STANDING COMMITTEE ON WATER RESOURCES

(2016-2017)

11

SIXTEENTH LOK SABHA

MINISTRY OF WATER RESOURCES, RIVER DEVELOPMENT AND GANGA REJUVENATION

REVIEW OF GROUND WATER SCENARIO, NEED FOR A COMPREHENSIVE POLICY AND MEASURES TO ADDRESS PROBLEMS IN THE COUNTRY WITH PARTICULAR REFERENCE TO (I) DARK BLOCKS; AND (II) CONTAMINATION OF UNDERGROUND WATER BY CERTAIN INDUSTRIES

{Action Taken by the Government on the Observations / Recommendations contained in the Fifth Report (Sixteenth Lok Sabha) of the Standing Committee on Water Resources}

ELEVENTH REPORT

LOK SABHA SECRETARIAT

December, 2016 / Agrahayana,1938 (Saka)

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Presented to Lok Sabha on 08 .12.2016

Laid in Rajya Sabha on 08 .12.2016

LOK SABHA SECRETARIAT

NEW DELHI

December, 2016 / Agrahayana,1938 (Saka)

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STANDING COMMITTEE ON WATER RESOURCES
(2016-17)

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2.	Smt. Rita Jailkhani	-	*Director*
3.	Shri Kushal Sarkar	-	*Additional Director*
4.	Shri Ginsuanlian Guite	-	*Under Secretary*

INTRODUCTION

I, the Chairperson, Standing Committee on Water Resources (2016-2017) having been authorised by the Committee to submit the Report on their behalf, present the Eleventh Report on the Action Taken by Government on the Observations / Recommendations contained in the Fifth Report (Sixteenth Lok Sabha) of the Standing Committee on Water Resources on the subject "Review of Ground Water Scenario, need for a comprehensive policy and measures to address problems in the country with particular reference to (i) Dark Blocks; and (ii) Contamination of underground water by certain industries".

2. The Fifth Report of the Committee was presented to Lok Sabha and laid in Rajya Sabha on 22 December, 2015. The replies of the Government to all the recommendations contained in the Report were received on 12 August, 2016.

3. The replies of the Government were examined and the Report was considered and adopted by the Committee at their sitting held on 23 November, 2016.

4. An analysis of the Action Taken by the Government on the Observations / Recommendations contained in the Fifth Report (Sixteenth Lok Sabha) of the Committee is given in Annexure-VIII.

NEW DELHI;
26 November, 2016
05 Agrahayana, 1938 (Saka)

HUKUM SINGH,
Chairperson,
Standing Committee on Water Resources

CHAPTER I

REPORT

This Report of the Standing Committee on Water Resources deals with the action taken by the Government on the observations / recommendations contained in their Fifth Report (16th Lok Sabha) on "Review of Ground Water Scenario, need for a comprehensive policy and measures to address problems in the country with particular reference to (i) Dark Blocks; and (ii) Contamination of underground water by certain industries" which was presented to Lok Sabha on 22 December, 2015.

2. Action Taken Notes received from the Government in respect of all the 27 observations / recommendations of the Committee, have been categorized as follows:-

(i) Observations / Recommendations which have been accepted by the Government (Chapter II):

Para Nos. 1, 3, 4, 5, 6, 7, 9, 11, 13, 15, 17, 18, 20, 21, 23 and 27

(Total – 16)

(ii) Observations / Recommendations which the Committee do not desire to pursue in view of the Government's replies (Chapter III):

Para Nos. 12, 14 and 25

(Total – 03)

(iii) Observations / Recommendations in respect of which replies of the Government have not been accepted by the Committee (Chapter IV):

Para Nos. 2, 8, 10, 16 and 24

(Total – 05)

(iv) Observations / Recommendations in respect of which final replies of the Government are still awaited (Chapter V):

Para Nos. 19, 22 and 26

(Total – 03)

3. The Committee will now deal with the action taken by the Government on some of the observations / recommendations in the succeeding paragraphs.

