.18	24.78
46	Akola	Akot	Command	1406.59	643.42	15.06	658.48			
47	Akola	Akot	Non Command	4033.61	2426.62	73.72	2500.34			
48	Akola	Akot	Total	5440.20	3070.04	88.78	3158.82	178.71	2261.62	58.06
49	Akola	Balapur	Command	499.76	170.40	21.12	191.52			
50	Akola	Balapur	Non Command	4452.54	651.99	134.45	786.44			
51	Akola	Balapur	Total	4952.30	822.39	155.57	977.96	311.14	3818.77	19.75
52	Akola	Barsi Takli	Command	725.69	165.98	44.28	210.26			
53	Akola	Barsi Takli	Non Command	6333.37	1742.20	207.50	1949.69			
54	Akola	Barsi Takli	Total	7059.07	1908.18	251.78	2159.96	507.33	4641.74	30.60
55	Akola	Murtizapur	Command	830.50	475.61	74.51	550.13			
56	Akola	Murtizapur	Non Command	4645.12	1716.96	171.76	1888.72			
57	Akola	Murtizapur	Total	5475.61	2192.57	246.28	2438.85	492.78	2794.83	44.54
58	Akola	Patur	Command	1350.29	535.45	57.88	593.33			
59	Akola	Patur	Non Command	4750.11	936.35	74.84	1011.19			
60	Akola	Patur	Total	6100.40	1471.80	132.73	1604.52	265.45	4363.16	26.30
61	Akola	Telhara	Command	5799.83	1037.96	81.80	1119.75			
62	Akola	Telhara	Non Command	4457.24	1557.90	75.11	1633.01			
63	Akola	Telhara	Total	10257.07	2595.85	156.91	2752.76	312.37	7300.09	26.84
64	Amravati	Achlapur	Command	2348.26	687.89	40.75	728.64			
65	Amravati	Achlapur	Non Command	6257.08	7583.31	237.73	7821.03			
66	Amravati	Achlapur	Total	8605.34	8271.19	278.47	8549.67	483.20	301.47	99.35
67	Amravati	Amravati	Command	593.15	197.46	9.67	207.13			
68	Amravati	Amravati	Non Command	9029.22	6523.35	262.18	6785.53			

Annexure III D-2 (contd...)

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

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Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
69	Amravati	Amravati	Total	9622.37	6720.81	271.85	6992.66	519.51	2581.37	72.67
70	Amravati	Anjangaon Surji	Command	2466.34	541.13	57.21	598.34			
71	Amravati	Anjangaon Surji	Non Command	3021.34	2401.12	74.79	2475.91			
72	Amravati	Anjangaon Surji	Total	5487.69	2942.25	132.00	3074.25	222.69	1472.84	56.02
73	Amravati	Bhatkuli	Command							
74	Amravati	Bhatkuli	Non Command	582.79	284.26	18.62	302.89			
75	Amravati	Bhatkuli	Total	582.79	284.26	18.62	302.89	35.62	273.28	51.97
76	Amravati	Chandur Bazar	Command	307.71	55.60	6.33	61.93			
77	Amravati	Chandur Bazar	Non Command	8203.91	9255.22	233.18	9488.40			
78	Amravati	Chandur Bazar	Total	8511.62	9310.82	239.51	9550.33	313.47	303.01	112.20
79	Amravati	Chandur Railway	Command	643.54	177.45	27.38	204.83			
80	Amravati	Chandur Railway	Non Command	4938.24	2437.40	120.42	2557.82			
81	Amravati	Chandur Railway	Total	5581.77	2614.84	147.80	2762.65	285.43	2621.97	49.49
82	Amravati	Chikhaldara	Command	163.81						
83	Amravati	Chikhaldara	Non Command	3088.27	1642.88	191.10	1833.99			
84	Amravati	Chikhaldara	Total	3252.07	1642.88	191.10	1833.99	401.95	1764.35	56.39
85	Amravati	Daryapur	Command							
86	Amravati	Daryapur	Non Command	819.07	1141.18	17.12	1158.30			
87	Amravati	Daryapur	Total	819.07	1141.18	17.12	1158.30	17.12	0.00	141.42
88	Amravati	Dhamangaon Railway	Command	546.91	154.08	2.17	156.24			
89	Amravati	Dhamangaon Railway	Non Command	6166.04	3880.59	198.53	4079.13			
90	Amravati	Dhamangaon Railway	Total	6712.95	4034.67	200.70	4235.37	420.28	2393.27	63.09
91	Amravati	Dharni	Command	975.81	107.97	71.09	179.06			
92	Amravati	Dharni	Non Command	2927.88	662.26	189.84	852.10			
93	Amravati	Dharni	Total	3903.69	770.23	260.93	1031.16	498.09	2593.99	26.42
94	Amravati	Morshi	Command	1594.94	450.04	43.93	493.97			
95	Amravati	Morshi	Non Command	7710.44	10202.23	275.76	10477.99			
96	Amravati	Morshi	Total	9305.38	10652.27	319.69	10971.96	381.84	673.90	117.91
97	Amravati	Nandgaon	Command	247.06	81.97	11.28	93.25			
98	Amravati	Nandgaon	Non Command	7251.91	4243.31	379.81	4623.12			
99	Amravati	Nandgaon	Total	7498.98	4325.28	391.09	4716.37	580.32	2608.24	62.89

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Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
100	Amravati	Tiwsa	Command	4338.83	914.73	67.89	982.62			
101	Amravati	Tiwsa	Non Command	5130.39	2896.03	67.06	2963.09			
102	Amravati	Tiwsa	Total	9469.22	3810.76	134.96	3945.72	252.00	5122.56	41.67
103	Amravati	Warud	Command	1511.35	2858.62	83.48	2942.10			
104	Amravati	Warud	Non Command	12313.29	17026.22	184.57	17210.79			
105	Amravati	Warud	Total	13824.64	19884.84	268.05	20152.89	269.27	0.00	145.78
106	Aurangabad	Aurangabad	Command	5947.46	2642.13	113.05	2755.18			
107	Aurangabad	Aurangabad	Non Command	11257.00	8222.11	536.32	8758.43			
108	Aurangabad	Aurangabad	Total	17204.47	10864.24	649.37	11513.61	1268.38	4645.63	66.92
109	Aurangabad	Fulambre	Command	568.19	226.06	7.94	234.00			
110	Aurangabad	Fulambre	Non Command	4735.48	4144.92	94.01	4238.94			
111	Aurangabad	Fulambre	Total	5303.68	4370.98	101.95	4472.94	206.67	1013.38	84.34
112	Aurangabad	Gangapur	Command	4348.00	2404.05	103.69	2507.74			
113	Aurangabad	Gangapur	Non Command	9205.17	7508.91	363.74	7872.66			
114	Aurangabad	Gangapur	Total	13553.17	9912.96	467.43	10380.40	846.33	3457.95	76.59
115	Aurangabad	Kannad	Command	3847.08	2175.71	54.64	2230.35			
116	Aurangabad	Kannad	Non Command	13957.93	7425.17	430.91	7856.08			
117	Aurangabad	Kannad	Total	17805.01	9600.88	485.56	10086.44	972.93	7168.51	56.65
118	Aurangabad	Khuldabad	Command	1573.33	1046.21	31.87	1078.08			
119	Aurangabad	Khuldabad	Non Command	4649.52	2157.76	165.57	2323.34			
120	Aurangabad	Khuldabad	Total	6222.85	3203.97	197.45	3401.42	391.90	2791.64	54.66
121	Aurangabad	Paithan	Command	7145.19	2120.92	124.98	2245.90			
122	Aurangabad	Paithan	Non Command	10750.58	5744.87	777.81	6522.68			
123	Aurangabad	Paithan	Total	17895.77	7865.78	902.79	8768.58	1810.12	8144.32	49.00
124	Aurangabad	Sillod	Command	3476.60	1430.59	34.75	1465.35			
125	Aurangabad	Sillod	Non Command	11581.59	6871.32	329.91	7201.23			
126	Aurangabad	Sillod	Total	15058.19	8301.91	364.67	8666.58	739.05	6305.13	57.55
127	Aurangabad	Soyegaon	Command	2841.85	387.68	19.04	406.73			
128	Aurangabad	Soyegaon	Non Command	3492.67	1720.52	82.26	1802.79			
129	Aurangabad	Soyegaon	Total	6334.52	2108.21	101.31	2209.52	197.72	3737.25	34.88
130	Aurangabad	Vaijapur	Command	6888.15	4832.38	158.39	4990.77			
131	Aurangabad	Vaijapur	Non Command	12923.08	9069.20	333.79	9402.99			
132	Aurangabad	Vaijapur	Total	19811.23	13901.57	492.18	14393.75	971.10	4956.59	72.65
133	Beed	Ambejogai	Command	789.58	187.22	20.44	207.66			

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Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
134	Beed	Ambejogai	Non Command	9952.22	4429.29	347.36	4776.65			
135	Beed	Ambejogai	Total	10741.80	4616.51	367.80	4984.31	698.94	6054.71	46.40
136	Beed	Ashti	Command	3178.03	1012.65	178.16	1190.81			
137	Beed	Ashti	Non Command	14293.39	7256.68	627.89	7884.58			
138	Beed	Ashti	Total	17471.42	8269.33	806.06	9075.39	1616.12	7625.95	51.94
139	Beed	Beed	Command	2302.04	540.03	52.42	592.45			
140	Beed	Beed	Non Command	13411.60	8002.96	738.27	8741.23			
141	Beed	Beed	Total	15713.64	8542.99	790.69	9333.67	1558.39	4914.22	59.40
142	Beed	Dharur	Command	466.47	67.27	10.44	77.71			
143	Beed	Dharur	Non Command	2674.71	1573.92	58.42	1632.34			
144	Beed	Dharur	Total	3141.19	1641.19	68.86	1710.05	121.15	1517.97	54.44
145	Beed	Gevrai	Command	7569.46	2249.82	120.29	2370.11			
146	Beed	Gevrai	Non Command	13832.48	9388.26	483.52	9871.79			
147	Beed	Gevrai	Total	21401.94	11638.09	603.81	12241.90	1207.02	8443.02	57.20
148	Beed	Kaij	Command							
149	Beed	Kaij	Non Command	16051.88	7855.41	648.78	8504.19			
150	Beed	Kaij	Total	16051.88	7855.41	648.78	8504.19	1319.14	7580.12	52.98
151	Beed	Majalgaon	Command	7954.75	2256.87	121.30	2378.17			
152	Beed	Majalgaon	Non Command	6047.48	3386.24	223.57	3609.80			
153	Beed	Majalgaon	Total	14002.23	5643.11	344.86	5987.97	663.45	7763.48	42.76
154	Beed	Parli	Command	4615.70	820.09	61.35	881.44			
155	Beed	Parli	Non Command	5968.94	2943.48	173.53	3117.01			
156	Beed	Parli	Total	10584.64	3763.57	234.88	3998.46	495.02	6187.10	37.78
157	Beed	Patoda	Command	741.32	148.15	37.87	186.02			
158	Beed	Patoda	Non Command	7719.90	4452.57	274.46	4727.03			
159	Beed	Patoda	Total	8461.22	4600.72	312.33	4913.05	621.95	3228.17	58.07
160	Beed	Shirur Ka	Command	976.23	216.54	21.78	238.32			
161	Beed	Shirur Ka	Non Command	6018.65	3251.78	258.00	3509.78			
162	Beed	Shirur Ka	Total	6994.88	3468.32	279.78	3748.10	558.63	2968.60	53.58
163	Beed	Wadvani	Command	2499.41	273.43	19.58	293.01			
164	Beed	Wadvani	Non Command	7373.41	3465.41	282.76	3748.17			
165	Beed	Wadvani	Total	9872.83	3738.83	302.35	4041.18	618.71	4897.72	40.93
166	Bhandara	Bhandara	Command	4316.52	239.94	265.02	504.96			
167	Bhandara	Bhandara	Non Command	4787.30	824.72	113.11	937.83			

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1		2	3	10	11	12	13	14	15	16
168	Bhandara	Bhandara	Total	9103.81	1064.66	378.13	1442.79	748.84	7320.05	15.85
169	Bhandara	Lakhandur	Command	4224.85	82.07	26.28	108.36			
170	Bhandara	Lakhandur	Non Command	3968.30	1781.51	181.36	1962.87			
171	Bhandara	Lakhandur	Total	8193.15	1863.58	207.64	2071.23	460.08	5889.55	25.28
172	Bhandara	Lakhani	Command	1500.45	64.33	33.13	97.46			
173	Bhandara	Lakhani	Non Command	3889.69	922.61	143.44	1066.05			
174	Bhandara	Lakhani	Total	5390.14	986.95	176.57	1163.52	347.18	4014.45	21.59
175	Bhandara	Mohadi	Command	3245.71	855.66	225.52	1081.18			
176	Bhandara	Mohadi	Non Command	2350.11	734.26	124.44	858.70			
177	Bhandara	Mohadi	Total	5595.82	1589.93	349.96	1939.88	661.68	3208.70	34.67
178	Bhandara	Pauni	Command	267.76	25.66	94.21	119.87			
179	Bhandara	Pauni	Non Command	7267.36	3535.97	190.83	3726.81			
180	Bhandara	Pauni	Total	7535.12	3561.63	285.05	3846.68	534.18	3430.37	51.05
181	Bhandara	Sakoli	Command	2186.76	182.22	137.94	320.16			
182	Bhandara	Sakoli	Non Command	4649.51	781.79	98.80	880.60			
183	Bhandara	Sakoli	Total	6836.28	964.01	236.74	1200.75	480.25	5428.97	17.56
184	Bhandara	Tumsar	Command	4233.83	889.75	179.81	1069.56			
185	Bhandara	Tumsar	Non Command	3718.37	1229.31	153.56	1382.88			
186	Bhandara	Tumsar	Total	7952.20	2119.07	333.37	2452.44	702.70	5229.70	30.84
187	Buldhana	Buldhana	Command	654.49	735.80	70.71	806.51			
188	Buldhana	Buldhana	Non Command	7078.75	5666.54	235.41	5901.95			
189	Buldhana	Buldhana	Total	7733.24	6402.34	306.12	6708.46	570.66	796.41	86.75
190	Buldhana	Chikhali	Command	434.92	403.39	48.79	452.19			
191	Buldhana	Chikhali	Non Command	11341.62	7425.35	332.84	7758.19			
192	Buldhana	Chikhali	Total	11776.54	7828.74	381.63	8210.38	763.20	3217.98	69.72
193	Buldhana	Deulgaon Raja	Command	425.75	285.90	24.84	310.74			
194	Buldhana	Deulgaon Raja	Non Command	5490.73	3994.46	168.31	4162.78			
195	Buldhana	Deulgaon Raja	Total	5916.49	4280.36	193.15	4473.52	381.35	1265.06	75.61
196	Buldhana	Jalgaon	Command	154.83	104.07	39.55	143.62			
197	Buldhana	Jalgaon	Non Command	6048.31	6192.90	151.91	6344.81			
198	Buldhana	Jalgaon	Total	6203.15	6296.97	191.46	6488.43	268.99	859.18	104.60
199	Buldhana	Khamgaon	Command	1921.14	1516.25	117.13	1633.38			
200	Buldhana	Khamgaon	Non Command	7677.86	3545.46	270.91	3816.36			
201	Buldhana	Khamgaon	Total	9599.01	5061.71	388.03	5449.75	740.32	3800.39	56.77

Annexure III D-2 (contd...)

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Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
202	Buldhana	Lonar	Command	996.44	613.70	78.72	692.42			
203	Buldhana	Lonar	Non Command	6409.32	3115.36	148.24	3263.59			
204	Buldhana	Lonar	Total	7405.76	3729.06	226.95	3956.01	447.95	3217.48	53.42
205	Buldhana	Malakapur	Command	813.78	476.60	67.16	543.76			
206	Buldhana	Malakapur	Non Command	4281.34	2406.01	134.72	2540.73			
207	Buldhana	Malakapur	Total	5095.12	2882.61	201.88	3084.49	398.44	1847.10	60.54
208	Buldhana	Mehkar	Command	1450.09	455.66	73.21	528.87			
209	Buldhana	Mehkar	Non Command	9127.95	4923.83	279.13	5202.96			
210	Buldhana	Mehkar	Total	10578.05	5379.48	352.34	5731.83	714.03	4350.35	54.19
211	Buldhana	Motala	Command	615.20	524.70	82.73	607.43			
212	Buldhana	Motala	Non Command	4997.89	3433.17	206.04	3639.21			
213	Buldhana	Motala	Total	5613.09	3957.87	288.77	4246.64	542.78	1064.07	75.66
214	Buldhana	Nandura	Command	419.75	376.83	20.75	397.58			
215	Buldhana	Nandura	Non Command	4486.21	3250.92	107.41	3358.33			
216	Buldhana	Nandura	Total	4905.96	3627.75	128.16	3755.91	275.01	1047.93	76.56
217	Buldhana	Sangrapur	Command	633.61	342.46	20.27	362.73			
218	Buldhana	Sangrapur	Non Command	4626.15	4244.87	109.85	4354.73			
219	Buldhana	Sangrapur	Total	5259.75	4587.33	130.12	4717.45	210.69	487.69	89.69
220	Buldhana	Shegaon	Command	113.12	57.20	11.11	68.31			
221	Buldhana	Shegaon	Non Command	3026.73	1193.83	134.68	1328.51			
222	Buldhana	Shegaon	Total	3139.84	1251.03	145.79	1396.82	298.75	1604.53	44.49
223	Buldhana	S'indkhed Raja	Command	599.80	491.70	54.91	546.61			
224	Buldhana	S'indkhed Raja	Non Command	7826.65	5190.69	194.23	5384.92			
225	Buldhana	S'indkhed Raja	Total	8426.45	5682.40	249.13	5931.53	518.66	2249.65	70.39
226	Chandrapur	Ballapur	Command							
227	Chandrapur	Ballapur	Non Command	6129.26	482.08	184.18	666.26			
228	Chandrapur	Ballapur	Total	6129.26	482.08	184.18	666.26	368.35	5278.82	10.87
229	Chandrapur	Bhadravati	Command	446.68	34.56	26.28	60.84			
230	Chandrapur	Bhadravati	Non Command	12096.97	807.11	432.45	1239.57			
231	Chandrapur	Bhadravati	Total	12543.65	841.67	458.73	1300.41	955.52	10788.62	10.37
232	Chandrapur	Brahmapuri	Command							
233	Chandrapur	Brahmapuri	Non Command	7213.93	922.09	519.88	1441.96			
234	Chandrapur	Brahmapuri	Total	7213.93	922.09	519.88	1441.96	1042.18	5265.14	19.99
235	Chandrapur	Chandrapur	Command							

Annexure III D-2 (contd...)