A. Database on Natural and Artificial Recharge of Water in India

Recommendation (Para No. 2)

4. As per the latest available assessment carried out by the Central Ground Water Board in the year 2011, the total annual replenishible ground water resources and the net ground water availability are 433 Billion Cubic Metres (BCM) and 398 (BCM), respectively. Out of the net annual ground water availability of 398 BCM, the total annual ground water draft in the country is 245 BCM and the overall stage of the ground water development has reached 62% of the net ground water availability. The Committee also noted that the annual natural recharge to ground water (as in 2011) is around 433 BCM, which includes recharge from rainfall, tanks, ponds, Minor Irrgation structures, surface water bodies, irrigation seepage, etc., while the artificial recharge to ground water was being taken up by various Central / State Government Department / NGOs, individuals, etc. In this regard, the Committee were surprised to note that the latest assessment of replenishable ground water resources was undertaken by the Central Ground Water Board of the Ministry of Water Resources, River Development and Ganga Rejuvenation way back in 2011, which had revealed that no serious and systematic efforts had been made by the Government towards development, management, conservation and related issues such shortages, scarcity, depletion and pollution of ground water, in spite of the alarming trend towards ground water problems in both quantitative and qualitative terms. The Committee were also dismayed to note the Ministry's reply that no single agency is maintaining the database on quantum of artificial recharge to ground water. The Committee, therefore, desired to underline the urgent need on the part of the Ministry of Water Resources,

River Development & Ganga Rejuvenation / Central Ground Water Board to undertake assessment of replenishable ground water resources on a regular basis, preferably after two years, starting from this year. Further, noting that the absence of a single agency in maintaining the database on quantum of artificial recharge to ground water was a serious lacuna in the efforts towards conservation, development and management of ground water resources and tackling related issues such as its over-exploitation, depletion and pollution, etc., the Committee recommended that the Ministry prepare a roadmap for creating a single agency to maintain database on the quantum of natural and artificial recharge to ground water and also on the quantum of ground water being utilized by various stakeholders, including farmers, industries and domestic sectors. The Committee desired to be apprised of the steps taken by the Government in this regard.

5. The Ministry, in its action taken note has replied as follows:

> "The ground water resources estimation of the country is being carried out jointly by Central Ground Water Board (CGWB) and State Government Departments at required intervals of two years as suggested by the Hon'ble Standing Committee of Parliament. The ground water estimations were carried out in 2004, 2009 and 2011. The Estimation of Dynamic Ground Water Resources as on 2013 is under compilation.
>
> State Government being the custodian of all the data pertaining to assessment of ground water resources are being maintained by respective States, which are being used for assessment jointly carried out by State Government and CGWB. However, at the central level CGWB is compiling the data pertaining to natural recharge of ground water and ground water discharge components of ground water estimation."

6. The Committee note from the reply of the Ministry that the ground water estimations were carried out in 2004, 2009 and 2011. The estimation of dynamic ground water resources as on 2013

is under compilation and that the ground water resources estimation of the country is being carried out jointly by the Central Ground Water Board (CGWB) and State Government Departments at required intervals of two years as suggested by the Committee. The Committee also note that at the Central level, CGWB is compiling the data pertaining to natural recharge of ground water and ground water discharge components of ground water estimation. The Committee are dismayed that the Ministry have not unequivocally responded to the Committee's recommendation for preparing a roadmap as yet for creating a single agency to maintain database on the quantum of natural and artificial recharge to ground water being utilized by various stakeholders including farmers, industries and domestic sectors. The Committee, therefore, desire an early response from the Ministry in the matter. Noting further that the estimation of dynamic ground water resources as on 2013 is under compilation, the Committee also fail to understand as to why this exercise on dynamic ground water resources estimation for the year 2013 has not been completed till now. The Committee, therefore, strongly recommend that this exercise be completed in the year 2016 itself and the dynamic ground water resources estimation for 2015 be started immediately without further any delay by fixing a targeted time-frame for its completion. The Committee also reiterate their earlier recommendation for the Ministry to prepare a roadmap for creating a single agency to maintain database on the quantum of natural and artificial recharge to ground water in India and also the quantum of ground water being utilized by farmers, industries and domestic sectors.

B. Study Group on Impact of Paddy Cultivation on Ground Water in Punjab, Haryana and Rajasthan

Recommendation (Para No. 5)

7. The Committee noted that as per the latest assessment year 2011, ground water withdrawal for irrigation purpose accounted for 97.96% in the Punjab, 94.58% in Haryana and 88.47% in Rajasthan. The Committee note from the reply of the Ministry that no specific study had been conducted by the Central Ground Water Board so far on the problem of excessive withdrawal of groundwater due to paddy cultivation in these States. In view of the grim ground water scenario prevailing in the three States, the Committee strongly recommended that the Ministry should set up a study group comprising experts, professionals, officials drawn from their own Ministry / Central Ground Water Board, Ministry of Agriculture, State Governments of Punjab, Haryana and Rajasthan and reputed institutions to make a scientific assessment of the impact of excessive withdrawal of ground water due to paddy cultivation in the States of Punjab, Haryana and Rajasthan and to come out with remedial measures to curtail water draft without compromising on the output of paddy in these States and apprise the Committee accordingly.

8. The Ministry, in its action taken note has replied that an Inter-Ministerial Study Group would be set up.

9. The Committee note from the reply of the Ministry that an Inter-Ministerial Study Group is to be set up to make a scientific assessment of the impact of excessive withdrawal of ground water due to paddy cultivation in the States of Punjab, Haryana and Rajasthan. The Committee are of the opinion that the services of experts, professionals, officials drawn from the concerned State Governments of Punjab, Haryana and Rajasthan and reputed Institutions will prove to be more beneficial in carrying out an assessment of such far-reaching significance. The Committee, therefore, reiterate their recommendation for inclusion of experts, professionals, officials from these three States as well as reputed Institutions in the country in the proposed Inter-Ministerial Study Group. They further desire the Ministry to devise innovative sets of measures to be adopted

by these States to curtail water draft without compromising on the output of paddy in these States and apprise the Committee accordingly.

C. Enforcement of Directions on Rainwater Harvesting / Artificial Recharge to Ground Water

Recommendation (Para No. 9)

10. The Committee noted that directions had been issued on 08.10.2009 to all the Residential Group Housing Societies/ Institutions/ Schools/ Hotels/ Industrial Establishments falling in the over-exploited and critical areas (except in waterlogged areas) in the country to adopt Rooftop Rainwater Harvesting System in their premises and also for implementation of ground water recharge measures along all National Highways/ State Highways and other major roads by the CRRI, National Highways Authority of India, CPWD, State PWDs; along rail tracks by the Indian Railways; in the Stadia by the Sports Authority of India, BCCI and Departments of Sports and Youth Affairs; and in the Airports by the Airport Authority of India, Ministry of Civil Aviation, for Promoting Rain Water Harvesting / adoption of Artificial Recharge to Ground Water (except in the water-logged area). Further, the CGWA had issued directions vide letter dated 08.08.2006 to the Chief Secretaries of 12 States and Administrators in Union Territories having over-exploited blocks to take necessary measures to promote/ adopt artificial recharge to ground water/ rain water harvesting. However, despite these regulatory measures, not much had happened by way of improvement. To cite an example, the Committee noted that there were wastages of water from five star hotels in Delhi. They also noted that the Hon'ble National Green Tribunal (NGT) had issued bailable warrants against 12 hospitals in Delhi for not installing Rainwater Harvesting in their hospital premises, which had been recalled upon application by the hospitals concerned. Noting that an MoU had been signed by the Government of NCT of Delhi with 33 hotels for completion of installation of Rain Water Harvesting System, installation of STPs (Sewage Treatment Plants), Solar Water Heating System, Organic

Waste Converter and Re-use of treated effluent leading to Zero discharge and that, all these 33 hotels had installed Rain Water Harvesting structures and also installed STPs to treat and re-use the waste water, and also that the hotels had also been asked to obtain permission from the Delhi Jal Board (DJB) for ground water extraction, the Committee urged the Government to ensure that these Hotels do not extract water without obtaining prior permission of the DJB in the NCT of Delhi. The Ministry informed that a Committee consisting of officials from the department of Environment, Delhi Pollution Control Committee (DPCC), academicians of IIT and Jamia Millia Islamia University had been reviewing the progress of compliance by these hotels from time to time relating to Green Hotels Guidelines. The Committee desired to be apprised of the outcome of the review/ evaluation work being done by the Said Committee after completion of the exercise. They also desired the Government to ensure that the 12 hospitals in Delhi duly install rain water harvesting structures in their premises. The Committee further desired that the Government take new initiatives to promote re-use of recycled water in a very city, town of the country, and would further like to be apprised of action taken in the matter by the Government.

11. The Ministry, in its action taken note has replied as follows:

"The Hon'ble National Green Tribunal, New Delhi is issuing directions to all the hotels, hospitals, builders and developers in the matter of OA-59/2012 and OA-94/2013. Hon'ble NGT has appointed Local Commissioners and inspection teams for carrying out inspections to verify status of rainwater harvesting and 'No Objection Certificate (NOC)' for extraction of ground water. Hon'ble NGT is also taking coercive action against erring/non-compliant hotels, hospitals, builders and developers. Joint inspection teams headed by Central Ground Water Authority (CGWA), as constituted by NGT, are carrying out inspections and filing reports at present. Final outcome of the above pending matters will be apprised to the Committee.