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Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
236	Chandrapur	Chandrapur	Non Command	10070.46	733.06	431.34	1164.41			
237	Chandrapur	Chandrapur	Total	10070.46	733.06	431.34	1164.41	862.69	8474.71	11.56
238	Chandrapur	Chimmur	Command							
239	Chandrapur	Chimmur	Non Command	4910.13	543.53	482.43	1025.95			
240	Chandrapur	Chimmur	Total	4910.13	543.53	482.43	1025.95	989.71	3397.63	20.89
241	Chandrapur	Gondpipri	Command							
242	Chandrapur	Gondpipri	Non Command	7776.05	850.72	455.35	1306.07			
243	Chandrapur	Gondpipri	Total	7776.05	850.72	455.35	1306.07	914.06	6013.45	16.80
244	Chandrapur	Jiwati	Command							
245	Chandrapur	Jiwati	Non Command	3264.31	179.93	225.45	405.38			
246	Chandrapur	Jiwati	Total	3264.31	179.93	225.45	405.38	453.92	2688.05	12.42
247	Chandrapur	Korpuna	Command	941.39	75.65	71.45	147.10			
248	Chandrapur	Korpuna	Non Command	1881.88	93.51	114.09	207.60			
249	Chandrapur	Korpuna	Total	2823.28	169.16	185.54	354.70	332.10	2099.07	12.56
250	Chandrapur	Mul	Command	976.58	137.88	152.54	290.42			
251	Chandrapur	Mul	Non Command	3210.52	163.70	183.78	347.48			
252	Chandrapur	Mul	Total	4187.10	301.58	336.32	637.89	670.28	3152.02	15.23
253	Chandrapur	Nagbhind	Command	1709.76	68.40	142.25	210.65			
254	Chandrapur	Nagbhind	Non Command	5613.61	694.31	429.74	1124.06			
255	Chandrapur	Nagbhind	Total	7323.37	762.71	571.99	1334.71	1167.35	5434.09	18.23
256	Chandrapur	Pobhurna	Command	1035.34	111.10	110.94	222.04			
257	Chandrapur	Pobhurna	Non Command	3323.19	275.34	180.10	455.45			
258	Chandrapur	Pobhurna	Total	4358.53	386.45	291.04	677.49	578.23	3386.28	15.54
259	Chandrapur	Rajura	Command	287.30	11.64	6.04	17.68			
260	Chandrapur	Rajura	Non Command	7187.36	484.71	540.20	1024.90			
261	Chandrapur	Rajura	Total	7474.66	496.34	546.23	1042.58	1128.43	6015.25	13.95
262	Chandrapur	Sawali	Command	3542.19	97.86	67.98	165.84			
263	Chandrapur	Sawali	Non Command	3312.08	221.90	391.33	613.22			
264	Chandrapur	Sawali	Total	6854.28	319.76	459.31	779.06	957.23	5562.82	11.37
265	Chandrapur	Sindewali	Command	1665.03	205.13	284.08	489.21			
266	Chandrapur	Sindewali	Non Command	6476.23	457.68	323.00	780.68			
267	Chandrapur	Sindewali	Total	8141.26	662.81	607.08	1269.88	1103.71	6363.69	15.60
268	Chandrapur	Warora	Command	1084.23	148.41	83.28	231.69			
269	Chandrapur	Warora	Non Command	8810.92	954.02	453.75	1407.77			

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1		2	3	10	11	12	13	14	15	16
270	Chandrapur	Warora	Total	9895.14	1102.43	537.03	1639.46	1060.03	7707.64	16.57
271	Dhule	Dhule	Command	8457.52	8012.44	71.32	8083.76			
272	Dhule	Dhule	Non Command	28169.31	14368.08	347.33	14715.41			
273	Dhule	Dhule	Total	36626.82	22380.52	418.65	22799.17	835.52	13403.38	62.25
274	Dhule	Sakri	Command	10887.34	7039.48	132.07	7171.55			
275	Dhule	Sakri	Non Command	25721.97	11361.49	391.11	11752.60			
276	Dhule	Sakri	Total	36609.31	18400.97	523.18	18924.15	1030.99	17080.27	51.69
277	Dhule	Shirpur	Command	6227.14	2508.21	77.42	2585.62			
278	Dhule	Shirpur	Non Command	19823.87	4854.57	365.23	5219.80			
279	Dhule	Shirpur	Total	26051.01	7362.78	442.64	7805.42	885.29	17802.95	29.96
280	Dhule	Sindkheda	Command	4062.51	1873.17	59.18	1932.35			
281	Dhule	Sindkheda	Non Command	15440.61	6014.23	346.79	6361.01			
282	Dhule	Sindkheda	Total	19503.12	7887.40	405.97	8293.37	823.11	10897.09	42.52
283	Gadchiroli	Aheri	Command							
284	Gadchiroli	Aheri	Non Command	9611.91	606.50	186.91	793.41			
285	Gadchiroli	Aheri	Total	9611.91	606.50	186.91	793.41	374.05	8664.39	8.25
286	Gadchiroli	Armori	Command	9259.78	75.22	35.97	111.19			
287	Gadchiroli	Armori	Non Command	6445.50	1764.51	156.33	1920.84			
288	Gadchiroli	Armori	Total	15705.27	1839.73	192.30	2032.03	384.62	13482.38	12.94
289	Gadchiroli	Bhamragad	Command							
290	Gadchiroli	Bhamragad	Non Command	3555.17	180.00	48.54	228.54			
291	Gadchiroli	Bhamragad	Total	3555.17	180.00	48.54	228.54	97.08	3278.09	6.43
292	Gadchiroli	Chamorshi	Command	3175.34	300.56	105.97	406.52			
293	Gadchiroli	Chamorshi	Non Command	10778.27	1415.57	328.11	1743.67			
294	Gadchiroli	Chamorshi	Total	13953.61	1716.12	434.07	2150.19	868.14	11369.34	15.41
295	Gadchiroli	Dhanora	Command							
296	Gadchiroli	Dhanora	Non Command	8312.29	1986.55	200.70	2187.24			
297	Gadchiroli	Dhanora	Total	8312.29	1986.55	200.70	2187.24	401.40	5924.34	26.31
298	Gadchiroli	Etapalli	Command							
299	Gadchiroli	Etapalli	Non Command	11039.86	1821.31	226.81	2048.12			
300	Gadchiroli	Etapalli	Total	11039.86	1821.31	226.81	2048.12	453.62	8764.93	18.55
301	Gadchiroli	Gadchiroli	Command							
302	Gadchiroli	Gadchiroli	Non Command	5723.75	1225.77	160.60	1386.37			
303	Gadchiroli	Gadchiroli	Total	5723.75	1225.77	160.60	1386.37	321.19	4176.79	24.22

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
304	Gadchiroli	Korchi	Command							
305	Gadchiroli	Korchi	Non Command	3637.64	600.06	121.62	721.68			
306	Gadchiroli	Korchi	Total	3637.64	600.06	121.62	721.68	243.08	2794.50	19.84
307	Gadchiroli	Kurkheda	Command							
308	Gadchiroli	Kurkheda	Non Command	8388.26	2225.89	172.50	2398.39			
309	Gadchiroli	Kurkheda	Total	8388.26	2225.89	172.50	2398.39	345.00	5817.38	28.59
310	Gadchiroli	Mulchera	Command	726.40	110.40	2.45	112.85			
311	Gadchiroli	Mulchera	Non Command	6083.71	673.36	113.79	787.15			
312	Gadchiroli	Mulchera	Total	6810.11	783.76	116.24	900.00	232.26	5761.05	13.22
313	Gadchiroli	Soroncha	Command							
314	Gadchiroli	Soroncha	Non Command	9206.31	2336.47	130.09	2466.55			
315	Gadchiroli	Soroncha	Total	9206.31	2336.47	130.09	2466.55	260.17	6609.67	26.79
316	Gadchiroli	Wadsa	Command	29615.62	261.62	95.70	357.31			
317	Gadchiroli	Wadsa	Non Command	2510.55	686.98	67.15	754.13			
318	Gadchiroli	Wadsa	Total	32126.17	948.59	162.85	1111.44	325.68	30850.44	3.46
319	Gondia	Amgaon	Command	2045.03	356.12	528.64	884.75			
320	Gondia	Amgaon	Non Command	2793.50	181.34	228.96	410.31			
321	Gondia	Amgaon	Total	4838.53	537.46	757.60	1295.06	1627.17	2870.54	26.77
322	Gondia	Arjuni Moregaon	Command	7180.33	148.66	461.99	610.65			
323	Gondia	Arjuni Moregaon	Non Command	6514.90	263.57	167.62	431.19			
324	Gondia	Arjuni Moregaon	Total	13695.22	412.23	629.61	1041.84	1261.62	11944.21	7.61
325	Gondia	Deori	Command	286.61	136.98	95.81	232.79			
326	Gondia	Deori	Non Command	7055.18	400.55	269.51	670.06			
327	Gondia	Deori	Total	7341.79	537.53	365.32	902.85	732.47	6121.76	12.30
328	Gondia	Gondia	Command	4083.64	929.09	929.15	1858.25			
329	Gondia	Gondia	Non Command	4209.76	686.01	555.39	1241.40			
330	Gondia	Gondia	Total	8293.40	1615.10	1484.54	3099.64	2892.24	3526.76	37.37
331	Gondia	Goregaon	Command	177.79	49.79	147.10	196.89			
332	Gondia	Goregaon	Non Command	4202.99	567.55	776.81	1344.37			
333	Gondia	Goregaon	Total	4380.78	617.34	923.91	1541.25	2018.87	2108.73	35.18
334	Gondia	Sadak Arjuni	Command	2345.34	175.36	212.08	387.44			
335	Gondia	Sadak Arjuni	Non Command	5564.83	294.64	302.80	597.44			
336	Gondia	Sadak Arjuni	Total	7910.17	470.00	514.88	984.88	983.08	6425.44	12.45
337	Gondia	Salekasa	Command	2936.60	128.27	386.16	514.43			

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Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
338	Gondia	Salekasa	Non Command	2668.34	47.10	136.40	183.51			
339	Gondia	Salekasa	Total	5604.94	175.37	522.57	697.94	924.34	4272.01	12.45
340	Gondia	Tirora	Command	4166.52	355.82	747.97	1103.80			
341	Gondia	Tirora	Non Command	2501.17	96.02	171.45	267.47			
342	Gondia	Tirora	Total	6667.69	451.84	919.42	1371.27	1795.91	4410.49	20.57
343	Hingoli	Aundha	Command	15373.42	2723.87	217.02	2940.89			
344	Hingoli	Aundha	Non Command	7126.58	3704.18	378.45	4082.63			
345	Hingoli	Aundha	Total	22500.00	6428.05	595.47	7023.51	1147.79	14159.71	31.22
346	Hingoli	Basmath	Command	28829.25	10142.13	395.75	10537.88			
347	Hingoli	Basmath	Non Command	2352.68	1821.04	104.54	1925.58			
348	Hingoli	Basmath	Total	31181.94	11963.17	500.29	12463.45	1023.37	18334.35	39.97
349	Hingoli	Hingoli	Command	3717.58	642.16	30.35	672.51			
350	Hingoli	Hingoli	Non Command	10974.14	3888.18	240.59	4128.77			
351	Hingoli	Hingoli	Total	14691.73	4530.34	270.94	4801.28	550.65	10528.29	32.68
352	Hingoli	Kalmnuri	Command	8914.47	1762.82	61.35	1824.16			
353	Hingoli	Kalmnuri	Non Command	8415.04	5664.64	217.81	5882.45			
354	Hingoli	Kalmnuri	Total	17329.51	7427.45	279.16	7706.62	570.43	9215.75	44.47
355	Hingoli	Sengaon	Command	4252.81	397.76	10.56	408.32			
356	Hingoli	Sengaon	Non Command	13045.48	5498.15	106.60	5604.75			
357	Hingoli	Sengaon	Total	17298.29	5895.91	117.16	6013.07	233.78	10992.42	34.76
358	Jalgaon	Amalner	Command	3856.17	1014.86	103.17	1118.03			
359	Jalgaon	Amalner	Non Command	7830.32	5488.96	456.31	5945.27			
360	Jalgaon	Amalner	Total	11686.50	6503.82	559.48	7063.30	1115.50	3561.08	60.44
361	Jalgaon	Bhadgaon	Command	10938.82	4948.05	161.56	5109.61			
362	Jalgaon	Bhadgaon	Non Command	1823.85	1203.85	37.79	1241.64			
363	Jalgaon	Bhadgaon	Total	12762.67	6151.90	199.35	6351.25	417.58	6334.47	49.76
364	Jalgaon	Bhusawal	Command	316.57	473.79	11.52	485.31			
365	Jalgaon	Bhusawal	Non Command	5078.81	2648.50	264.28	2912.78			
366	Jalgaon	Bhusawal	Total	5395.38	3122.29	275.80	3398.09	552.23	1731.91	62.98
367	Jalgaon	Bodwad	Command	63.01	30.35	2.09	32.44			
368	Jalgaon	Bodwad	Non Command	3362.64	2311.65	215.59	2527.24			
369	Jalgaon	Bodwad	Total	3425.65	2342.00	217.68	2559.68	436.21	620.17	74.72
370	Jalgaon	Chalisgaon	Command	3923.77	3538.90	116.59	3655.49			
371	Jalgaon	Chalisgaon	Non Command	11425.48	6430.49	292.31	6722.81			

Annexure III D-2 (contd...)

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
372	Jalgaon	Chalisgaon	Total	15349.26	9969.39	408.90	10378.29	788.04	4723.00	67.61
373	Jalgaon	Chopda	Command	5174.71	4482.69	147.44	4630.13			
374	Jalgaon	Chopda	Non Command	5655.93	4403.22	199.78	4603.00			
375	Jalgaon	Chopda	Total	10830.64	8885.91	347.22	9233.13	631.57	2001.14	85.25
376	Jalgaon	Dharangaon	Command	3708.79	1083.10	84.55	1167.65			
377	Jalgaon	Dharangaon	Non Command	3108.45	1702.16	124.94	1827.11			
378	Jalgaon	Dharangaon	Total	6817.24	2785.27	209.49	2994.76	303.13	3275.79	43.93
379	Jalgaon	Erandol	Command	3496.90	1701.68	111.72	1813.40			
380	Jalgaon	Erandol	Non Command	2887.76	983.77	62.00	1045.78			
381	Jalgaon	Erandol	Total	6384.66	2685.46	173.72	2859.18	368.29	4099.42	44.78
382	Jalgaon	Jalgaon	Command	808.30	535.80	30.22	566.02			
383	Jalgaon	Jalgaon	Non Command	7214.46	3494.20	218.13	3712.34			
384	Jalgaon	Jalgaon	Total	8022.77	4030.00	248.35	4278.36	501.99	3475.69	53.33
385	Jalgaon	Jamner	Command	966.00	972.86	103.09	1075.95			
386	Jalgaon	Jamner	Non Command	11711.24	5867.80	554.68	6422.48			
387	Jalgaon	Jamner	Total	12677.23	6840.66	657.77	7498.43	1229.61	4799.63	59.15
388	Jalgaon	Muktainagar	Command	269.30	231.66	6.59	238.25			
389	Jalgaon	Muktainagar	Non Command	5568.73	3623.16	228.13	3851.29			
390	Jalgaon	Muktainagar	Total	5838.03	3854.82	234.72	4089.54	469.77	1519.23	70.05
391	Jalgaon	Pachora	Command	3239.45	3206.86	71.92	3278.78			
392	Jalgaon	Pachora	Non Command	7432.39	4188.02	296.32	4484.34			
393	Jalgaon	Pachora	Total	10671.83	7394.88	368.24	7763.12	754.91	2286.98	72.74
394	Jalgaon	Parola	Command	2452.29	1705.76	222.87	1928.63			
395	Jalgaon	Parola	Non Command	5040.58	4006.90	227.98	4234.88			
396	Jalgaon	Parola	Total	7492.87	5712.66	450.85	6163.51	834.92	1147.10	82.26
397	Jalgaon	Raver	Command	1312.95	3524.42	22.75	3547.17			
398	Jalgaon	Raver	Non Command	8506.68	7888.64	120.86	8009.50			
399	Jalgaon	Raver	Total	9819.62	11413.06	143.61	11556.68	152.19	0.00	117.69
400	Jalgaon	Yawal	Command	1187.96	2288.29	52.64	2340.93			
401	Jalgaon	Yawal	Non Command	6409.38	5666.91	165.17	5832.08			
402	Jalgaon	Yawal	Total	7597.34	7955.20	217.81	8173.00	299.23	960.49	107.58
403	Jalna	Ambad	Command	5594.05	966.26	37.94	1004.19			
404	Jalna	Ambad	Non Command	6956.28	4693.61	86.38	4779.99			
405	Jalna	Ambad	Total	12550.34	5659.87	124.31	5784.18	255.08	6991.71	46.09

Annexure III D-2 (contd...)

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

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Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
406	Jalna	Badnapur	Command	918.79	494.92	14.48	509.40			
407	Jalna	Badnapur	Non Command	5585.61	4020.43	48.91	4069.34			
408	Jalna	Badnapur	Total	6504.40	4515.35	63.39	4578.74	127.18	1865.68	70.39
409	Jalna	Bhokardan	Command	930.55	288.76	11.82	300.58			
410	Jalna	Bhokardan	Non Command	13900.42	8306.73	172.78	8479.51			
411	Jalna	Bhokardan	Total	14830.97	8595.48	184.60	8780.08	372.76	5972.24	59.20
412	Jalna	Ghat Sawangi	Command	9115.11	1209.86	32.24	1242.11			
413	Jalna	Ghat Sawangi	Non Command	8304.81	4065.84	68.65	4134.49			
414	Jalna	Ghat Sawangi	Total	17419.92	5275.71	100.89	5376.60	195.33	11592.57	30.86
415	Jalna	Jafrabad	Command	815.86	396.22	13.40	409.62			
416	Jalna	Jafrabad	Non Command	9143.66	5195.94	116.60	5312.54			
417	Jalna	Jafrabad	Total	9959.53	5592.16	130.00	5722.16	256.04	3998.01	57.45
418	Jalna	Jalna	Command	1281.74	464.85	15.30	480.15			
419	Jalna	Jalna	Non Command	11884.04	6496.60	77.05	6573.64			
420	Jalna	Jalna	Total	13165.78	6961.45	92.35	7053.80	185.09	6030.31	53.58
421	Jalna	Mantha	Command	621.28	83.55	9.43	92.98			
422	Jalna	Mantha	Non Command	8156.08	3212.84	103.96	3316.79			
423	Jalna	Mantha	Total	8777.35	3296.38	113.39	3409.77	227.72	5255.98	38.85
424	Jalna	Partur	Command	3225.65	277.93	19.48	297.41			
425	Jalna	Partur	Non Command	8620.44	4091.04	65.14	4156.18			
426	Jalna	Partur	Total	11846.09	4368.97	84.62	4453.58	167.89	7295.43	37.60
427	Kolhapur	Ajara	Command							
428	Kolhapur	Ajara	Non Command	6474.13	3520.35	82.17	3602.52			
429	Kolhapur	Ajara	Total	6474.13	3520.35	82.17	3602.52	164.34	2789.44	55.64
430	Kolhapur	Bhudargad	Command							
431	Kolhapur	Bhudargad	Non Command	4760.09	2142.82	80.34	2223.16			
432	Kolhapur	Bhudargad	Total	4760.09	2142.82	80.34	2223.16	160.68	2456.58	46.70
433	Kolhapur	Chandgad	Command							
434	Kolhapur	Chandgad	Non Command	13099.78	6461.67	139.28	6600.94			
435	Kolhapur	Chandgad	Total	13099.78	6461.67	139.28	6600.94	278.55	6359.56	50.39
436	Kolhapur	Gadhinglaj	Command							
437	Kolhapur	Gadhinglaj	Non Command	9439.92	6929.73	100.86	7030.59			
438	Kolhapur	Gadhinglaj	Total	9439.92	6929.73	100.86	7030.59	201.72	2308.47	74.48
439	Kolhapur	Gaganbawada	Command							

Annexure III D-2 (contd...)

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Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
440	Kolhapur	Gaganbawada	Non Command	1669.04	626.78	47.79	674.57			
441	Kolhapur	Gaganbawada	Total	1669.04	626.78	47.79	674.57	95.58	946.68	40.42
442	Kolhapur	Hatkanangale	Command							
443	Kolhapur	Hatkanangale	Non Command	6579.92	5249.70	156.43	5406.13			
444	Kolhapur	Hatkanangale	Total	6579.92	5249.70	156.43	5406.13	312.87	1017.35	82.16
445	Kolhapur	Kagal	Command							
446	Kolhapur	Kagal	Non Command	8133.79	4247.42	88.40	4335.82			
447	Kolhapur	Kagal	Total	8133.79	4247.42	88.40	4335.82	176.80	3709.57	53.31
448	Kolhapur	Karvir	Command							
449	Kolhapur	Karvir	Non Command	6047.26	4165.82	145.29	4311.11			
450	Kolhapur	Karvir	Total	6047.26	4165.82	145.29	4311.11	290.58	1590.86	71.29
451	Kolhapur	Panhala	Command							
452	Kolhapur	Panhala	Non Command	5269.85	3494.87	126.68	3621.55			
453	Kolhapur	Panhala	Total	5269.85	3494.87	126.68	3621.55	253.37	1521.61	68.72
454	Kolhapur	Radhanagari	Command							
455	Kolhapur	Radhanagari	Non Command	8662.79	3441.81	93.08	3534.88			
456	Kolhapur	Radhanagari	Total	8662.79	3441.81	93.08	3534.88	186.16	5034.82	40.81
457	Kolhapur	Shahuwadi	Command							
458	Kolhapur	Shahuwadi	Non Command	3904.15	1274.24	123.79	1398.03			
459	Kolhapur	Shahuwadi	Total	3904.15	1274.24	123.79	1398.03	247.59	2382.32	35.81
460	Kolhapur	Shirol	Command							
461	Kolhapur	Shirol	Non Command	4185.99	2984.99	142.31	3127.29			
462	Kolhapur	Shirol	Total	4185.99	2984.99	142.31	3127.29	284.61	916.39	74.71
463	Latur	Ahmedpur	Command	341.79	518.95	52.87	571.82			
464	Latur	Ahmedpur	Non Command	14359.86	7835.99	251.49	8087.48			
465	Latur	Ahmedpur	Total	14701.65	8354.94	304.36	8659.30	600.57	5656.66	58.90
466	Latur	Anantpal Sh	Command							
467	Latur	Anantpal Sh	Non Command	2846.15	2125.76	52.21	2177.97			
468	Latur	Anantpal Sh	Total	2846.15	2125.76	52.21	2177.97	140.92	541.53	76.52
469	Latur	Ausa	Command	1921.28	2824.50	40.54	2865.03			
470	Latur	Ausa	Non Command	24705.39	17164.28	291.79	17456.06			
471	Latur	Ausa	Total	26626.66	19988.77	332.32	20321.09	657.27	5988.82	76.32
472	Latur	Chakur	Command	385.89	486.22	15.36	501.57			
473	Latur	Chakur	Non Command	8069.61	6766.83	146.83	6913.66			

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Unit-Taluka

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1		2	3	10	11	12	13	14	15	16
474	Latur	Chakur	Total	8455.50	7253.05	162.19	7415.23	240.95	1338.98	87.70
475	Latur	Devani	Command							
476	Latur	Devani	Non Command	3259.86	1911.34	64.60	1975.94			
477	Latur	Devani	Total	3259.86	1911.34	64.60	1975.94	140.65	1212.95	60.61
478	Latur	Jalkot	Command							
479	Latur	Jalkot	Non Command	3257.91	1496.22	36.29	1532.51			
480	Latur	Jalkot	Total	3257.91	1496.22	36.29	1532.51	96.41	1494.10	47.04
481	Latur	Latur	Command	3028.46	4379.94	108.55	4488.49			
482	Latur	Latur	Non Command	17624.22	14258.60	226.30	14484.90			
483	Latur	Latur	Total	20652.68	18638.54	334.85	18973.39	594.72	2262.81	91.87
484	Latur	Nilanga	Command	1197.68	1633.08	68.53	1701.61			
485	Latur	Nilanga	Non Command	18679.66	15809.03	353.55	16162.58			
486	Latur	Nilanga	Total	19877.34	17442.11	422.08	17864.19	715.67	2987.18	89.87
487	Latur	Renapur	Command	1484.15	2037.53	30.75	2068.28			
488	Latur	Renapur	Non Command	6587.21	5011.00	104.03	5115.03			
489	Latur	Renapur	Total	8071.37	7048.53	134.78	7183.31	220.38	1075.43	89.00
490	Latur	Udgir	Command	1058.38	989.40	64.87	1054.27			
491	Latur	Udgir	Non Command	10712.65	6388.48	156.23	6544.71			
492	Latur	Udgir	Total	11771.03	7377.88	221.10	7598.98	393.78	4309.31	64.56
493	Nagpur	Bhiwapur	Command	470.77	361.63	62.51	424.13			
494	Nagpur	Bhiwapur	Non Command	4020.20	780.09	336.10	1116.19			
495	Nagpur	Bhiwapur	Total	4490.97	1141.72	398.61	1540.32	779.27	2618.50	34.30
496	Nagpur	Hingana	Command	722.47	342.56	34.14	376.70			
497	Nagpur	Hingana	Non Command	7926.43	1759.09	404.21	2163.30			
498	Nagpur	Hingana	Total	8648.90	2101.65	438.35	2540.00	961.18	5530.46	29.37
499	Nagpur	Kalameshwar	Command	448.59	652.15	18.44	670.59			
500	Nagpur	Kalameshwar	Non Command	6798.63	3628.95	306.06	3935.01			
501	Nagpur	Kalameshwar	Total	7247.22	4281.11	324.50	4605.60	685.23	2130.10	63.55
502	Nagpur	Kamtee	Command	6390.43	1438.97	357.34	1796.31			
503	Nagpur	Kamtee	Non Command	616.51	190.09	64.46	254.55			
504	Nagpur	Kamtee	Total	7006.93	1629.06	421.80	2050.86	849.54	4438.58	29.27
505	Nagpur	Katol	Command	1314.62	1171.71	50.99	1222.69			
506	Nagpur	Katol	Non Command	7824.23	4933.80	463.68	5397.49			
507	Nagpur	Katol	Total	9138.85	6105.51	514.67	6620.18	1004.01	2190.20	72.44

Annexure III D-2 (contd...)