Ministry of Urban Development has already revised the building bye-laws for reuse for recycle water which have been implemented / enacted in 61 cities across 30 States/ UTs."

12. The Committee observe that the Hon'ble National Green Tribunal (NGT), New Delhi is issuing directions to all the hotels, hospitals, builders and developers in the matter of OA-59/2012 and OA-94/2013, and the Hon'ble NGT has appointed Local Commissioners and inspection teams for carrying out inspections to verify the status of rainwater harvesting and 'No Objection Certificate (NOC)' for extraction of ground water. Further, joint inspection teams headed by the Central Ground Water Authority (CGWA), as constituted by NGT, are carrying out inspections and filling reports presently. The Committee would like to be apprised of the outcome of inspection works of Local Commissioners and inspection teams entrusted to verify the status of rainwater harvesting and 'No Objection Certificate (NOC)' for extraction of ground water within 03 months of presentation of this Report. They also desire to know the time-frame allotted to the joint inspection teams headed by CGWA as also the final outcome in respect of the inspection undertaken by them, as and when available. Further noting that the Ministry of Urban Development has already revised the building bye-laws for reuse of recycled water which have been implemented / enacted in 61 cities across 30 States / UTs, the Committee reiterate their recommendation to the Government to take new initiatives to promote reuse of recycled water not only in 61 cities across 30 States / UTs but in every town of the country. The Committee also would like the expeditious conclusion of review / evaluation works undertaken by a Committee comprising of officials from the Department of Environment, Delhi Pollution Control Committee (DPCC), and academicians from Indian Institute of Technology (IIT) and Jamia Islamia University pertaining to the progress of compliance by 33 hotels in Delhi - relating to Green Hotels guidelines, and to furnish to them an appraisal report in this regard.

D. Master Plan for Artificial Recharge to Ground Water

Recommendation (Para No. 10)

13. The Committee were apprised that a conceptual document titled 'Master Plan for Artificial Recharge to Ground Water to India' prepared by the Central Ground Water Board in 2013 was circulated to all State Government incorporating (i) identification of suitable areas for artificial recharge; (ii) estimation of sub-surface storage space availability; (iii) quantification of local surplus annual run-off availability as source water for artificial recharge; and (iv) recommending number and types of structures required along with their estimated costs, and which also provides district-wise number of feasible artificial recharge structures along with their estimated costs. The total area identified for artificial recharge in the country is nearly 9.4 lakh sq. km., while the total estimated volume of water to be recharge is 85.6 BCM. However, regrettably, only 6 States/ UT Governments have taken follow-up action on the Master Plan viz. Gujarat, Madhya Pradesh, Rajasthan, Uttar Pradesh, West Bengal and Andaman and Nicobar Islands. Nothing that no review has been done regarding implementation of the Master Plan, the Committee desired that the Government take proactive and concerted efforts to encourage all the States/ UTs to take follow-up action on the 'Master Plan for Artificial Recharge to Ground Water to India' and also undertake a comprehensive review of follow-up action taken by States/UTs in this regard during 2014-15 positively. The Committee also noted that the Master Plan envisaged construction of different types of Artificial Recharge and Rain Water Harvesting structures in an area of 91541 sq. kms. by harnessing surplus Monsoon run-off to augment ground water resources. The Ministry had informed the Committee in this regard that during the 12th Plan, the CGWB had taken up the Aquifer Mapping and Management Programme, wherein aquifer-wise ground water resources and quality is to be assessed in priority areas covering 8.89 lakh sq. km which include water stressed ("Over-exploited' areas and quality vulnerable areas. Rs. 2051 crore had been allocated for the Aquifer Mapping and Management Plan during the 12th

Plan as per the Ministry of Water Resources, River Development and Ganga Rejuvenation. The Committee recommended that the Ministry take necessary steps for judicious utilization of Rs. 2051 crore allocated towards Aquifer Mapping and Management Plan during the 12th Plan by implementing a time-bound road map to achieve its objective, i.e. assessing aquifer-wise ground water resources and quality in priority areas covering 8.89 lakh sq. km. in the country. The Committee desired to be informed of the steps taken by the Ministry as also the achievements (physical and financial) made during the 12th Plan so far under the Aquifer Mapping and Management Plan.