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
508	Nagpur	Kuhi	Command	447.51	127.38	29.53	156.91			
509	Nagpur	Kuhi	Non Command	7062.79	1840.83	494.09	2334.92			
510	Nagpur	Kuhi	Total	7510.30	1968.21	523.62	2491.83	1075.00	4444.01	33.18
511	Nagpur	Mouda	Command	13740.20	1180.47	372.88	1553.35			
512	Nagpur	Mouda	Non Command	389.57	155.06	44.86	199.92			
513	Nagpur	Mouda	Total	14129.77	1335.53	417.74	1753.27	835.49	11958.73	12.41
514	Nagpur	Nagpur	Command	246.37	32.29	10.25	42.54			
515	Nagpur	Nagpur	Non Command	6252.49	1587.56	396.58	1984.14			
516	Nagpur	Nagpur	Total	6498.86	1619.85	406.83	2026.67	878.77	3928.23	31.19
517	Nagpur	Narkhed	Command	1742.28	1045.85	33.48	1079.32			
518	Nagpur	Narkhed	Non Command	7861.53	5251.33	874.99	6126.32			
519	Nagpur	Narkhed	Total	9603.81	6297.18	908.46	7205.64	1612.43	1844.15	75.03
520	Nagpur	Parshioni	Command	7185.61	590.31	220.99	811.30			
521	Nagpur	Parshioni	Non Command	1435.09	433.70	75.81	509.50			
522	Nagpur	Parshioni	Total	8620.70	1024.00	296.80	1320.80	591.52	6947.73	15.32
523	Nagpur	Ramtek	Command	2635.83	219.13	136.17	355.30			
524	Nagpur	Ramtek	Non Command	4067.80	428.44	453.01	881.46			
525	Nagpur	Ramtek	Total	6703.63	647.57	589.18	1236.76	1180.66	4929.37	18.45
526	Nagpur	Saoner	Command	2969.64	2044.25	66.16	2110.41			
527	Nagpur	Saoner	Non Command	3175.07	2099.94	275.47	2375.42			
528	Nagpur	Saoner	Total	6144.71	4144.20	341.63	4485.83	726.47	1254.41	73.00
529	Nagpur	Umred	Command	1434.75	639.17	263.02	902.20			
530	Nagpur	Umred	Non Command	8633.20	1424.83	575.67	2000.50			
531	Nagpur	Umred	Total	10067.95	2064.01	838.69	2902.70	1464.65	6594.31	28.83
532	Nanded	Ardhapur	Command	2828.56	1391.74	44.29	1436.03			
533	Nanded	Ardhapur	Non Command	1681.59	1496.71	31.28	1527.99			
534	Nanded	Ardhapur	Total	4510.15	2888.45	75.57	2964.02	149.93	1588.06	65.72
535	Nanded	Bhokar	Command	1672.98	410.05	27.38	437.43			
536	Nanded	Bhokar	Non Command	7413.61	2181.53	59.99	2241.52			
537	Nanded	Bhokar	Total	9086.59	2591.58	87.37	2678.95	176.01	6319.04	29.48
538	Nanded	Biloli	Command	1262.59	99.71	50.83	150.54			
539	Nanded	Biloli	Non Command	6239.30	1392.31	58.14	1450.45			
540	Nanded	Biloli	Total	7501.89	1492.01	108.97	1600.98	242.47	6071.38	21.34
541	Nanded	Degloor	Command	678.62	126.20	94.61	220.81			

Annexure III D-2 (contd...)

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
542	Nanded	Degloor	Non Command	7129.80	1464.34	209.78	1674.11			
543	Nanded	Degloor	Total	7808.42	1590.54	304.39	1894.93	611.51	5608.72	24.27
544	Nanded	Dharmabad	Command	103.05	12.53	3.29	15.82			
545	Nanded	Dharmabad	Non Command	3454.99	709.49	49.68	759.17			
546	Nanded	Dharmabad	Total	3558.03	722.03	52.97	774.99	121.52	2742.75	21.78
547	Nanded	Hadgaon	Command	4081.57	968.26	126.31	1094.57			
548	Nanded	Hadgaon	Non Command	11051.95	4073.26	87.54	4160.80			
549	Nanded	Hadgaon	Total	15133.52	5041.52	213.85	5255.38	428.37	9745.05	34.73
550	Nanded	Himataytnahar	Command	488.78	125.74	12.42	138.15			
551	Nanded	Himataytnahar	Non Command	5923.41	2297.51	54.35	2351.86			
552	Nanded	Himataytnahar	Total	6412.18	2423.25	66.76	2490.01	151.57	3859.74	38.83
553	Nanded	Kandhar	Command	2127.85	333.52	78.78	412.30			
554	Nanded	Kandhar	Non Command	10337.70	2442.33	125.32	2567.65			
555	Nanded	Kandhar	Total	12465.55	2775.85	204.10	2979.95	400.98	9291.29	23.91
556	Nanded	Kinwat	Command	1920.93	402.94	72.45	475.39			
557	Nanded	Kinwat	Non Command	16441.04	2743.24	197.71	2940.95			
558	Nanded	Kinwat	Total	18361.97	3146.18	270.16	3416.34	537.83	14682.28	18.61
559	Nanded	Loha	Command	2062.04	574.98	63.21	638.18			
560	Nanded	Loha	Non Command	10743.32	3898.00	160.75	4058.75			
561	Nanded	Loha	Total	12805.36	4472.97	223.95	4696.93	447.64	7909.71	36.68
562	Nanded	Mahur	Command	279.51	80.16	40.38	120.54			
563	Nanded	Mahur	Non Command	5730.48	1397.59	85.26	1482.85			
564	Nanded	Mahur	Total	6010.00	1477.75	125.64	1603.39	235.90	4277.91	26.68
565	Nanded	Mudkhed	Command	1925.53	1302.04	45.67	1347.71			
566	Nanded	Mudkhed	Non Command	2593.29	1424.47	21.25	1445.72			
567	Nanded	Mudkhed	Total	4518.82	2726.51	66.92	2793.43	131.90	1615.04	61.82
568	Nanded	Mukhed	Command	1492.14	231.10	64.81	295.91			
569	Nanded	Mukhed	Non Command	9932.55	2155.82	222.30	2378.12			
570	Nanded	Mukhed	Total	11424.68	2386.93	287.11	2674.04	578.23	8489.29	23.41
571	Nanded	Naigaon	Command	3055.10	319.89	73.49	393.38			
572	Nanded	Naigaon	Non Command	4600.45	1250.48	52.39	1302.87			
573	Nanded	Naigaon	Total	7655.55	1570.37	125.88	1696.25	231.82	5588.56	22.16
574	Nanded	Nanded	Command	3751.99	1164.97	177.44	1342.41			
575	Nanded	Nanded	Non Command	2787.94	1440.84	163.54	1604.38			

Annexure III D-2 (contd...)

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
576	Nanded	Nanded	Total	6539.92	2605.81	340.98	2946.79	681.18	3005.53	45.06
577	Nanded	Umari	Command	712.66	175.22	37.10	212.32			
578	Nanded	Umari	Non Command	4187.23	1094.41	63.19	1157.60			
579	Nanded	Umari	Total	4899.90	1269.63	100.29	1369.91	182.95	3407.02	27.96
580	Nandurbar	Akkalkuva	Command	270.32	81.00	36.61	117.61			
581	Nandurbar	Akkalkuva	Non Command	6849.79	964.60	336.37	1300.97			
582	Nandurbar	Akkalkuva	Total	7120.11	1045.60	372.98	1418.58	745.96	5328.56	19.92
583	Nandurbar	Akrani	Command							
584	Nandurbar	Akrani	Non Command	7862.88	660.76	292.80	953.56			
585	Nandurbar	Akrani	Total	7862.88	660.76	292.80	953.56	599.21	6615.56	12.13
586	Nandurbar	Nandurbar	Command	1860.62	450.18	63.09	513.27			
587	Nandurbar	Nandurbar	Non Command	14269.26	9519.70	340.63	9860.33			
588	Nandurbar	Nandurbar	Total	16129.88	9969.88	403.72	10373.59	822.70	5417.06	64.31
589	Nandurbar	Nawapur	Command	5160.26	739.93	131.91	871.84			
590	Nandurbar	Nawapur	Non Command	17325.88	4536.77	382.39	4919.15			
591	Nandurbar	Nawapur	Total	22486.14	5276.70	514.30	5791.00	1013.34	16116.34	25.75
592	Nandurbar	Shahada	Command	1095.12	559.33	171.58	730.91			
593	Nandurbar	Shahada	Non Command	12747.45	5672.92	357.90	6030.82			
594	Nandurbar	Shahada	Total	13842.57	6232.26	529.48	6761.73	1093.72	6548.91	48.85
595	Nandurbar	Taloda	Command	938.57	350.28	77.98	428.26			
596	Nandurbar	Taloda	Non Command	4280.05	1372.97	181.41	1554.38			
597	Nandurbar	Taloda	Total	5218.62	1723.25	259.39	1982.64	470.41	2980.00	37.99
598	Nashik	Baglan Satana	Command	4122.74	1151.40	65.17	1216.58			
599	Nashik	Baglan Satana	Non Command	11143.56	8629.32	197.17	8826.48			
600	Nashik	Baglan Satana	Total	15266.30	9780.72	262.34	10043.06	529.67	5220.16	65.79
601	Nashik	Chandwad	Command	1792.77	1366.43	37.21	1403.64			
602	Nashik	Chandwad	Non Command	7987.66	7172.66	145.38	7318.04			
603	Nashik	Chandwad	Total	9780.43	8539.09	182.59	8721.68	421.64	1739.26	89.17
604	Nashik	Deola	Command	1012.32	551.86	25.68	577.54			
605	Nashik	Deola	Non Command	4513.23	4607.10	92.58	4699.68			
606	Nashik	Deola	Total	5525.55	5158.96	118.26	5277.22	195.08	631.56	95.51
607	Nashik	Dindori	Command	4954.73	1196.56	57.90	1254.46			
608	Nashik	Dindori	Non Command	9309.83	4700.60	196.86	4897.46			
609	Nashik	Dindori	Total	14264.56	5897.16	254.76	6151.92	537.39	8414.74	43.13

Annexure III D-2 (contd...)

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

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Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
610	Nashik	Igatpuri	Command	1934.09	13.90	9.74	23.63			
611	Nashik	Igatpuri	Non Command	20091.07	1931.20	187.22	2118.42			
612	Nashik	Igatpuri	Total	22025.16	1945.10	196.96	2142.06	406.72	19796.60	9.73
613	Nashik	Kalwan	Command	386.63	54.14	23.48	77.61			
614	Nashik	Kalwan	Non Command	6832.20	4301.56	151.03	4452.60			
615	Nashik	Kalwan	Total	7218.84	4355.70	174.51	4530.21	338.50	2498.48	62.76
616	Nashik	Malegaon	Command	5734.77	2097.78	121.39	2219.16			
617	Nashik	Malegaon	Non Command	12452.46	8417.38	239.35	8656.73			
618	Nashik	Malegaon	Total	18187.24	10515.16	360.74	10875.90	684.21	6458.88	59.80
619	Nashik	Nandgaon	Command	309.19	66.20	13.02	79.22			
620	Nashik	Nandgaon	Non Command	10839.77	4792.38	218.97	5011.35			
621	Nashik	Nandgaon	Total	11148.96	4858.58	231.99	5090.57	460.30	5809.10	45.66
622	Nashik	Nasik	Command	15056.16	2688.30	110.00	2798.30			
623	Nashik	Nasik	Non Command	4787.84	4814.63	86.59	4901.22			
624	Nashik	Nasik	Total	19844.00	7502.93	196.59	7699.52	333.32	8904.16	38.80
625	Nashik	Niphad	Command	10987.08	7026.96	165.67	7192.63			
626	Nashik	Niphad	Non Command	8124.29	8643.81	209.54	8853.35			
627	Nashik	Niphad	Total	19111.37	15670.77	375.21	16045.98	590.61	1737.62	83.96
628	Nashik	Peth	Command	897.21	13.26	11.73	25.00			
629	Nashik	Peth	Non Command	10106.57	207.81	163.73	371.55			
630	Nashik	Peth	Total	11003.77	221.08	175.47	396.55	348.06	10321.01	3.60
631	Nashik	Sinnar	Command	2725.88	384.56	40.24	424.80			
632	Nashik	Sinnar	Non Command	13091.93	14936.35	254.96	15191.31			
633	Nashik	Sinnar	Total	15817.81	15320.91	295.21	15616.11	453.12	2130.07	98.72
634	Nashik	Surgana	Command	131.97	6.85	5.82	12.66			
635	Nashik	Surgana	Non Command	13270.95	737.52	203.76	941.28			
636	Nashik	Surgana	Total	13402.92	744.37	209.57	953.94	430.74	12261.62	7.12
637	Nashik	Trambakeshwar	Command	98.17	7.21	0.91	8.12			
638	Nashik	Trambakeshwar	Non Command	13391.85	851.50	223.77	1075.27			
639	Nashik	Trambakeshwar	Total	13490.02	858.70	224.68	1083.39	451.07	15627.33	8.03
640	Nashik	Yeola	Command	3648.25	1560.56	101.64	1662.20			
641	Nashik	Yeola	Non Command	8688.07	6368.07	158.01	6526.08			
642	Nashik	Yeola	Total	12336.32	7928.63	259.66	8188.29	489.44	3528.94	66.38
643	Osmanabad	Bhoom	Command	682.33	174.19	11.62	185.81			

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
644	Osmanabad	Bhoom	Non Command	5490.59	2617.73	89.36	2707.10			
645	Osmanabad	Bhoom	Total	6172.91	2791.92	100.98	2892.91	203.93	3205.53	46.86
646	Osmanabad	Kalamb	Command	1275.07	109.86	10.75	120.60			
647	Osmanabad	Kalamb	Non Command	13772.13	11358.87	288.70	11647.57			
648	Osmanabad	Kalamb	Total	15047.20	11468.73	299.44	11768.17	584.39	3077.70	78.21
649	Osmanabad	Lohara	Command	715.70	202.40	17.35	219.76			
650	Osmanabad	Lohara	Non Command	8206.22	6099.39	132.02	6231.40			
651	Osmanabad	Lohara	Total	8921.91	6301.79	149.37	6451.16	299.67	2326.92	72.31
652	Osmanabad	Omerga	Command	1373.28	482.21	29.77	511.98			
653	Osmanabad	Omerga	Non Command	14615.82	11210.45	250.24	11460.69			
654	Osmanabad	Omerga	Total	15989.09	11692.66	280.01	11972.67	532.51	3815.22	74.88
655	Osmanabad	Osmanabad	Command	1725.75	589.99	42.40	632.38			
656	Osmanabad	Osmanabad	Non Command	18392.12	15937.67	294.74	16232.41			
657	Osmanabad	Osmanabad	Total	20117.87	16527.66	337.14	16864.79	634.65	2935.35	83.83
658	Osmanabad	Paranda	Command	1824.92	427.93	21.44	449.37			
659	Osmanabad	Paranda	Non Command	11507.48	5681.80	175.89	5857.69			
660	Osmanabad	Paranda	Total	13332.40	6109.73	197.34	6307.06	392.39	6791.90	47.31
661	Osmanabad	Tuljapur	Command	1919.86	456.02	56.45	512.46			
662	Osmanabad	Tuljapur	Non Command	20315.04	10267.51	321.36	10588.87			
663	Osmanabad	Tuljapur	Total	22234.90	10723.52	377.81	11101.33	752.07	10738.43	49.93
664	Osmanabad	Washi	Command	639.65	118.12	13.60	131.72			
665	Osmanabad	Washi	Non Command	8593.83	6095.65	136.57	6232.21			
666	Osmanabad	Washi	Total	9233.49	6213.76	150.17	6363.93	300.64	2728.91	68.92
667	Parbhani	Gangakhed	Command	4623.38	415.99	55.79	471.79			
668	Parbhani	Gangakhed	Non Command	3358.24	1185.14	94.38	1279.52			
669	Parbhani	Gangakhed	Total	7981.62	1601.14	150.17	1751.31	312.62	5780.09	21.94
670	Parbhani	Jintur	Command	8003.40	1938.71	55.38	1994.09			
671	Parbhani	Jintur	Non Command	11082.94	4368.68	157.53	4526.21			
672	Parbhani	Jintur	Total	19086.35	6307.39	212.91	6520.30	399.12	12114.51	34.16
673	Parbhani	Manwat	Command	2892.06	1403.78	49.61	1453.39			
674	Parbhani	Manwat	Non Command	3356.66	1293.25	50.51	1343.76			
675	Parbhani	Manwat	Total	6248.72	2697.03	100.11	2797.15	198.42	3161.48	44.76
676	Parbhani	Palam	Command	767.93	125.55	7.45	133.00			
677	Parbhani	Palam	Non Command	4973.57	1468.34	81.27	1549.61			

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
678	Parbhani	Palam	Total	5741.50	1593.89	88.72	1682.61	182.01	4518.72	29.31
679	Parbhani	Parbhani	Command	11065.12	3060.89	151.69	3212.58			
680	Parbhani	Parbhani	Non Command	5835.93	2254.18	114.53	2368.71			
681	Parbhani	Parbhani	Total	16901.05	5315.07	266.22	5581.29	521.39	11257.80	33.02
682	Parbhani	Pathari	Command	6973.41	3281.79	144.79	3426.58			
683	Parbhani	Pathari	Non Command	992.27	324.33	18.55	342.88			
684	Parbhani	Pathari	Total	7965.68	3606.11	163.35	3769.46	314.94	4091.16	47.32
685	Parbhani	Purna	Command	12642.52	3065.71	167.03	3232.74			
686	Parbhani	Purna	Non Command							
687	Parbhani	Purna	Total	12642.52	3065.71	167.03	3232.74	336.97	9043.14	25.57
688	Parbhani	Selu	Command	118.85	28.83	1.08	29.91			
689	Parbhani	Selu	Non Command	8036.86	3151.00	129.47	3280.47			
690	Parbhani	Selu	Total	8155.71	3179.83	130.55	3310.38	274.74	4901.36	40.59
691	Parbhani	Sonpepth	Command	1273.86	211.97	22.32	234.29			
692	Parbhani	Sonpepth	Non Command	2270.16	466.23	44.43	510.66			
693	Parbhani	Sonpepth	Total	3544.01	678.20	66.75	744.95	132.45	2681.87	21.02
694	Pune	Ambegaon	Command	3046.78	2416.04	144.30	2560.34			
695	Pune	Ambegaon	Non Command	8242.47	5815.90	302.53	6118.43			
696	Pune	Ambegaon	Total	11289.25	8231.94	446.82	8678.77	877.08	2141.02	76.88
697	Pune	Baramati	Command	8862.09	8770.21	224.19	8994.40			
698	Pune	Baramati	Non Command	10187.18	9077.53	240.80	9318.33			
699	Pune	Baramati	Total	19049.27	17847.74	464.99	18312.73	830.22	1451.31	96.13
700	Pune	Bhor	Command	408.94	12.30	24.32	36.61			
701	Pune	Bhor	Non Command	3362.56	1247.19	237.87	1485.06			
702	Pune	Bhor	Total	3771.51	1259.48	262.19	1521.67	520.43	1991.58	40.35
703	Pune	Daund	Command	8060.17	6564.57	233.52	6798.09			
704	Pune	Daund	Non Command	5809.98	4344.62	146.37	4491.00			
705	Pune	Daund	Total	13870.15	10909.19	379.89	11289.09	762.69	2191.37	81.39
706	Pune	Haveli	Command	2451.45	1735.72	180.54	1916.26			
707	Pune	Haveli	Non Command	9395.73	4209.91	377.79	4587.70			
708	Pune	Haveli	Total	11847.18	5945.63	558.32	6503.96	1119.20	4814.85	54.90
709	Pune	Indapur	Command	20278.59	14603.56	1101.53	15705.09			
710	Pune	Indapur	Non Command	4540.41	6215.21	100.35	6315.56			
711	Pune	Indapur	Total	24819.00	20818.77	1201.88	22020.65	1879.84	5113.22	88.72

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

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Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
712	Pune	Junnar	Command	4827.18	3632.67	150.02	3782.70			
713	Pune	Junnar	Non Command	10913.13	9604.39	398.13	10002.52			
714	Pune	Junnar	Total	15740.31	13237.06	548.16	13785.22	883.57	2321.51	87.58
715	Pune	Khed	Command	2096.35	1966.03	231.74	2197.78			
716	Pune	Khed	Non Command	12043.61	6387.02	789.68	7176.70			
717	Pune	Khed	Total	14139.97	8353.05	1021.43	9374.48	1944.64	3751.07	66.30
718	Pune	Maval	Command	430.24	44.93	28.37	73.30			
719	Pune	Maval	Non Command	8257.50	746.63	353.66	1100.29			
720	Pune	Maval	Total	8687.74	791.56	382.03	1173.58	762.70	7120.06	13.51
721	Pune	Mulshi	Command	629.29	150.42	22.97	173.39			
722	Pune	Mulshi	Non Command	7333.36	488.22	376.62	864.84			
723	Pune	Mulshi	Total	7962.64	638.64	399.58	1038.23	799.17	6524.84	13.04
724	Pune	Purandhar	Command	1652.03	176.88	26.44	203.32			
725	Pune	Purandhar	Non Command	11923.08	10886.49	307.06	11193.55			
726	Pune	Purandhar	Total	13575.11	11063.37	333.50	11396.87	579.31	2024.59	83.95
727	Pune	Shirur	Command	7979.28	6543.07	435.05	6978.12			
728	Pune	Shirur	Non Command	8700.60	6032.43	507.35	6539.78			
729	Pune	Shirur	Total	16679.89	12575.51	942.40	13517.91	1570.36	2745.31	81.04
730	Pune	Velhe	Command	62.88	2.51	3.74	6.25			
731	Pune	Velhe	Non Command	4789.16	167.22	122.22	289.44			
732	Pune	Velhe	Total	4852.04	169.73	125.96	295.69	233.43	4430.52	6.09
733	Raigad	Alibag	Command	84.61	4.31	2.04	6.35			
734	Raigad	Alibag	Non Command	3105.14	613.36	431.78	1045.15			
735	Raigad	Alibag	Total	3189.75	617.67	433.83	1051.50	867.66	1704.43	32.97
736	Raigad	Karjat	Command	621.12	52.92	4.92	57.84			
737	Raigad	Karjat	Non Command	5993.57	212.85	140.81	353.66			
738	Raigad	Karjat	Total	6614.70	265.77	145.73	411.50	291.46	6057.47	6.22
739	Raigad	Khalapur	Command	211.19	13.25	14.86	28.11			
740	Raigad	Khalapur	Non Command	4568.26	234.90	144.91	379.82			
741	Raigad	Khalapur	Total	4779.45	248.15	159.78	407.93	319.58	4211.83	8.54
742	Raigad	Mahad	Command	194.04	41.48	8.97	50.45			
743	Raigad	Mahad	Non Command	4216.09	258.61	146.83	405.44			
744	Raigad	Mahad	Total	4410.13	300.09	155.80	455.89	311.58	3798.41	10.34
745	Raigad	Mangaon	Command	893.85	14.31	3.08	17.39			

Annexure III D-2 (contd...)

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

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Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
746	Raigad	Mangaon	Non Command	7212.74	222.31	175.16	397.47			
747	Raigad	Mangaon	Total	8106.59	236.62	178.24	414.86	352.58	7519.03	5.12
748	Raigad	Mhasala	Command	58.64	11.08	3.58	14.66			
749	Raigad	Mhasala	Non Command	1876.09	406.23	63.00	469.23			
750	Raigad	Mhasala	Total	1934.73	417.31	66.58	483.89	133.71	1385.06	25.01
751	Raigad	Murud	Command	86.25	11.64	1.47	13.10			
752	Raigad	Murud	Non Command	1930.33	215.21	44.14	259.35			
753	Raigad	Murud	Total	2016.57	226.85	45.61	272.45	91.80	1699.35	13.51
754	Raigad	Panvel	Command	98.35	27.20	8.06	35.25			
755	Raigad	Panvel	Non Command	5000.38	797.64	351.36	1149.01			
756	Raigad	Panvel	Total	5098.74	824.84	359.42	1184.26	718.83	3555.03	23.23
757	Raigad	Pen	Command	130.83	5.88	7.50	13.38			
758	Raigad	Pen	Non Command	3135.39	163.89	91.06	254.95			
759	Raigad	Pen	Total	3266.22	169.77	98.56	268.33	197.13	2899.36	8.22
760	Raigad	Poladpur	Command	32.50	14.76	2.66	17.43			
761	Raigad	Poladpur	Non Command	1889.50	51.79	79.02	130.81			
762	Raigad	Poladpur	Total	1922.00	66.56	81.68	148.24	163.37	1692.07	7.71
763	Raigad	Roha	Command	411.23	25.59	4.94	30.53			
764	Raigad	Roha	Non Command	5965.36	333.35	123.89	457.25			
765	Raigad	Roha	Total	6376.60	358.95	128.84	487.78	257.88	5760.29	7.65
766	Raigad	Shriwardhan	Command	46.52	7.87	3.73	11.60			
767	Raigad	Shriwardhan	Non Command	1368.52	367.46	52.81	420.27			
768	Raigad	Shriwardhan	Total	1415.04	375.34	56.54	431.87	113.09	926.64	30.52
769	Raigad	Sudhagad	Command	164.62	5.99	5.72	11.71			
770	Raigad	Sudhagad	Non Command	3580.64	179.88	93.48	273.36			
771	Raigad	Sudhagad	Total	3745.26	185.87	99.20	285.07	198.39	3360.95	7.61
772	Raigad	Tala	Command	120.82	10.55	1.71	12.26			
773	Raigad	Tala	Non Command	1208.67	172.59	32.97	205.55			
774	Raigad	Tala	Total	1329.49	183.14	34.67	217.81	71.90	1069.51	16.38
775	Raigad	Uran	Command	23.14	1.70	1.73	3.43			
776	Raigad	Uran	Non Command	1948.88	175.35	47.87	223.22			
777	Raigad	Uran	Total	1972.02	177.04	49.61	226.65	99.21	1695.75	11.49
778	Ratnagiri	Chiplun	Command	185.99	47.95	16.78	64.73			
779	Ratnagiri	Chiplun	Non Command	7089.01	357.74	135.67	493.41			

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(in ham)

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1		2	3	10	11	12	13	14	15	16
780	Ratnagiri	Chiplun	Total	7274.99	405.69	152.44	558.14	298.04	6572.20	7.67
781	Ratnagiri	Dapoli	Command	59.52		2.30				
782	Ratnagiri	Dapoli	Non Command	3710.10	587.46	108.45	695.91			
783	Ratnagiri	Dapoli	Total	3769.62	587.46	110.75	698.21	221.24	2958.84	18.52
784	Ratnagiri	Guhagar	Command							
785	Ratnagiri	Guhagar	Non Command	4748.41	801.74	131.51	933.25			
786	Ratnagiri	Guhagar	Total	4748.41	801.74	131.51	933.25	263.02	3683.65	19.65
787	Ratnagiri	Khed	Command	267.18	3.25	10.47	13.72			
788	Ratnagiri	Khed	Non Command	6327.84	327.36	123.20	450.56			
789	Ratnagiri	Khed	Total	6595.01	330.61	133.67	464.28	275.02	5999.33	7.04
790	Ratnagiri	Lanja	Command	177.54		14.35				
791	Ratnagiri	Lanja	Non Command	3595.37	261.25	113.95	375.20			
792	Ratnagiri	Lanja	Total	3772.91	261.25	128.30	389.55	249.27	3212.12	10.32
793	Ratnagiri	Mandangad	Command							
794	Ratnagiri	Mandangad	Non Command	2690.63	160.54	69.99	230.53			
795	Ratnagiri	Mandangad	Total	2690.63	160.54	69.99	230.53	139.98	2390.10	8.57
796	Ratnagiri	Rajapur	Command	119.93		12.90				
797	Ratnagiri	Rajapur	Non Command	6542.85	419.19	180.48	599.67			
798	Ratnagiri	Rajapur	Total	6662.78	419.19	193.38	612.57	389.68	5854.83	9.19
799	Ratnagiri	Ratnagiri	Command							
800	Ratnagiri	Ratnagiri	Non Command	4790.47	761.96	151.45	913.41			
801	Ratnagiri	Ratnagiri	Total	4790.47	761.96	151.45	913.41	307.27	3756.37	19.07
802	Ratnagiri	Sangameshwar	Command	103.54	27.41	8.16	35.57			
803	Ratnagiri	Sangameshwar	Non Command	6196.71	274.83	139.12	413.95			
804	Ratnagiri	Sangameshwar	Total	6300.25	302.25	147.28	449.52	294.03	5709.39	7.14
805	Sangli	Atpadi	Command	1172.02	603.28	51.98	655.26			
806	Sangli	Atpadi	Non Command	6469.02	4905.89	98.41	5004.30			
807	Sangli	Atpadi	Total	7641.04	5509.17	150.39	5659.56	297.88	1830.96	74.07
808	Sangli	Jat	Command	396.32	124.29	96.85	221.13			
809	Sangli	Jat	Non Command	23744.71	15813.62	497.67	16311.29			
810	Sangli	Jat	Total	24141.04	15937.90	594.52	16532.42	1098.57	7605.10	68.48
811	Sangli	Kadegaon	Command	2890.39	1503.01	171.72	1674.72			
812	Sangli	Kadegaon	Non Command	4576.14	3427.84	78.03	3505.86			
813	Sangli	Kadegaon	Total	7466.53	4930.84	249.75	5180.59	446.05	1950.32	69.38

Annexure III D-2 (contd...)

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

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(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
814	Sangli	Kavathe Mahankal	Command	1096.43	1975.71	137.41	2113.12			
815	Sangli	Kavathe Mahankal	Non Command	7408.04	5537.06	319.82	5856.87			
816	Sangli	Kavathe Mahankal	Total	8504.48	7512.77	457.23	7969.99	620.69	1153.18	93.72
817	Sangli	Khanapur	Command	959.55	730.74	87.27	818.02			
818	Sangli	Khanapur	Non Command	4148.73	3640.03	101.63	3741.66			
819	Sangli	Khanapur	Total	5108.28	4370.78	188.90	4559.68	334.35	402.47	89.26
820	Sangli	Miraj	Command	1932.98	697.07	165.57	862.64			
821	Sangli	Miraj	Non Command	8687.36	8611.95	89.42	8701.37			
822	Sangli	Miraj	Total	10620.34	9309.02	254.99	9564.01	403.36	1464.40	90.05
823	Sangli	Palus	Command	563.75	184.61	23.53	208.13			
824	Sangli	Palus	Non Command	2244.94	1966.79	66.70	2033.49			
825	Sangli	Palus	Total	2808.69	2151.40	90.23	2241.62	212.36	529.38	79.81
826	Sangli	Shirala	Command	236.38	52.89	81.55	134.45			
827	Sangli	Shirala	Non Command	5125.81	1742.57	200.65	1943.23			
828	Sangli	Shirala	Total	5362.18	1795.46	282.21	2077.67	538.88	2982.03	38.75
829	Sangli	Tasgaon	Command	3118.46	1738.64	118.29	1856.93			
830	Sangli	Tasgaon	Non Command	7868.09	7610.92	124.91	7735.83			
831	Sangli	Tasgaon	Total	10986.55	9349.56	243.20	9592.75	442.77	932.64	87.31
832	Sangli	Walwa	Command	181.29	65.52	9.12	74.63			
833	Sangli	Walwa	Non Command	6281.52	4620.85	282.21	4903.06			
834	Sangli	Walwa	Total	6462.82	4686.37	291.33	4977.70	612.14	1252.23	77.02
835	Satara	Jaoli	Command	133.54	58.74	6.36	65.09			
836	Satara	Jaoli	Non Command	4788.00	1149.68	260.05	1409.73			
837	Satara	Jaoli	Total	4921.54	1208.41	266.41	1474.82	573.68	3732.40	29.97
838	Satara	Karad	Command	1631.27	1610.51	185.06	1795.57			
839	Satara	Karad	Non Command	8619.90	4746.41	668.04	5414.45			
840	Satara	Karad	Total	10251.17	6356.92	853.09	7210.01	1706.19	2188.07	70.33
841	Satara	Khandala	Command	637.93	111.16	6.91	118.06			
842	Satara	Khandala	Non Command	5898.53	3144.27	162.40	3306.68			
843	Satara	Khandala	Total	6536.46	3255.43	169.31	3424.74	350.36	3243.53	52.39
844	Satara	Khatav	Command	531.58	300.76	87.68	388.44			
845	Satara	Khatav	Non Command	13897.85	10946.41	485.52	11431.93			
846	Satara	Khatav	Total	14429.43	11247.17	573.20	11820.37	1146.40	2035.86	81.92
847	Satara	Koregaon	Command	3657.03	2326.88	226.10	2552.98			

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1		2	3	10	11	12	13	14	15	16
848	Satara	Koregaon	Non Command	8061.15	5862.50	233.49	6095.99			
849	Satara	Koregaon	Total	11718.17	8189.38	459.59	8648.97	944.15	2671.76	73.81
850	Satara	Mahabaleshwar	Command							
851	Satara	Mahabaleshwar	Non Command	398.61	198.82	17.99	216.81			
852	Satara	Mahabaleshwar	Total	398.61	198.82	17.99	216.81	33.99	188.91	54.39
853	Satara	Man	Command	183.99	161.28	18.10	179.38			
854	Satara	Man	Non Command	19659.68	12625.11	521.53	13146.64			
855	Satara	Man	Total	19843.67	12786.39	539.63	13326.02	1094.77	5955.04	67.16
856	Satara	Patan	Command							
857	Satara	Patan	Non Command	2593.12	1113.24	343.43	1456.67			
858	Satara	Patan	Total	2593.12	1113.24	343.43	1456.67	686.86	793.02	56.17
859	Satara	Phaltan	Command	5642.69	4772.06	205.27	4977.33			
860	Satara	Phaltan	Non Command	9708.21	8011.62	268.09	8279.71			
861	Satara	Phaltan	Total	15350.90	12783.68	473.36	13257.04	919.47	1342.36	86.36
862	Satara	Satara	Command	5558.94	2866.19	309.59	3175.78			
863	Satara	Satara	Non Command	7426.91	3657.01	363.36	4020.37			
864	Satara	Satara	Total	12985.85	6523.20	672.95	7196.14	1227.29	4656.27	55.42
865	Satara	Wai	Command	2603.71	2121.85	141.86	2263.71			
866	Satara	Wai	Non Command	3951.47	2865.63	232.49	3098.13			
867	Satara	Wai	Total	6555.18	4987.48	374.36	5361.84	712.99	775.05	81.80
868	Sindhudurg	Devgad	Command							
869	Sindhudurg	Devgad	Non Command	3898.80	943.44	309.00	1252.44			
870	Sindhudurg	Devgad	Total	3898.80	943.44	309.00	1252.44	618.01	2337.35	32.12
871	Sindhudurg	Doudamarg	Command							
872	Sindhudurg	Doudamarg	Non Command	755.35	164.82	63.59	228.41			
873	Sindhudurg	Doudamarg	Total	755.35	164.82	63.59	228.41	127.45	466.62	30.24
874	Sindhudurg	Kankavali	Command	76.76		7.77				
875	Sindhudurg	Kankavali	Non Command	4939.47	911.91	286.32	1198.22			
876	Sindhudurg	Kankavali	Total	5016.23	911.91	294.09	1206.00	582.25	3497.02	24.04
877	Sindhudurg	Kudal	Command	550.78	56.01	18.76	74.77			
878	Sindhudurg	Kudal	Non Command	4913.95	1527.37	313.04	1840.41			
879	Sindhudurg	Kudal	Total	5464.73	1583.37	331.80	1915.17	661.13	3134.80	35.05
880	Sindhudurg	Malwan	Command	40.12	4.08	1.37	5.45			
881	Sindhudurg	Malwan	Non Command	4012.60	970.73	243.20	1213.93			

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
882	Sindhudurg	Malwan	Total	4052.71	974.81	244.56	1219.37	496.59	2671.03	30.09
883	Sindhudurg	Sawantwadi	Command	291.58	4.68	13.25	17.93			
884	Sindhudurg	Sawantwadi	Non Command	3072.04	193.10	291.40	484.50			
885	Sindhudurg	Sawantwadi	Total	3363.62	197.78	304.65	502.43	608.26	2543.66	14.94
886	Sindhudurg	Vaibhavwadi	Command							
887	Sindhudurg	Vaibhavwadi	Non Command	1676.95	258.58	141.00	399.58			
888	Sindhudurg	Vaibhavwadi	Total	1676.95	258.58	141.00	399.58	282.01	1136.36	23.83
889	Sindhudurg	Vengurla	Command							
890	Sindhudurg	Vengurla	Non Command	1967.67	402.55	136.89	539.45			
891	Sindhudurg	Vengurla	Total	1967.67	402.55	136.89	539.45	275.50	1320.76	27.42
892	Solapur	Akkalkot	Command							
893	Solapur	Akkalkot	Non Command	14783.17	7496.74	499.89	7996.63			
894	Solapur	Akkalkot	Total	14783.17	7496.74	499.89	7996.63	999.78	6286.65	54.09
895	Solapur	Barshi	Command							
896	Solapur	Barshi	Non Command	11600.15	8684.92	497.83	9182.74			
897	Solapur	Barshi	Total	11600.15	8684.92	497.83	9182.74	919.31	1995.93	79.16
898	Solapur	Karmala	Command	91.13	44.44	4.58	49.01			
899	Solapur	Karmala	Non Command	12562.05	9376.95	393.12	9770.08			
900	Solapur	Karmala	Total	12653.18	9421.39	397.70	9819.09	705.08	2703.97	77.60
901	Solapur	Madha	Command	1387.74	977.43	60.10	1037.52			
902	Solapur	Madha	Non Command	15906.65	12079.17	464.07	12543.24			
903	Solapur	Madha	Total	17294.39	13056.60	524.17	13580.76	887.71	4166.65	78.53
904	Solapur	Malshiras	Command	10942.74	7567.75	303.98	7871.72			
905	Solapur	Malshiras	Non Command	10198.77	13283.28	309.77	13593.05			
906	Solapur	Malshiras	Total	21141.50	20851.03	613.74	21464.77	890.63	2452.44	101.53
907	Solapur	Mangalwedha	Command	2103.14	1382.61	83.74	1466.35			
908	Solapur	Mangalwedha	Non Command	7346.01	6245.56	260.38	6505.94			
909	Solapur	Mangalwedha	Total	9449.14	7628.17	344.12	7972.29	654.35	1166.63	84.37
910	Solapur	Mohol	Command	3938.74	3056.56	168.17	3224.74			
911	Solapur	Mohol	Non Command	9423.90	8186.91	305.94	8492.85			
912	Solapur	Mohol	Total	13362.63	11243.48	474.11	11717.58	763.93	2227.92	87.69
913	Solapur	N.Solapur	Command	1153.32	1139.36	81.76	1221.12			
914	Solapur	N.Solapur	Non Command	5913.96	3184.89	129.15	3314.04			
915	Solapur	N.Solapur	Total	7067.28	4324.25	210.91	4535.16	418.39	2338.10	64.17

Annexure III D-2 (contd...)