14. The Ministry, in its action taken note has replied as follows:

"Chairman, CGWB has written a DO letter on 15.01.2015 to Chief Secretaries/ Administrator of all the States/UTs enclosing therewith a copy of the Master Plan for Artificial Recharge to Ground Water in India, 2013 for implementation of rain water harvesting and artificial recharge.

A review was done in 2014-15 regarding implementation of the Master Plan by the respective State Governments and status of implementation is given at Annexure-II.

Steps taken on Aquifer Mapping : -

1. During XII plan, an area of about 8.89 lakh sq.km area has been prioritized, out of 23 lakh sq.km map-able area of the Country.

2. The prioritized area include 'Over-Exploited', 'Critical' and 'Semi-Critical' assessment units as well as water quality affected and other vulnerable areas in 8 states viz. Punjab, Haryana, Rajasthan, Gujarat, Andhra Pradesh, Telangana, Karnataka, Tamil Nadu and in the National Capital Region. Moreover, water scarce areas such as Bundelkhand region covering parts of the Madhya Pradesh & Uttar Pradesh and; parts of Arsenic affected areas have also been prioritized.

3. Current activities of data generation for various activities under Aquifer Mapping have been taken up on a mission mode in prioritized areas of these States and Bundelkhand Region covering an area of around 5.25 lakh sq.km.

4. The activities for data generation in the remaining areas of XII plan across the Country are also being taken up simultaneously.

Physical achievements during the XII Plan (2012-17), as on 31st December, 2015 under the aquifer mapping programme is as given below :

- Data collection, compilation and data gap analysis for the entire prioritized area of 8.89 lakh sq.km have been completed.

- Pilot projects in an area of 3006 sq.km falling under the States of Bihar, Rajasthan, Maharashtra, Karnataka and Tamil Nadu has been completed. Reports have been finalized and uploaded on the website of the department.

- Aquifer mapping of National Capital Region encompassing an area of 26185 sq.km falling under the States/UT of Uttar Pradesh, Haryana and Delhi has been completed and ground water management plan has been prepared.

- 9146 number of Vertical Electrical Sounding (VES) and 383 number of bore-hole logging have been conducted.

- 2842 number of ground water exploration wells have been constructed.

- 89651 ground water samples have been analyzed.

Financial performance in respect of Aquifer Mapping during XII Plan, as on 31st December, 2015 is given at Annexure-III."

15. The Committee observe that in order to ensure implementation of 'Master Plan for Artificial Recharge to Ground Water to India' of Central Ground Water Board, the Chairman, CGWB on 15.01.2015 had written to Chief Secretaries / Administrator of all the States / UTs. Also, a review was done in 2014-15 regarding implementation of the Master Plan by the respective State Governments. Sadly however, the picture that emerged from the said review as forwarded by the Ministry to the Committee has revealed a very dismal performance. Accordingly, out of the 29

States / UTs mentioned in the List, the majority of States / UTs have not implemented the Master Plan, i.e. Andhra Pradesh, Bihar, Goa, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Kerala, Maharashtra, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttarakhand, Chandigarh, Dadra & Nagar Haveli, Lakshadweep, and Puducherry. Only 03 States / UTs i.e. Delhi, Chhattisgarh and Andaman and Nicobar Islands are stated to be considering the Master Plan for implementation, while Daman and Diu is stated be in the process of implementation. The Committee also note that a few States have initiated steps towards implementation of the Master Plan, i.e. (i) a Task Force comprising of technical experts was constituted by Government of Gujarat to prepare First Estimation Report for ground water recharge in 06 major river basins, (ii) Minor Irrigation Department, Government of Karnataka has spent about Rs. 9,899/- lakh for constructing artificial recharge structures like check dams, percolation ponds, gokattes etc., (iii) The Chief Engineer (Bodhi) constituted a coordination committee for finalizing Master Plan for Artificial Recharge to Ground Water in Madhya Pradesh, (iv) Government of Uttar Pradesh has prepared a comprehensive policy for ground water management, rainwater harvesting and ground water recharge highlighting the CGWB's Master Plan, and (v) in West Bengal, certain artificial recharge structures are being constructed by PHED, Government of West Bengal utilizing the guidelines provided in Master Plan. The Committee strongly recommend the Ministry to pursue with all the non-performing States / UTs to speed up the implementation of the Master Plan in a time-bound manner and apprise the Committee accordingly. They also desire the Ministry to take concrete steps to achieve the target of 8.89 lakh sq. km. prioritized for coverage under Aquifer Mapping and Management Plan during 12th Plan under intimation to the Committee.