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
916	Solapur	Pandharpur	Command	8354.78	5442.57	256.69	5699.26			
917	Solapur	Pandharpur	Non Command	6545.11	5633.19	126.30	5759.50			
918	Solapur	Pandharpur	Total	14899.90	11075.76	382.99	11458.76	707.31	3441.74	76.90
919	Solapur	S.Solapur	Command	1061.05	872.32	44.59	916.90			
920	Solapur	S.Solapur	Non Command	11420.54	6479.23	321.14	6800.37			
921	Solapur	S.Solapur	Total	12481.59	7351.55	365.73	7717.27	718.33	4480.43	61.83
922	Solapur	Sangola	Command	2097.97	1404.22	144.84	1549.06			
923	Solapur	Sangola	Non Command	13953.56	10487.57	480.60	10968.17			
924	Solapur	Sangola	Total	16051.53	11891.79	625.44	12517.23	1266.13	2897.93	77.98
925	Thane	Ambarnath	Command	211.99	1.75	3.02	4.77			
926	Thane	Ambarnath	Non Command	2539.19	151.28	33.91	185.19			
927	Thane	Ambarnath	Total	2751.18	153.03	36.93	189.96	73.54	2499.11	6.90
928	Thane	Bhivandi	Command	557.50	0.30	8.48	8.77			
929	Thane	Bhivandi	Non Command	4306.80	916.99	98.95	1015.94			
930	Thane	Bhivandi	Total	4864.30	917.28	107.43	1024.71	209.59	3549.18	21.07
931	Thane	Dahanu	Command	174.74	5.92	10.61	16.52			
932	Thane	Dahanu	Non Command	4121.86	1219.46	183.83	1403.29			
933	Thane	Dahanu	Total	4296.61	1225.38	194.44	1419.82	389.10	2683.99	33.05
934	Thane	Jawhar	Command	308.70	0.29	2.96	3.25			
935	Thane	Jawhar	Non Command	3045.41	103.05	61.03	164.09			
936	Thane	Jawhar	Total	3354.11	103.34	63.99	167.34	130.55	3386.30	4.99
937	Thane	Kalyan	Command							
938	Thane	Kalyan	Non Command	1236.11	68.95	26.57	95.52			
939	Thane	Kalyan	Total	1236.11	68.95	26.57	95.52	56.34	1414.62	7.73
940	Thane	Mokhada	Command	87.51		1.41				
941	Thane	Mokhada	Non Command	1542.09	47.63	57.66	105.28			
942	Thane	Mokhada	Total	1629.60	47.63	59.07	106.70	117.44	1464.21	6.55
943	Thane	Murbad	Command	470.60	15.39	11.49	26.87			
944	Thane	Murbad	Non Command	5192.75	147.37	107.43	254.80			
945	Thane	Murbad	Total	5663.35	162.76	118.92	281.68	235.42	5230.09	4.97
946	Thane	Palghar	Command	9983.98	364.60	42.33	406.94			
947	Thane	Palghar	Non Command	6018.61	1301.13	115.71	1416.83			
948	Thane	Palghar	Total	16002.60	1665.73	158.04	1823.77	305.07	13581.06	11.40
949	Thane	Shahapur	Command	3143.79	6.04	21.22	27.26			

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
950	Thane	Shahapur	Non Command	6511.77	212.77	138.31	351.08			
951	Thane	Shahapur	Total	9655.56	218.81	159.52	378.33	318.59	8874.99	3.92
952	Thane	Talasari	Command							
953	Thane	Talasari	Non Command	1691.75	273.75	58.01	331.76			
954	Thane	Talasari	Total	1691.75	273.75	58.01	331.76	116.89	1308.23	19.61
955	Thane	Thane	Command							
956	Thane	Thane	Non Command	2450.00	152.62	15.86	168.48			
957	Thane	Thane	Total	2450.00	152.62	15.86	168.48	31.72	2265.66	6.88
958	Thane	Ulhasnagar	Command							
959	Thane	Ulhasnagar	Non Command	89.24	16.77	2.08	18.85			
960	Thane	Ulhasnagar	Total	89.24	16.77	2.08	18.85	4.16	68.31	21.12
961	Thane	Vasai	Command							
962	Thane	Vasai	Non Command	3661.47	981.96	83.78	1065.74			
963	Thane	Vasai	Total	3661.47	981.96	83.78	1065.74	173.85	3100.85	29.11
964	Thane	Vikramgad	Command	1383.77	1.60	7.29	8.89			
965	Thane	Vikramgad	Non Command	3632.76	168.86	56.39	225.25			
966	Thane	Vikramgad	Total	5016.53	170.45	63.69	234.14	127.04	4639.83	4.67
967	Thane	Wada	Command	1150.84	29.93	8.70	38.63			
968	Thane	Wada	Non Command	3801.31	152.19	98.20	250.38			
969	Thane	Wada	Total	4952.15	182.11	106.90	289.01	221.16	4397.11	5.84
970	Wardha	Arvi	Command	6679.77	378.49	42.27	420.76			
971	Wardha	Arvi	Non Command	8371.23	3804.08	617.92	4422.00			
972	Wardha	Arvi	Total	15050.99	4182.57	660.20	4842.76	1178.12	12930.46	32.18
973	Wardha	Ashti	Command	15910.58	859.33	97.46	956.78			
974	Wardha	Ashti	Non Command	3088.38	1749.06	193.32	1942.38			
975	Wardha	Ashti	Total	18998.97	2608.39	290.77	2899.16	743.50	12543.59	15.26
976	Wardha	Deoli	Command							
977	Wardha	Deoli	Non Command	9169.93	2729.36	353.24	3082.60			
978	Wardha	Deoli	Total	9169.93	2729.36	353.24	3082.60	706.47	5734.10	33.62
979	Wardha	Hinganghat	Command	1806.49	522.43	58.24	580.67			
980	Wardha	Hinganghat	Non Command	10267.39	3132.17	554.40	3686.57			
981	Wardha	Hinganghat	Total	12073.88	3654.60	612.64	4267.24	1223.85	7189.43	35.34
982	Wardha	Karanja	Command	98.78	8.52	0.81	9.33			
983	Wardha	Karanja	Non Command	7304.07	4328.84	272.90	4601.74			

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
984	Wardha	Karanja	Total	7402.85	4337.36	273.72	4611.08	530.07	2953.07	62.29
985	Wardha	Samudrapur	Command	5856.67	952.49	113.71	1066.19			
986	Wardha	Samudrapur	Non Command	7592.40	2336.10	217.62	2553.73			
987	Wardha	Samudrapur	Total	13449.07	3288.59	331.33	3619.92	681.08	9413.63	26.92
988	Wardha	Seloo	Command	9987.54	1145.46	155.92	1301.37			
989	Wardha	Seloo	Non Command	3263.64	1874.38	272.01	2146.38			
990	Wardha	Seloo	Total	13251.17	3019.83	427.92	3447.76	842.49	9515.30	26.02
991	Wardha	Wardha	Command	3225.13	971.13	79.28	1050.41			
992	Wardha	Wardha	Non Command	9234.48	5017.92	544.55	5562.47			
993	Wardha	Wardha	Total	12459.62	5989.05	623.83	6612.88	1241.71	4619.86	53.07
994	Washim	Karanja	Command	1331.64	66.00	35.69	101.68			
995	Washim	Karanja	Non Command	7634.67	3455.08	321.93	3777.01			
996	Washim	Karanja	Total	8966.32	3521.08	357.61	3878.69	749.29	4891.74	43.26
997	Washim	Malegaon	Command	786.14	51.82	105.76	157.58			
998	Washim	Malegaon	Non Command	6651.77	2404.65	336.79	2741.44			
999	Washim	Malegaon	Total	7437.91	2456.47	442.55	2899.02	915.75	4446.95	38.98
1000	Washim	Mangrulpir	Command	1527.83	232.33	134.51	366.84			
1001	Washim	Mangrulpir	Non Command	7613.23	1914.49	162.40	2076.89			
1002	Washim	Mangrulpir	Total	9141.06	2146.82	296.91	2443.73	521.35	6174.23	26.73
1003	Washim	Manora	Command	1339.27	279.10	62.74	341.83			
1004	Washim	Manora	Non Command	7104.12	2176.96	144.01	2320.97			
1005	Washim	Manora	Total	8443.39	2456.06	206.75	2662.81	387.70	5561.07	31.54
1006	Washim	Risod	Command	1479.75	341.77	45.48	387.26			
1007	Washim	Risod	Non Command	10082.32	3750.71	242.80	3993.51			
1008	Washim	Risod	Total	11562.07	4092.49	288.28	4380.77	572.28	6553.17	37.89
1009	Washim	Washim	Command	1437.17	456.30	54.98	511.28			
1010	Washim	Washim	Non Command	8886.01	3039.45	207.41	3246.85			
1011	Washim	Washim	Total	10323.18	3495.75	262.39	3758.14	562.59	6369.14	36.40
1012	Yeotmal	Arni	Command	3248.96	867.45	104.92	972.38			
1013	Yeotmal	Arni	Non Command	5251.42	1696.18	212.61	1908.79			
1014	Yeotmal	Arni	Total	8500.38	2563.63	317.53	2881.16	652.53	5126.25	33.89
1015	Yeotmal	Babulgaon	Command	465.73	62.11	48.96	111.07			
1016	Yeotmal	Babulgaon	Non Command	6032.81	1718.93	532.55	2251.48			
1017	Yeotmal	Babulgaon	Total	6498.54	1781.04	581.51	2362.55	1130.59	3531.58	36.36

Annexure III D-2 (contd...)

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
1018	Yeotmal	Daravha	Command	1716.72	466.43	63.25	529.68			
1019	Yeotmal	Daravha	Non Command	7493.28	2841.12	435.43	3276.56			
1020	Yeotmal	Daravha	Total	9209.99	3307.55	498.68	3806.24	1002.74	4860.02	41.33
1021	Yeotmal	Digras	Command	1376.97	278.45	43.54	321.99			
1022	Yeotmal	Digras	Non Command	4631.50	2033.50	227.00	2260.50			
1023	Yeotmal	Digras	Total	6008.47	2311.95	270.54	2582.48	538.74	3294.83	42.98
1024	Yeotmal	Ghatanji	Command	1652.77	397.10	66.28	463.38			
1025	Yeotmal	Ghatanji	Non Command	6648.75	1152.07	261.78	1413.85			
1026	Yeotmal	Ghatanji	Total	8301.51	1549.17	328.06	1877.23	663.91	6084.11	22.61
1027	Yeotmal	Kalamb	Command	766.99	95.42	33.18	128.60			
1028	Yeotmal	Kalamb	Non Command	6515.33	1202.30	321.96	1524.26			
1029	Yeotmal	Kalamb	Total	7282.32	1297.72	355.14	1652.86	725.34	5290.78	22.70
1030	Yeotmal	Mahagaon	Command	1974.18	529.64	67.24	596.88			
1031	Yeotmal	Mahagaon	Non Command	7410.24	2566.62	293.37	2859.99			
1032	Yeotmal	Mahagaon	Total	9384.42	3096.26	360.61	3456.87	719.04	5534.93	36.84
1033	Yeotmal	Maregaon	Command	533.21	19.43	15.43	34.86			
1034	Yeotmal	Maregaon	Non Command	4476.29	728.29	138.28	866.57			
1035	Yeotmal	Maregaon	Total	5009.50	747.72	153.71	901.43	307.24	3885.69	17.99
1036	Yeotmal	Ner	Command	404.86	106.94	48.27	155.22			
1037	Yeotmal	Ner	Non Command	6586.83	1871.83	428.44	2300.27			
1038	Yeotmal	Ner	Total	6991.69	1978.77	476.72	2455.49	938.46	4116.51	35.12
1039	Yeotmal	Omarkhed	Command	3704.07	740.98	58.18	799.16			
1040	Yeotmal	Omarkhed	Non Command	11169.28	3675.77	284.34	3960.11			
1041	Yeotmal	Omarkhed	Total	14873.34	4416.75	342.52	4759.27	694.91	9719.75	32.00
1042	Yeotmal	Pandharkavada	Command	2041.92	479.80	44.36	524.16			
1043	Yeotmal	Pandharkavada	Non Command	6478.77	1175.05	169.11	1344.15			
1044	Yeotmal	Pandharkavada	Total	8520.69	1654.85	213.47	1868.32	429.73	6415.63	21.93
1045	Yeotmal	Pusad	Command	3875.03	2120.25	132.57	2252.82			
1046	Yeotmal	Pusad	Non Command	8708.06	3188.88	266.96	3455.84			
1047	Yeotmal	Pusad	Total	12583.09	5309.13	399.53	5708.65	786.01	6569.43	45.37
1048	Yeotmal	Ralegaon	Command	1102.25	197.46	34.06	231.52			
1049	Yeotmal	Ralegaon	Non Command	6877.47	1513.79	377.11	1890.90			
1050	Yeotmal	Ralegaon	Total	7979.72	1711.25	411.16	2122.41	815.75	5457.43	26.60
1051	Yeotmal	Wani	Command	523.97	35.81	21.48	57.29			

Annexure III D-2 (contd...)

ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA - 2008-2009

Unit-Taluka

(in ham)

Sr No.	District	Administrative Unit	Command / Non-Command / Total	Net Annual Ground Water Availability	Existing Gross Ground Water Draft for irrigation	Existing Gross Ground Water Draft for domestic and industrial water supply	Existing Gross Ground Water Draft for All uses (11+12)	Provision for domestic and industrial requirement supply to 2025	Net Ground Water Availability for future irrigation development (10-11-14)	Stage of Ground Water Development {13/10 * 100}%
1		2	3	10	11	12	13	14	15	16
1052	Yeotmal	Wani	Non Command	7527.84	651.34	258.16	909.51			
1053	Yeotmal	Wani	Total	8051.81	687.15	279.64	966.80	559.51	6861.53	12.01
1054	Yeotmal	Yeotmal	Command	2894.69	671.49	104.12	775.60			
1055	Yeotmal	Yeotmal	Non Command	7910.06	2579.13	441.54	3020.67			
1056	Yeotmal	Yeotmal	Total	10804.74	3250.62	545.66	3796.27	1102.47	6484.55	35.14
1057	Yeotmal	Zara Zamani	Command	188.95	10.72	9.50	20.22			
1058	Yeotmal	Zara Zamani	Non Command	5976.00	689.02	195.14	884.16			
1059	Yeotmal	Zara Zamani	Total	6164.95	699.74	204.64	904.38	411.27	5090.63	14.67
	Gross Total		Command	846900.55	341982.11	25067.54	367049.65	-	-	-
			Non Command	2533745.47	1249329.13	78521.54	1327850.67	-	-	-
			Total	3380646.02	1591311.23	103589.08	1694900.32	200423.64	1631858.97	50.14

Note: 0 in column no 15 implies negative value for net gw availability for future irrigation.

Annexure III F
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA
ADMINISTRATIVE UNIT-WISE CATEGORIZATION - 2008-2009

Unit-Taluka

Sr.No.	District	Administrative Unit	Stage of Ground Water Development %	Pre-monsoon		Post-monsoon		Category
				Water level Trend	Is there a significant decline	Water level Trend	Is there a significant decline	
1	2	3	4	5	6	7	8	9
1	Ahmednagar	Akola	78.04	-2.82	No	-22.23	No	Safe
2	Ahmednagar	Jamkhed	53.57	-9.52	No	-10.69	No	Safe
3	Ahmednagar	Karjat	64.88	-5.77	No	-3.97	No	Safe
4	Ahmednagar	Kopargaon	92.05	10.5	Yes	-14	No	Semi Critical
5	Ahmednagar	Nagar	87.08	10.45	Yes	-10.43	No	Semi Critical
6	Ahmednagar	Newasa	96.54	13.51	Yes	-8.97	No	Semi Critical
7	Ahmednagar	Parner	53.32	0.69	No	-12.2	No	Safe
8	Ahmednagar	Pathardi	60.2	-3.05	No	-8.01	No	Safe
9	Ahmednagar	Rahuri	87.46	8.35	No	-6.74	No	Safe
10	Ahmednagar	Rhata	107	16.02	Yes	-2.01	No	Over Exploited
11	Ahmednagar	Sangamner	96.18	13.19	Yes	-7.93	No	Semi Critical
12	Ahmednagar	Shevgaon	76.13	-9.25	No	-14.93	No	Safe
13	Ahmednagar	Shrigonda	74.05	5.04	No	-9.83	No	Safe
14	Ahmednagar	Shrirampur	88.71	15.47	Yes	-2.7	No	Semi Critical
15	Akola	Akola	24.78	-11.92	No	-12.3	No	Safe
16	Akola	Akot	58.06	-9.96	No	-19.82	No	Safe
17	Akola	Balapur	19.75	-1.16	No	-2.11	No	Safe
18	Akola	Barsi Takli	30.6	-5.29	No	-3.74	No	Safe
19	Akola	Murtizapur	44.54	-8.77	No	-9.99	No	Safe
20	Akola	Patur	26.3	-0.08	No	-1.1	No	Safe
21	Akola	Telhara	26.84	-27.1	No	-34.56	No	Safe
22	Amravati	Achlapur	99.35	15.43	Yes	8.31	No	Semi Critical
23	Amravati	Amravati	72.67	3.34	No	-0.88	No	Safe
24	Amravati	Anjangaon Surji	56.02	0.59	No	7.03	No	Safe
25	Amravati	Bhatkuli	51.97	4.18	No	-0.65	No	Safe
26	Amravati	Chandur Bazar	112.2	16	Yes	11.55	Yes	Over Exploited
27	Amravati	Chandur Railway	49.49	-2.19	No	-1.31	No	Safe
28	Amravati	Chikhaldara	56.39	1.55	No	-1.58	No	Safe
29	Amravati	Daryapur	141.42	19.28	Yes	24.58	Yes	Over Exploited
30	Amravati	Dhamangaon	63.09	-11.2	No	-2.84	No	Safe
31	Amravati	Dharni	26.42	3.94	No	-2.34	No	Safe
32	Amravati	Morshi	117.91	-0.86	No	10.9	Yes	Over Exploited
33	Amravati	Nandgaon	62.89	0.05	No	-1.94	No	Safe
34	Amravati	Tiwsa	41.67	-8.24	No	0.38	No	Safe
35	Amravati	Warud	145.78	8.61	No	12.19	Yes	Over Exploited
36	Aurangabad	Aurangabad	66.92	0.31	No	-9.69	No	Safe
37	Aurangabad	Fulambre	84.34	-6.34	No	-8.11	No	Safe
38	Aurangabad	Gangapur	76.59	5.74	No	-12.93	No	Safe
39	Aurangabad	Kannad	56.65	-2.69	No	-5.47	No	Safe
40	Aurangabad	Khuldabad	54.66	-5.72	No	-6.49	No	Safe
41	Aurangabad	Paithan	49	-6.86	No	-14.87	No	Safe
42	Aurangabad	Sillod	57.55	3.43	No	-0.38	No	Safe
43	Aurangabad	Soyegaon	34.88	3.05	No	3.44	No	Safe
44	Aurangabad	Vaijapur	72.65	-5.5	No	-5.8	No	Safe
45	Beed	Ambejogai	46.4	3.33	No	-9.17	No	Safe
46	Beed	Ashti	51.94	1.87	No	-6.5	No	Safe
47	Beed	Beed	59.4	5.87	No	-2.89	No	Safe
48	Beed	Dharur	54.44	7.65	No	-11.11	No	Safe
49	Beed	Gevrai	57.2	1.9	No	-11.95	No	Safe
50	Beed	Kaij	52.98	-5.52	No	-14.02	No	Safe
51	Beed	Majalgaon	42.76	-2.46	No	-10.11	No	Safe
52	Beed	Parli	37.78	2.57	No	-10.76	No	Safe
53	Beed	Patoda	58.07	4.76	No	-2.08	No	Safe
54	Beed	Shirur Ka	53.58	-13.08	No	-9.17	No	Safe
55	Beed	Wadvani	40.93	7.41	No	-3	No	Safe
56	Bhandara	Bhandara	15.85	-4.67	No	-4.16	No	Safe
57	Bhandara	Lakhandur	25.28	-2.66	No	-11.5	No	Safe
58	Bhandara	Lakhani	21.59	-2.47	No	0.62	No	Safe
59	Bhandara	Mohadi	34.67	-3.75	No	-1.16	No	Safe

Annexure III F
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA
ADMINISTRATIVE UNIT-WISE CATEGORIZATION - 2008-2009

Unit-Taluka

Sr.No.	District	Administrative Unit	Stage of Ground Water Development %	Pre-monsoon		Post-monsoon		Category
				Water level Trend	Is there a significant decline	Water level Trend	Is there a significant decline	
60	Bhandara	Pauni	51.05	-12.53	No	-6.49	No	Safe
61	Bhandara	Sakoli	17.56	-2.75	No	-1.83	No	Safe
62	Bhandara	Tumsar	30.84	0.01	No	0.29	No	Safe
63	Buldhana	Buldhana	86.75	8.79	No	-5.86	No	Safe
64	Buldhana	Chikhali	69.72	1.53	No	-10.3	No	Safe
65	Buldhana	Deulgaon Raja	75.61	4.4	No	-11.29	No	Safe
66	Buldhana	Jalgaon	104.6	12.58	Yes	10.14	Yes	Over Exploited
67	Buldhana	Khamgaon	56.77	4.06	No	-2.71	No	Safe
68	Buldhana	Lonar	53.42	-1.92	No	-4.32	No	Safe
69	Buldhana	Malakapur	60.54	6.06	No	-3.47	No	Safe
70	Buldhana	Mehkar	54.19	0.58	No	-7.73	No	Safe
71	Buldhana	Motala	75.66	10.85	Yes	-0.35	No	Semi Critical
72	Buldhana	Nandura	76.56	0.26	No	-1.97	No	Safe
73	Buldhana	Sangrapur	89.69	5.92	No	4.64	No	Safe
74	Buldhana	Shegaon	44.49	0.59	No	-11.78	No	Safe
75	Buldhana	S'indkhed Raja	70.39	-3.75	No	-13.14	No	Safe
76	Chandrapur	Ballarpur	10.87	-6.27	No	-4.4	No	Safe
77	Chandrapur	Bhadravati	10.37	-7.81	No	-7.79	No	Safe
78	Chandrapur	Brahmapuri	19.99	-11.95	No	-9.54	No	Safe
79	Chandrapur	Chandrapur	11.56	-5.84	No	-4.32	No	Safe
80	Chandrapur	Chimmur	20.89	-5.91	No	-6.42	No	Safe
81	Chandrapur	Gondpipri	16.8	-6.8	No	-8.52	No	Safe
82	Chandrapur	Jiwati	12.42	1.09	No	-13.54	No	Safe
83	Chandrapur	Korpana	12.56	-1.08	No	-12.6	No	Safe
84	Chandrapur	Mul	15.23	-3.54	No	-6.89	No	Safe
85	Chandrapur	Nagbhind	18.23	3.13	No	-3.37	No	Safe
86	Chandrapur	Pobhurna	15.54	-7.75	No	-11.5	No	Safe
87	Chandrapur	Rajura	13.95	-9.55	No	-13.99	No	Safe
88	Chandrapur	Sawali	11.37	-2.46	No	-6.92	No	Safe
89	Chandrapur	Sindewali	15.6	0.69	No	-3.97	No	Safe
90	Chandrapur	Warora	16.57	-3.89	No	-9.78	No	Safe
91	Dhule	Dhule	62.25	-3.93	No	-11.42	No	Safe
92	Dhule	Sakri	51.69	-8.22	No	-13.26	No	Safe
93	Dhule	Shirpur	29.96	-10.4	No	-21.44	No	Safe
94	Dhule	Sindkheda	42.52	3.69	No	-1.73	No	Safe
95	Gadchiroli	Aheri	8.25	-1.51	No	-4.05	No	Safe
96	Gadchiroli	Armori	12.94	-0.44	No	-3.57	No	Safe
97	Gadchiroli	Bhamragad	6.43	-8.3	No	-8.93	No	Safe
98	Gadchiroli	Chamorshi	15.41	-1.3	No	-7.05	No	Safe
99	Gadchiroli	Dhanora	26.31	-6.45	No	-10.54	No	Safe
100	Gadchiroli	Etapalli	18.55	-7.4	No	-10.11	No	Safe
101	Gadchiroli	Gadchiroli	24.22	-8.93	No	-15.11	No	Safe
102	Gadchiroli	Korchi	19.84	-4.88	No	-10.58	No	Safe
103	Gadchiroli	Kurkheda	28.59	-11.66	No	-7.9	No	Safe
104	Gadchiroli	Mulchera	13.22	1.52	No	-6.76	No	Safe
105	Gadchiroli	Soroncha	26.79	1.16	No	-2.85	No	Safe
106	Gadchiroli	Wadsa	3.46	3.65	No	-2.39	No	Safe
107	Gondia	Amgaon	26.77	2.12	No	-6	No	Safe
108	Gondia	Arjuni Moregaon	7.61	-2.45	No	-6.9	No	Safe
109	Gondia	Deori	12.3	-1.57	No	-8.47	No	Safe
110	Gondia	Gondia	37.37	-0.93	No	-5.77	No	Safe
111	Gondia	Goregaon	35.18	5.13	No	-4.73	No	Safe
112	Gondia	Sadak Arjuni	12.45	-3.01	No	-6.68	No	Safe
113	Gondia	Salekasa	12.45	-5.86	No	-5.26	No	Safe
114	Gondia	Tirora	20.57	-5.47	No	-3.93	No	Safe
115	Hingoli	Aundha	31.22	1.51	No	-4.58	No	Safe
116	Hingoli	Basmath	39.97	-3.2	No	-4.71	No	Safe
117	Hingoli	Hingoli	32.68	4.42	No	2.16	No	Safe
118	Hingoli	Kalmnuri	44.47	1.45	No	-1.98	No	Safe
119	Hingoli	Sengaon	34.76	3.28	No	3.78	No	Safe

Annexure III F
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA
ADMINISTRATIVE UNIT-WISE CATEGORIZATION - 2008-2009

Unit-Taluka

Sr.No.	District	Administrative Unit	Stage of Ground Water Development %	Pre-monsoon		Post-monsoon		Category
				Water level Trend	Is there a significant decline	Water level Trend	Is there a significant decline	
120	Jalgaon	Amalner	60.44	9.16	No	-2.22	No	Safe
121	Jalgaon	Bhadgaon	49.76	3.27	No	-1.12	No	Safe
122	Jalgaon	Bhusawal	62.98	9.42	No	-7.7	No	Safe
123	Jalgaon	Bodwad	74.72	15.98	Yes	6.47	No	Semi Critical
124	Jalgaon	Chalisgaon	67.61	8.3	No	-3.96	No	Safe
125	Jalgaon	Chopda	85.25	11.18	Yes	0.67	No	Semi Critical
126	Jalgaon	Dharangaon	43.93	2.75	No	-7.3	No	Safe
127	Jalgaon	Erandol	44.78	2.85	No	-5.67	No	Safe
128	Jalgaon	Jalgaon	53.33	9.48	No	1	No	Safe
129	Jalgaon	Jamner	59.15	4.64	No	-8.47	No	Safe
130	Jalgaon	Muktainagar	70.05	2.8	No	2.45	No	Safe
131	Jalgaon	Pachora	72.74	11.29	Yes	-6.11	No	Semi Critical
132	Jalgaon	Parola	82.26	13.14	Yes	-1.52	No	Semi Critical
133	Jalgaon	Raver	117.69	18.36	Yes	13.59	Yes	Over Exploited
134	Jalgaon	Yawal	107.58	33.68	Yes	17.25	Yes	Over Exploited
135	Jalna	Ambad	46.09	0.23	No	-4.47	No	Safe
136	Jalna	Badnapur	70.39	3.93	No	-3.62	No	Safe
137	Jalna	Bhokardan	59.2	2.71	No	-5.44	No	Safe
138	Jalna	Ghat Sawangi	30.86	4.23	No	-1.47	No	Safe
139	Jalna	Jafrabad	57.45	3.36	No	-2.63	No	Safe
140	Jalna	Jalna	53.58	0.05	No	-12.47	No	Safe
141	Jalna	Mantha	38.85	0.86	No	-7.32	No	Safe
142	Jalna	Partur	37.6	-3.52	No	-5.34	No	Safe
143	Kolhapur	Ajara	55.64	-10.75	No	-2.49	No	Safe
144	Kolhapur	Bhudargad	46.7	-15.57	No	-2.28	No	Safe
145	Kolhapur	Chandgad	50.39	-8.62	No	-1.45	No	Safe
146	Kolhapur	Gadhinglaj	74.48	-9.54	No	-4.41	No	Safe
147	Kolhapur	Gaganbawada	40.42	-3.18	No	-3.29	No	Safe
148	Kolhapur	Hatkanangale	82.16	-8.99	No	-3.69	No	Safe
149	Kolhapur	Kagal	53.31	-16.53	No	-3.09	No	Safe
150	Kolhapur	Karvir	71.29	-3.46	No	-1.79	No	Safe
151	Kolhapur	Panhala	68.72	-1.25	No	-2.62	No	Safe
152	Kolhapur	Radhanagari	40.81	-4.9	No	-1.93	No	Safe
153	Kolhapur	Shahuwadi	35.81	-10.95	No	-3.67	No	Safe
154	Kolhapur	Shirol	74.71	-1.58	No	-2.6	No	Safe
155	Latur	Ahmedpur	58.9	-4.95	No	-3.75	No	Safe
156	Latur	Anantpal Sh	76.52	-0.84	No	-4.81	No	Safe
157	Latur	Ausa	76.32	1.7	No	-15.98	No	Safe
158	Latur	Chakur	87.7	-4.81	No	-1.55	No	Safe
159	Latur	Devani	60.61	-3.89	No	-12.56	No	Safe
160	Latur	Jalkot	47.04	-7.21	No	-10.9	No	Safe
161	Latur	Latur	91.87	10.85	Yes	-4.72	No	Semi Critical
162	Latur	Nilanga	89.87	2.14	No	-9	No	Safe
163	Latur	Renapur	89	-5.17	No	-0.47	No	Safe
164	Latur	Udgir	64.56	1.09	No	-12.57	No	Safe
165	Nagpur	Bhiwapur	34.3	-13.57	No	1.36	No	Safe
166	Nagpur	Hingana	29.37	-8.24	No	-4.42	No	Safe
167	Nagpur	Kalameshwar	63.55	-2.22	No	0.69	No	Safe
168	Nagpur	Kamtee	29.27	-1.78	No	-1.44	No	Safe
169	Nagpur	Katol	72.44	2.25	No	-1.35	No	Safe
170	Nagpur	Kuhi	33.18	-8.69	No	-0.86	No	Safe
171	Nagpur	Mouda	12.41	-6.15	No	-8.22	No	Safe
172	Nagpur	Nagpur	31.19	-4.35	No	-0.64	No	Safe
173	Nagpur	Narkhed	75.03	6.64	No	-0.43	No	Safe
174	Nagpur	Parshioni	15.32	-1.19	No	-5.82	No	Safe
175	Nagpur	Ramtek	18.45	-3.08	No	-6.13	No	Safe
176	Nagpur	Saoner	73	-2.98	No	-8.33	No	Safe
177	Nagpur	Umred	28.83	-9.71	No	-4.98	No	Safe
178	Nanded	Ardhapur	65.72	3.84	No	0.97	No	Safe
179	Nanded	Bhokar	29.48	4.01	No	1.7	No	Safe

Annexure III F
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA
ADMINISTRATIVE UNIT-WISE CATEGORIZATION - 2008-2009

Unit-Taluka

Sr.No.	District	Administrative Unit	Stage of Ground Water Development %	Pre-monsoon		Post-monsoon		Category
				Water level Trend	Is there a significant decline	Water level Trend	Is there a significant decline	
180	Nanded	Biloli	21.34	4.28	No	-2.34	No	Safe
181	Nanded	Degloor	24.27	1.04	No	-1.31	No	Safe
182	Nanded	Dharmabad	21.78	-1.02	No	-6.44	No	Safe
183	Nanded	Hadgaon	34.73	3	No	1.94	No	Safe
184	Nanded	Himataytnahar	38.83	5.83	No	1.23	No	Safe
185	Nanded	Kandhar	23.91	-1.47	No	-1.52	No	Safe
186	Nanded	Kinwat	18.61	-1.26	No	3.33	No	Safe
187	Nanded	Loha	36.68	-4.95	No	2.37	No	Safe
188	Nanded	Mahur	26.68	-0.59	No	2.15	No	Safe
189	Nanded	Mudkhed	61.82	2.4	No	4.99	No	Safe
190	Nanded	Mukhed	23.41	1.06	No	1.02	No	Safe
191	Nanded	Naigaon	22.16	0.65	No	-4.4	No	Safe
192	Nanded	Nanded	45.06	-3.62	No	0.9	No	Safe
193	Nanded	Umari	27.96	0.28	No	-1.82	No	Safe
194	Nandurbar	Akkalkuva	19.92	-3.13	No	-1.79	No	Safe
195	Nandurbar	Akrani	12.13	1.76	No	-3.86	No	Safe
196	Nandurbar	Nandurbar	64.31	-2.92	No	-5.11	No	Safe
197	Nandurbar	Nawapur	25.75	2.05	No	-6.48	No	Safe
198	Nandurbar	Shahada	48.85	-10.47	No	-4.57	No	Safe
199	Nandurbar	Taloda	37.99	-17.79	No	-11.78	No	Safe
200	Nashik	Baglan Satana	65.79	3.22	No	-11.67	No	Safe
201	Nashik	Chandwad	89.17	11.3	Yes	-16.36	No	Semi Critical
202	Nashik	Deola	95.51	18.21	Yes	-3.04	No	Semi Critical
203	Nashik	Dindori	43.13	-3.36	No	-8.65	No	Safe
204	Nashik	Igatpuri	9.73	-20.32	No	-3.06	No	Safe
205	Nashik	Kalwan	62.76	5.31	No	-6.42	No	Safe
206	Nashik	Malegaon	59.8	9.07	No	-5.52	No	Safe
207	Nashik	Nandgaon	45.66	6.8	No	-1.97	No	Safe
208	Nashik	Nasik	38.8	-2.7	No	-3.2	No	Safe
209	Nashik	Niphad	83.96	10.23	Yes	-8.73	No	Semi Critical
210	Nashik	Peth	3.6	-9.11	No	0.66	No	Safe
211	Nashik	Sinnar	98.72	11.17	Yes	-9.47	No	Semi Critical
212	Nashik	Surgana	7.12	-2.85	No	-0.41	No	Safe
213	Nashik	Trambakeshwar	8.03	-3.58	No	0.9	No	Safe
214	Nashik	Yeola	66.38	6.7	No	-4.92	No	Safe
215	Osmanabad	Bhoom	46.86	-17.37	No	-16.41	No	Safe
216	Osmanabad	Kalamb	78.21	-3.71	No	-8.91	No	Safe
217	Osmanabad	Lohara	72.31	2.09	No	-12.4	No	Safe
218	Osmanabad	Omerga	74.88	-1.24	No	-10.99	No	Safe
219	Osmanabad	Osmanabad	83.83	6.97	No	-9.23	No	Safe
220	Osmanabad	Paranda	47.31	2.29	No	-18.36	No	Safe
221	Osmanabad	Tuljapur	49.93	-10.66	No	-15.15	No	Safe
222	Osmanabad	Washi	68.92	-12.23	No	-16.01	No	Safe
223	Parbhani	Gangakhed	21.94	0.3	No	-12.75	No	Safe
224	Parbhani	Jintur	34.16	-1.78	No	-7.94	No	Safe
225	Parbhani	Manwat	44.76	2.79	No	-7.29	No	Safe
226	Parbhani	Palam	29.31	2.75	No	-6.48	No	Safe
227	Parbhani	Parbhani	33.02	-2.56	No	-13.36	No	Safe
228	Parbhani	Pathari	47.32	2.99	No	-6.2	No	Safe
229	Parbhani	Purna	25.57	4.12	No	-1.24	No	Safe
230	Parbhani	Selu	40.59	-2.33	No	-2.44	No	Safe
231	Parbhani	Sonpepth	21.02	-1.74	No	-14.8	No	Safe
232	Pune	Ambegaon	76.88	-0.1	No	-6.78	No	Safe
233	Pune	Baramati	96.13	10.39	Yes	-5.56	No	Semi Critical
234	Pune	Bhor	40.35	7.28	No	2.98	No	Safe
235	Pune	Daund	81.39	7.62	No	-7.18	No	Safe
236	Pune	Haveli	54.9	-3.72	No	-3.88	No	Safe
237	Pune	Indapur	88.72	2.39	No	-8.35	No	Safe
238	Pune	Junnar	87.58	5.66	No	-6.49	No	Safe
239	Pune	Khed	66.3	3.02	No	-2.74	No	Safe

Annexure III F
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA
ADMINISTRATIVE UNIT-WISE CATEGORIZATION - 2008-2009

Unit-Taluka

Sr.No.	District	Administrative Unit	Stage of Ground Water Development %	Pre-monsoon		Post-monsoon		Category
				Water level Trend	Is there a significant decline	Water level Trend	Is there a significant decline	
240	Pune	Maval	13.51	-6.85	No	-1.74	No	Safe
241	Pune	Mulshi	13.04	0.92	No	1.36	No	Safe
242	Pune	Purandhar	83.95	13.24	Yes	-3	No	Semi Critical
243	Pune	Shirur	81.04	5.37	No	-3.02	No	Safe
244	Pune	Velhe	6.09	-11.12	No	-2.29	No	Safe
245	Raigad	Alibag	32.97	-3.55	No	-2.41	No	Safe
246	Raigad	Karjat	6.22	2.4	No	-6.29	No	Safe
247	Raigad	Khalapur	8.54	-5.06	No	-4.77	No	Safe
248	Raigad	Mahad	10.34	-3.76	No	-4.86	No	Safe
249	Raigad	Mangaon	5.12	-2.09	No	-1.58	No	Safe
250	Raigad	Mhasala	25.01	-1.71	No	-1.99	No	Safe
251	Raigad	Murud	13.51	-1.72	No	-2.2	No	Safe
252	Raigad	Panvel	23.23	-3.5	No	-4.94	No	Safe
253	Raigad	Pen	8.22	-5.58	No	-5.37	No	Safe
254	Raigad	Poladpur	7.71	-7.14	No	-11.83	No	Safe
255	Raigad	Roha	7.65	-2.18	No	-1.88	No	Safe
256	Raigad	Shriwardhan	30.52	-1.15	No	-2.81	No	Safe
257	Raigad	Sudhagad	7.61	-4.08	No	-2.79	No	Safe
258	Raigad	Tala	16.38	-2.24	No	-1.61	No	Safe
259	Raigad	Uran	11.49	-3.16	No	-4.32	No	Safe
260	Ratnagiri	Chiplun	7.67	-1.31	No	-1.18	No	Safe
261	Ratnagiri	Dapoli	18.46	3.76	No	0.5	No	Safe
262	Ratnagiri	Guhagar	19.65	0.55	No	-2.63	No	Safe
263	Ratnagiri	Khed	7.04	-0.18	No	-0.2	No	Safe
264	Ratnagiri	Lanja	9.94	-8.24	No	-12.84	No	Safe
265	Ratnagiri	Mandangad	8.57	-0.7	No	1.22	No	Safe
266	Ratnagiri	Rajapur	9	-6.32	No	-5.15	No	Safe
267	Ratnagiri	Ratnagiri	19.07	-3.71	No	-21.33	No	Safe
268	Ratnagiri	Sangameshwar	7.14	1.91	No	-5.12	No	Safe
269	Sangli	Atpadi	74.07	5.16	No	0.6	No	Safe
270	Sangli	Jat	68.48	3.47	No	-1.01	No	Safe
271	Sangli	Kadegaon	69.38	-3.31	No	-1.05	No	Safe
272	Sangli	Kavathe Mahankal	93.72	10.85	Yes	11.12	Yes	Critical
273	Sangli	Khanapur	89.26	1.71	No	-2.37	No	Safe
274	Sangli	Miraj	90.05	11.27	Yes	-0.23	No	Semi Critical
275	Sangli	Palus	79.81	-1.23	No	-0.94	No	Safe
276	Sangli	Shirala	38.75	-1.51	No	1.04	No	Safe
277	Sangli	Tasgaon	87.31	5.25	No	3.76	No	Safe
278	Sangli	Walwa	77.02	1.63	No	1.79	No	Safe
279	Satara	Jaoli	29.97	-4.46	No	6.37	No	Safe
280	Satara	Karad	70.33	3.59	No	-0.72	No	Safe
281	Satara	Khandala	52.39	-11.92	No	-3.12	No	Safe
282	Satara	Khatav	81.92	8.73	No	-2.48	No	Safe
283	Satara	Koregaon	73.81	-12.27	No	-13.28	No	Safe
284	Satara	Mahabaleshwar	54.39	-1.45	No	-7.39	No	Safe
285	Satara	Man	67.16	-5.54	No	-4.12	No	Safe
286	Satara	Patan	56.17	-4.35	No	1.11	No	Safe
287	Satara	Phaltan	86.36	-0.74	No	-1.64	No	Safe
288	Satara	Satara	55.42	0.18	No	0.89	No	Safe
289	Satara	Wai	81.8	6.11	No	-1.96	No	Safe
290	Sindhudurg	Devgad	32.12	1.38	No	0.66	No	Safe
291	Sindhudurg	Doudamarg	30.24	-0.74	No	-1.29	No	Safe
292	Sindhudurg	Kankavali	23.89	0.02	No	2.26	No	Safe
293	Sindhudurg	Kudal	35.05	4.19	No	0.32	No	Safe
294	Sindhudurg	Malwan	30.09	3.52	No	0.97	No	Safe
295	Sindhudurg	Sawantwadi	14.94	-9.24	No	-1.34	No	Safe
296	Sindhudurg	Vaibhavvadi	23.83	4.31	No	0.21	No	Safe
297	Sindhudurg	Vengurla	27.42	4.33	No	1.58	No	Safe
298	Solapur	Akkalkot	54.09	1.61	No	-7.54	No	Safe
299	Solapur	Barshi	79.16	-2.09	No	-9.8	No	Safe

Annexure III F
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA
ADMINISTRATIVE UNIT-WISE CATEGORIZATION - 2008-2009

Unit-Taluka

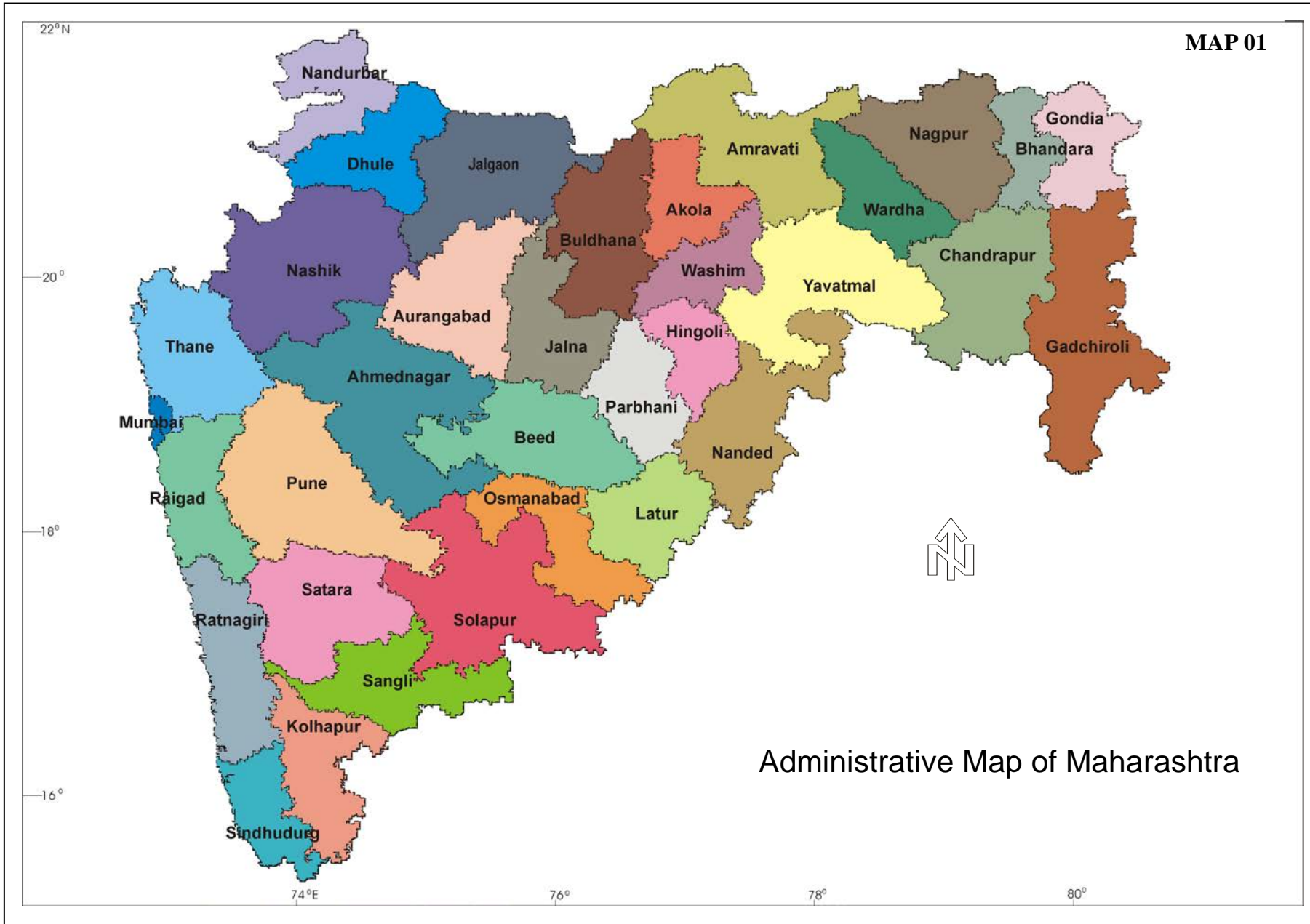
Sr.No.	District	Administrative Unit	Stage of Ground Water Development %	Pre-monsoon		Post-monsoon		Category
				Water level Trend	Is there a significant decline	Water level Trend	Is there a significant decline	
300	Solapur	Karmala	77.6	6.82	No	-15.64	No	Safe
301	Solapur	Madha	78.53	5.13	No	-9.12	No	Safe
302	Solapur	Malshiras	101.53	10.14	Yes	0.77	No	Over Exploited
303	Solapur	Mangalwedha	84.37	-9.47	No	-5	No	Safe
304	Solapur	Mohol	87.69	-1.3	No	-11.13	No	Safe
305	Solapur	N.Solapur	64.17	-7.77	No	-14.83	No	Safe
306	Solapur	Pandharpur	76.9	5.95	No	-5.96	No	Safe
307	Solapur	S.Solapur	61.83	-1.63	No	-10.52	No	Safe
308	Solapur	Sangola	77.98	-6.06	No	-5.25	No	Safe
309	Thane	Ambarnath	6.9	-7.36	No	0.12	No	Safe
310	Thane	Bhivandi	21.07	-5.76	No	-2.8	No	Safe
311	Thane	Dahanu	33.05	-1.52	No	-4.46	No	Safe
312	Thane	Jawhar	4.99	-6.22	No	-0.76	No	Safe
313	Thane	Kalyan	7.73	-1.33	No	-0.16	No	Safe
314	Thane	Mokhada	6.46	-4.93	No	1.51	No	Safe
315	Thane	Murbad	4.97	-3.55	No	1.27	No	Safe
316	Thane	Palghar	11.4	-1.41	No	-3.53	No	Safe
317	Thane	Shahapur	3.92	-2.8	No	-0.13	No	Safe
318	Thane	Talasari	19.61	-5.9	No	-3.48	No	Safe
319	Thane	Thane	6.88	-5.01	No	-0.94	No	Safe
320	Thane	Ulhasnagar	21.12	-4.61	No	-2.1	No	Safe
321	Thane	Vasai	29.11	-5.9	No	-5.66	No	Safe
322	Thane	Vikramgad	4.67	-6.86	No	0.83	No	Safe
323	Thane	Wada	5.84	-3.25	No	-4.56	No	Safe
324	Wardha	Arvi	32.18	-2.34	No	-5.84	No	Safe
325	Wardha	Ashti	15.26	-4	No	-10.6	No	Safe
326	Wardha	Deoli	33.62	-1.11	No	-15.52	No	Safe
327	Wardha	Hinganghat	35.34	3.08	No	-10.04	No	Safe
328	Wardha	Karanja	62.29	-1.75	No	-6.15	No	Safe
329	Wardha	Samudrapur	26.92	2.52	No	-8.42	No	Safe
330	Wardha	Seloo	26.02	-1.26	No	-6.42	No	Safe
331	Wardha	Wardha	53.07	0.16	No	-12.1	No	Safe
332	Washim	Karanja	43.26	2.86	No	3.69	No	Safe
333	Washim	Malegaon	38.98	0.6	No	-0.99	No	Safe
334	Washim	Mangrulpir	26.73	1.39	No	3.75	No	Safe
335	Washim	Manora	31.54	2.05	No	3.05	No	Safe
336	Washim	Risod	37.89	2.39	No	0.66	No	Safe
337	Washim	Washim	36.4	3.74	No	2.83	No	Safe
338	Yeotmal	Arni	33.89	-1.15	No	-5.49	No	Safe
339	Yeotmal	Babulgaon	36.36	-4.9	No	-8.53	No	Safe
340	Yeotmal	Daravha	41.33	1.74	No	-2.3	No	Safe
341	Yeotmal	Digras	42.98	2.25	No	-3.98	No	Safe
342	Yeotmal	Ghatanji	22.61	-0.18	No	-5.83	No	Safe
343	Yeotmal	Kalamb	22.7	-1	No	-4.55	No	Safe
344	Yeotmal	Mahagaon	36.84	3.86	No	-1.5	No	Safe
345	Yeotmal	Maregaon	17.99	2.45	No	-2.66	No	Safe
346	Yeotmal	Ner	35.12	-7.61	No	-11.52	No	Safe
347	Yeotmal	Omarkhed	32	0.79	No	0.07	No	Safe
348	Yeotmal	Pandharkavada	21.93	-3	No	-6.82	No	Safe
349	Yeotmal	Pusad	45.37	3.09	No	-4.26	No	Safe
350	Yeotmal	Ralegaon	26.6	-3.36	No	-6.64	No	Safe
351	Yeotmal	Wani	12.01	-2.23	No	-3.78	No	Safe
352	Yeotmal	Yeotmal	35.14	-4.03	No	-8.89	No	Safe
353	Yeotmal	Zara Zamani	14.67	3.6	No	-1.69	No	Safe

Annexure III G
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA
SUMMARY OF ASSESSMENT UNIT-WISE CATEGORIZATION - 2008-2009

Sr.No.	District	Assessment Unit (Watershed)				
		Over-exploited	Critical	Semi-critical	Safe	Poor Quality
1	2	3	4	5	6	7
1	Ahmednagar	13	0	14	53	0
2	Akola	0	0	1	36	1
3	Amravati	9	0	6	45	3
4	Aurangabad	1	0	4	47	0
5	Beed	0	0	1	47	0
6	Bhandara	0	0	1	24	0
7	Buldhana	3	0	8	46	0
8	Chandrapur	0	0	0	58	0
9	Dhule	0	0	0	45	0
10	Gadchiroli	0	0	0	83	0
11	Gondia	0	0	0	33	0
12	Hingoli	0	0	0	23	0
13	Jalgaon	8	2	15	41	0
14	Jalna	0	0	6	46	0
15	Kolhapur	0	0	1	39	0
16	Latur	7	0	4	28	0
17	Nagpur	0	0	3	51	0
18	Nanded	0	0	0	49	0
19	Nandurbar	0	0	0	29	0
20	Nashik	9	1	15	55	0
21	Osmanabad	2	0	5	34	0
22	Parbhani	0	0	0	33	0
23	Pune	8	0	17	46	0
24	Raigad	0	0	0	17	0
25	Ratnagiri	0	0	0	20	0
26	Sangli	5	0	5	28	0
27	Satara	1	0	7	42	0
28	Sindhudurg	0	0	0	11	0
29	Solapur	7	0	6	51	0
30	Thane	0	0	0	34	0
31	Wardha	0	0	0	39	0
32	Washim	0	0	0	35	0
33	Yeotmal	0	0	0	64	0
	Total	73	3	119	1332	4

Annexure III H
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES OF THE MAHARASHTRA
SUMMARY OF ADMINISTRATIVE UNIT-WISE CATEGORIZATION - 2008-2009

Sr.No.	District	Administrative Unit (Taluka)				
		Over-exploited	Critical	Semi-critical	Safe	Poor Quality
1	2	3	4	5	6	7
1	Ahmednagar	1	0	5	8	0
2	Akola	0	0	0	7	0
3	Amravati	4	0	1	9	0
4	Aurangabad	0	0	0	9	0
5	Beed	0	0	0	11	0
6	Bhandara	0	0	0	7	0
7	Buldhana	1	0	1	11	0
8	Chandrapur	0	0	0	15	0
9	Dhule	0	0	0	4	0
10	Gadchiroli	0	0	0	12	0
11	Gondia	0	0	0	8	0
12	Hingoli	0	0	0	5	0
13	Jalgaon	2	0	4	9	0
14	Jalna	0	0	0	8	0
15	Kolhapur	0	0	0	12	0
16	Latur	0	0	1	9	0
17	Nagpur	0	0	0	13	0
18	Nanded	0	0	0	16	0
19	Nandurbar	0	0	0	6	0
20	Nashik	0	0	4	11	0
21	Osmanabad	0	0	0	8	0
22	Parbhani	0	0	0	9	0
23	Pune	0	0	2	11	0
24	Raigad	0	0	0	15	0
25	Ratnagiri	0	0	0	9	0
26	Sangli	0	1	1	8	0
27	Satara	0	0	0	11	0
28	Sindhudurg	0	0	0	8	0
29	Solapur	1	0	0	10	0
30	Thane	0	0	0	15	0
31	Wardha	0	0	0	8	0
32	Washim	0	0	0	6	0
33	Yeotmal	0	0	0	16	0
	Total	9	1	19	324	0



Administrative Map of Maharashtra

Madhya Pradesh

Andhra Pradesh

Karnataka

A
r
a
b
i
a
n
S
e
a

22° N

20°

18°

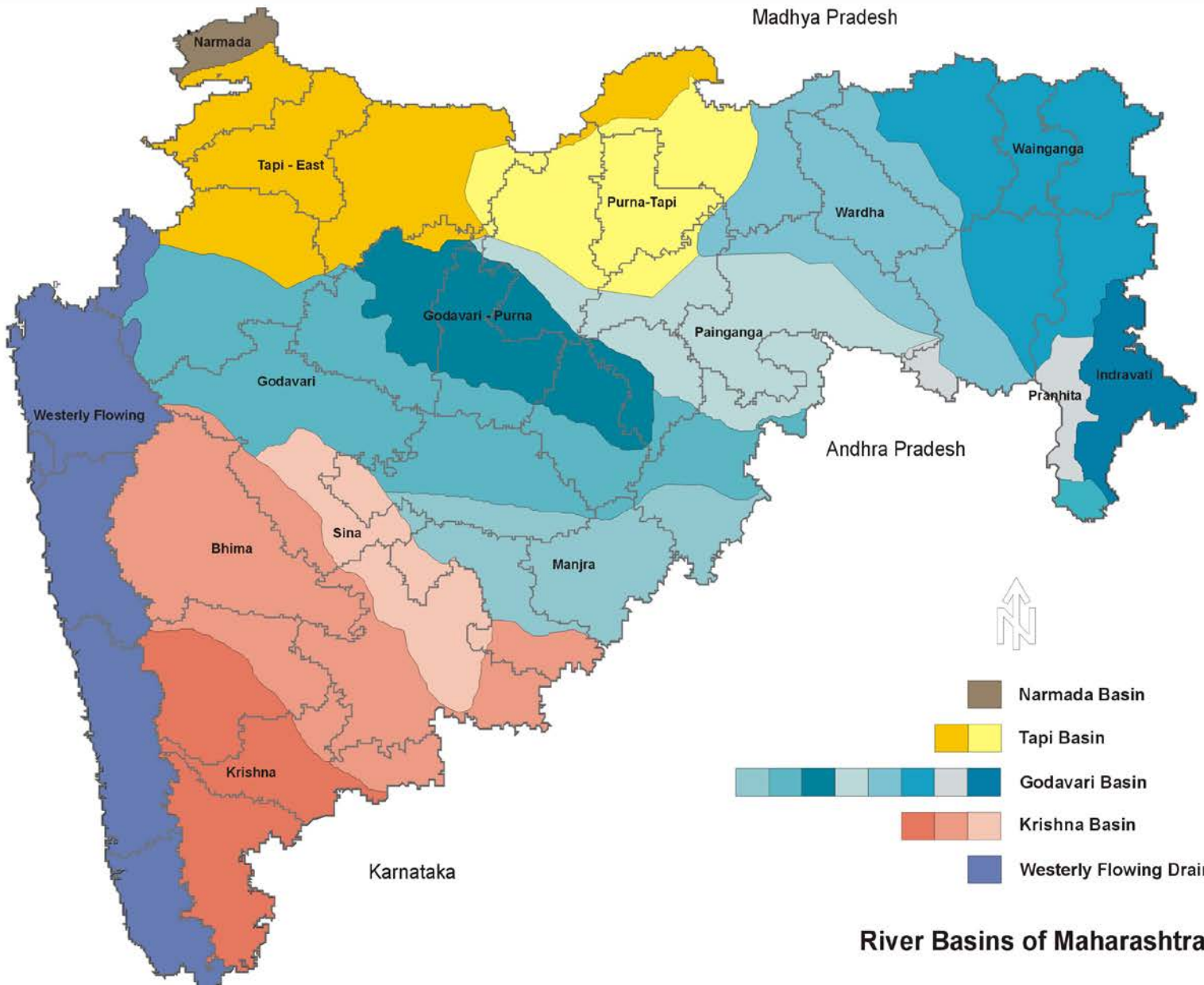
16°

74° E

76°

78°

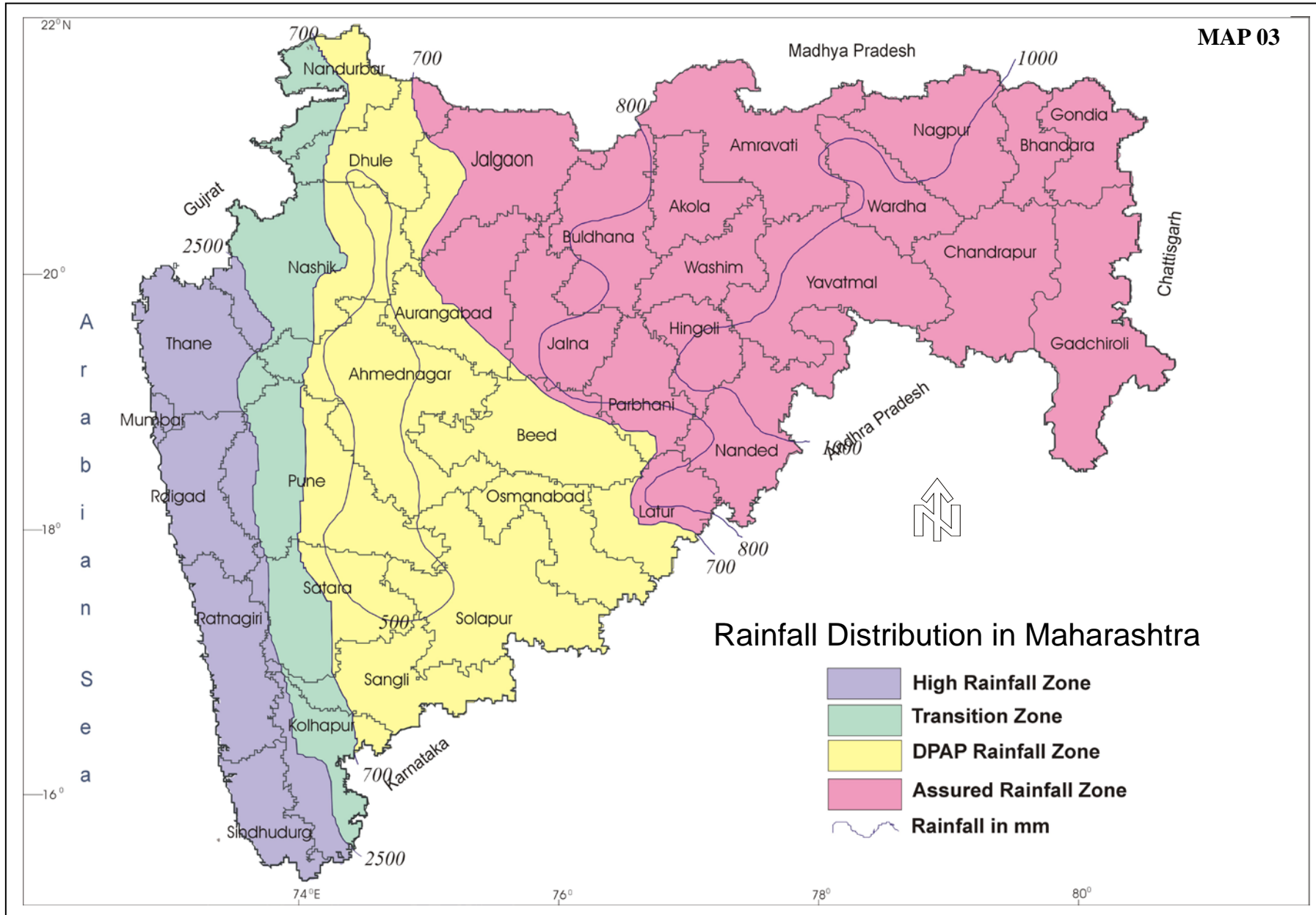
80°



- Narmada Basin
- Tapi Basin
- Godavari Basin
- Krishna Basin
- Westerly Flowing Drainages

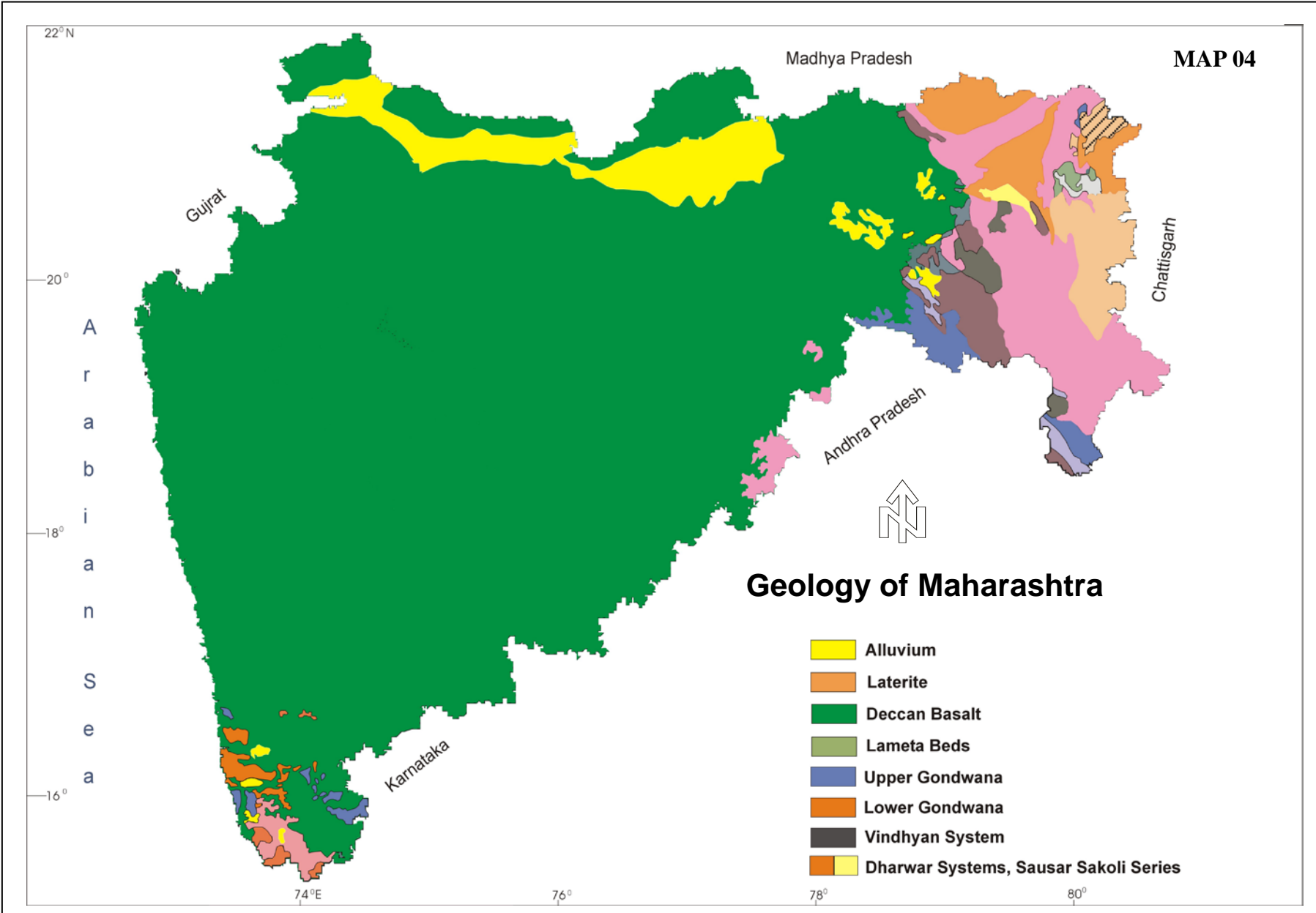
River Basins of Maharashtra

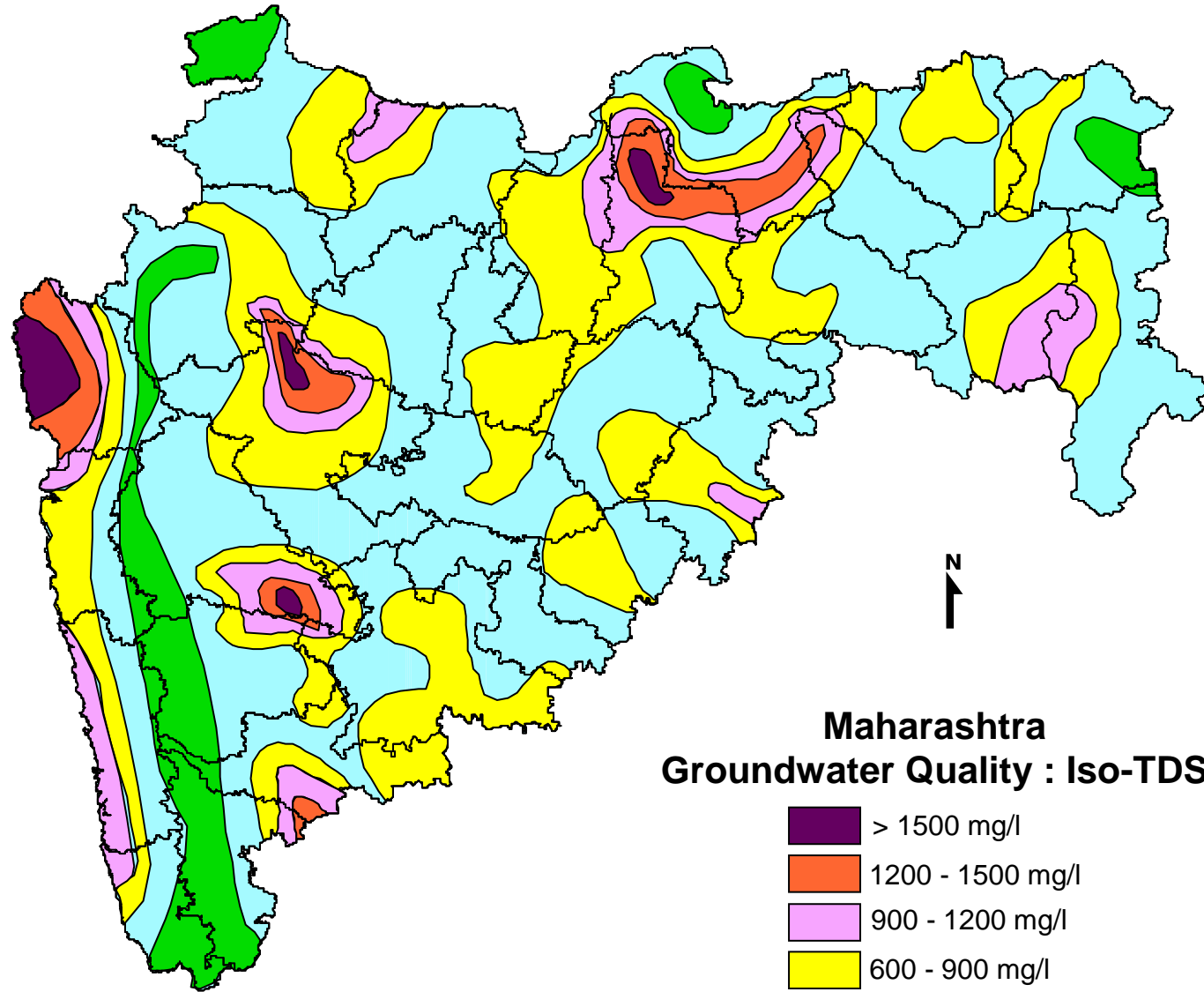
MAP 03









Rainfall Distribution in Maharashtra

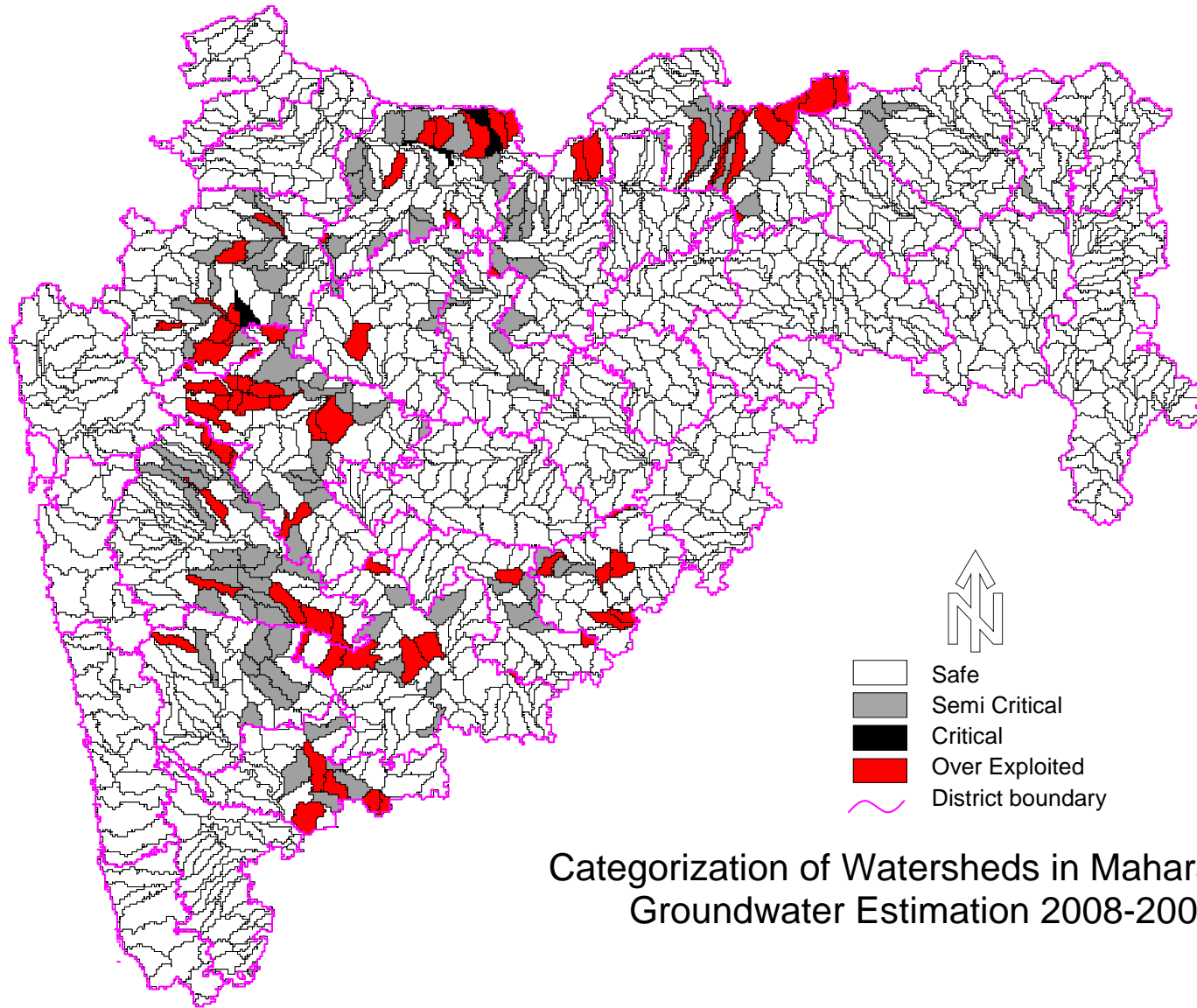
- High Rainfall Zone
- Transition Zone
- DPAP Rainfall Zone
- Assured Rainfall Zone
- Rainfall in mm



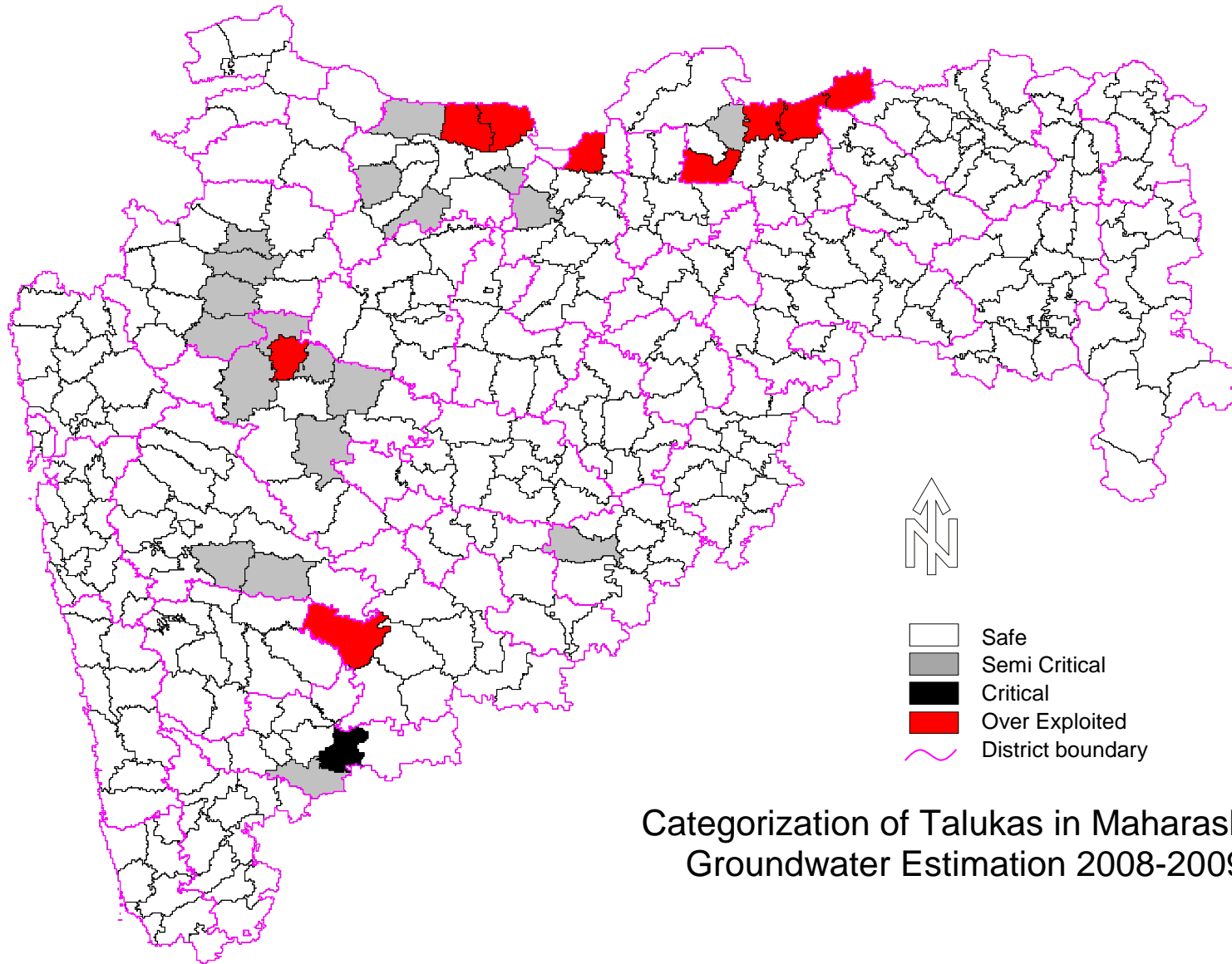


**Maharashtra
Groundwater Quality : Iso-TDS**

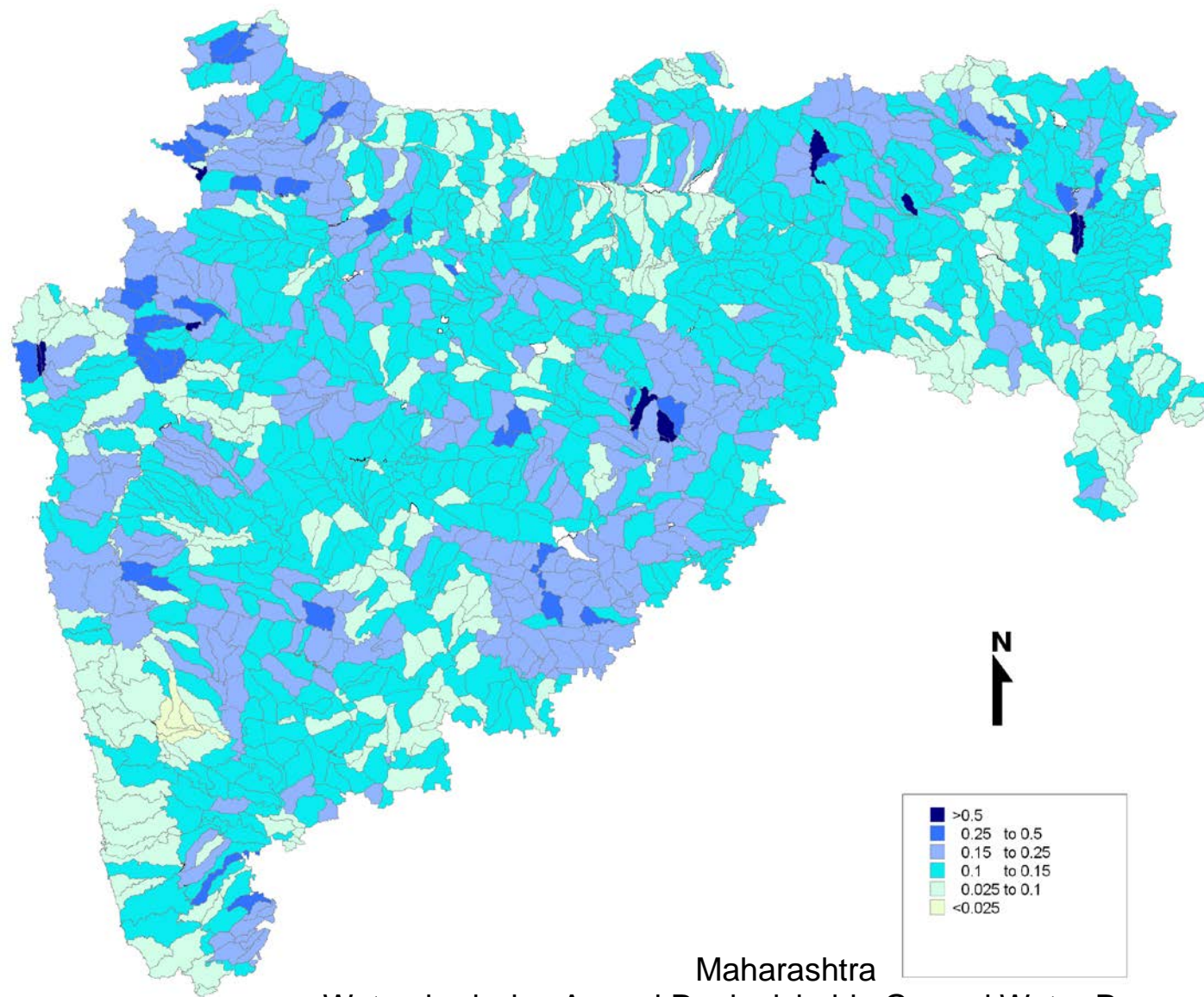
-  > 1500 mg/l
-  1200 - 1500 mg/l
-  900 - 1200 mg/l
-  600 - 900 mg/l
-  300 - 600 mg/l
-  upto 300 mg/l



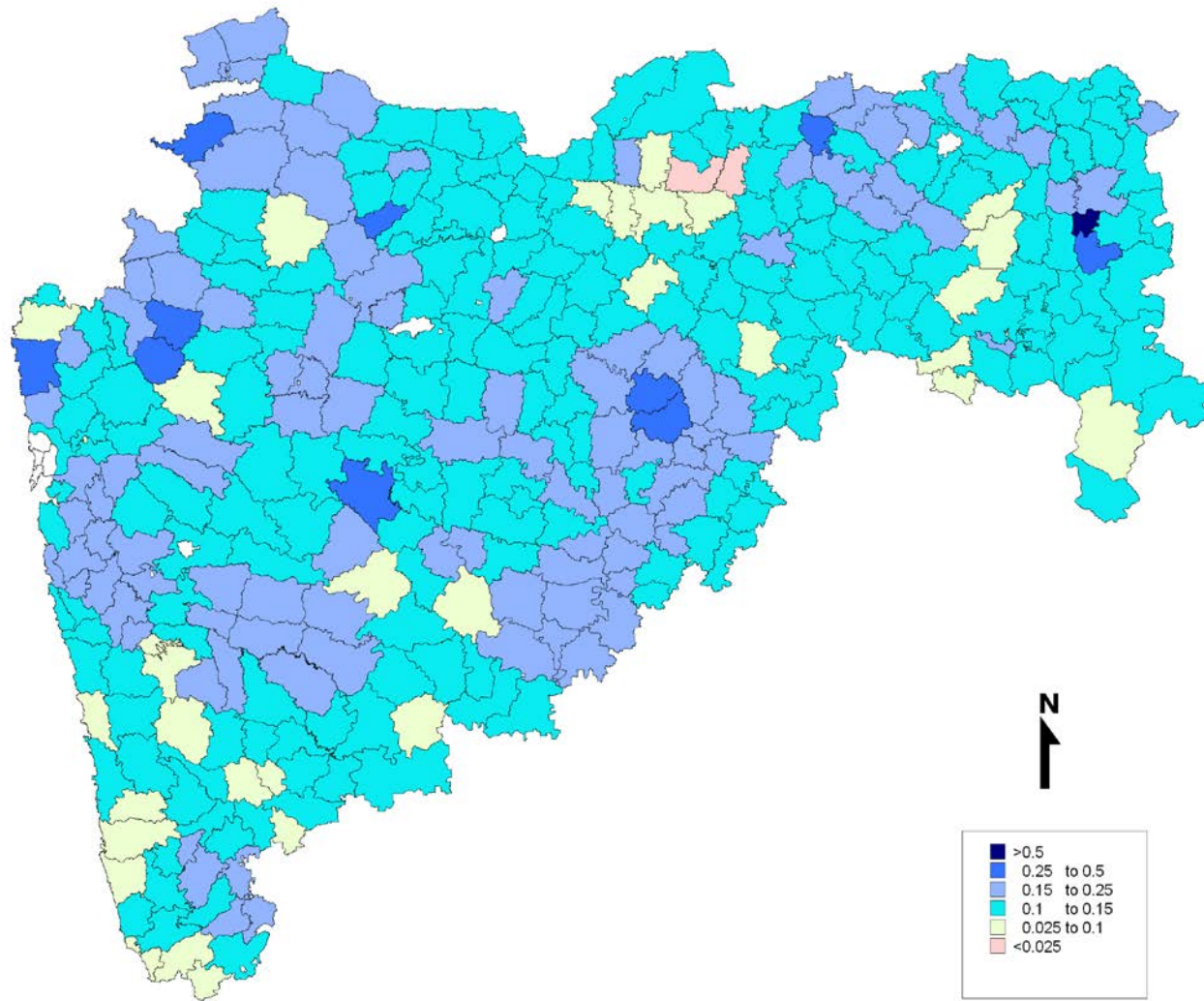
Categorization of Watersheds in Maharashtra
Groundwater Estimation 2008-2009



Categorization of Talukas in Maharashtra
Groundwater Estimation 2008-2009

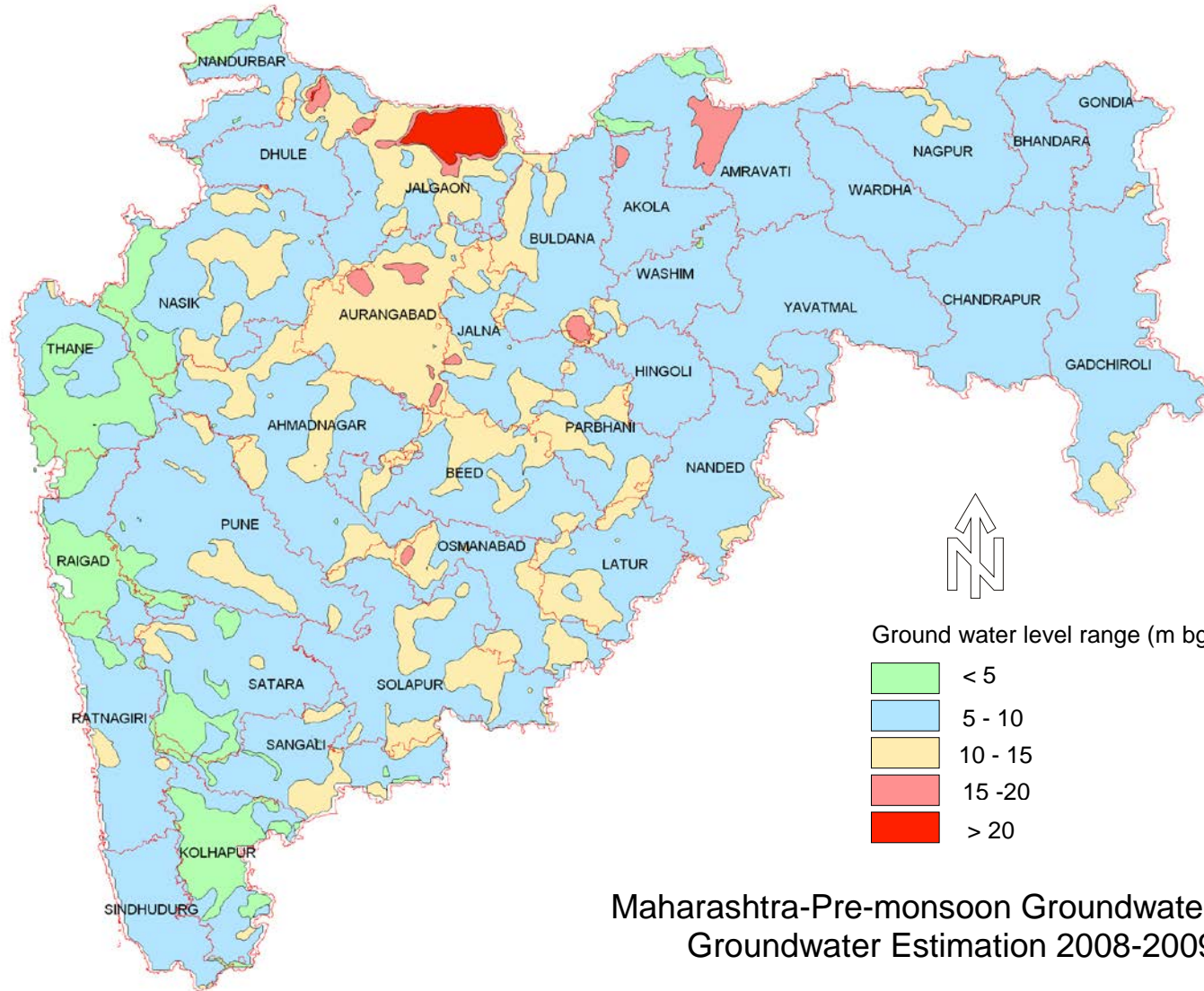


Maharashtra
Watershed wise Annual Replenishable Ground Water Resources
Groundwater Estimation 2008-2009



Dark Blue	>0.5
Medium Blue	0.25 to 0.5
Light Blue	0.15 to 0.25
Cyan	0.1 to 0.15
Yellow	0.025 to 0.1
Pink	<0.025

Maharashtra
Talukawise Annual Replenishable Ground Water Resources
Groundwater Estimation 2008-2009



Maharashtra-Pre-monsoon Groundwater level
Groundwater Estimation 2008-2009

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