E. Census and Inventorization of Water Bodies and Installation of Water Meters on Tube Wells.

Recommendation (Para No. 16)

16. The Committee noted that as per the 4th Minor Irrigation Census (2006-07), the total number of water bodies used for Minor Irrigation in the country was 523816, of which the number of water bodies in use and not in use are 443688 and 80128 respectively. The Committee were informed that the data on the number of ponds is not available separately. The Committee also noted the reply of the Ministry that inventorization of water bodies is feasible and in order to collect the details of water bodies, the Ministry of Water Resources, River Development and Ganga Rejuvenation has planned to undertake census of all water bodies in the country. Noting the importance of water bodies for their potential to recharge ground water resources, the Committee recommended the Ministry to initiate urgent steps to complete inventorization of water bodies and also complete the exercise of undertaking census of water bodies, being planned by the Ministry, within a definite time-frame. The Committee were surprised to find that even the data on number of ponds was not available separately with the Ministry, and they desire that a comprehensive assessment in this regard also is an imperative need to be made at the earliest. Further, the Committee were of the view that no programme/ scheme had been initiated by either the Union or State Government for desilting water bodies, which are in fact facing encroachments from human settlements as well as plants/weeds etc. The Committee, therefore, recommended that new initiatives in this regard be taken up by the Ministry for launching special programme for upkeep, maintenance and restoration of water bodies, especially in those areas which fall under the Dark Blocks, with sufficient budgetary allocation for its proper implementation. Further, steps were recommended to be taken so that extraction of water from water bodies is limited only upto certain permissible level in order to guarantee the sustainable level of water bodies. The Committee further recommended strong measures need to be taken by the Government to undertake survey of the water bodies encroached upon all over the country

and steps be initiated for removal of all encroachment therefrom. Noting that the extraction of ground water had not been regulated effectively which has led to serious decline in the ground water levels in many parts of the country, the Committee also desired that to restrain unnecessary use of ground water for irrigation and drinking purposes, installation of water meters be made mandatory on the principle of 'Beneficiary Pays' in all tube-wells across the country. In the Dark Blocks, special irrigation functional schemes be introduced and farmers should be incentivized to grow more water efficient crops and adopt water efficient irrigation techniques like drip irrigation, sprinkler irrigation, etc. to reduce water consumption in agriculture and people should also be encouraged to adopt and apply water efficient technologies and re-use of waste water.

17. The Ministry, in its action taken note has replied as follows:

"As regards the mandatory metering on principle of 'Beneficiary Pays' to all tube wells across the country, it is submitted that at present one SLP is pending in Hon'ble Supreme Court of India (SLP No. 20888 of 2015: Ramesh Ailawadi vs UOI and Others) on pricing of ground water. The matter being sub-judice and also, being an issue falling under State subject, it is proposed to send a letter to all the States/UTs from M/o WR, RD&GR for taking action as per the observations of Standing Committee. A Draft letter is this regard would be submitted to MOWR, RD & GR.

As informed, Department of Agriculture, Cooperation & Farmers Welfare is already implementing Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) with the vision of extending the coverage of irrigation 'Har Khet Ko Pani' and improving water use efficiency 'More Crop Per Drop' in a focused manner and to expand cultivable area under assured irrigation and improve on-farm water use efficiency.

The matter of keeping water bodies encroachment free comes under the purview of concerned State Governments. However, Secretary (WR, RD & GR) vide letter dated 26.02.2016 has issued an advisory to the States for keeping water bodies free from encroachment, removing

encroachment of existing water bodies and rejuvenate those water bodies, which have been encroached, in mission mode."

18. The Committee had recommended to the Ministry to initiate urgent steps to complete inventorization of water bodies and also complete the exercise of undertaking census of water bodies, being planned by the Ministry, within a definite time-frame. Also noting that even data on the number of ponds is not available separately with the Ministry, the Committee had recommended that a comprehensive assessment in this regard be made at the earliest. The Committee had further noted that no programme / scheme has been initiated for desilting water bodies which are facing encroachments from human settlements as well as plants / weeds etc., and had, therefore, recommended for taking new initiatives by launching special programme for upkeep, maintenance and restoration of water bodies, specially in those areas falling under the Dark Blocks, with sufficient budgetary allocation for its proper implementation. They had also recommended for taking strong measures by the Government to undertake survey of the water bodies encroached upon all over the country and steps be taken for removal of all encroachments therefrom. However, the reply of the Ministry has merely sought to skirt these issues by stating that "the matter of keeping water bodies encroachment free comes under the purview of concerned States Governments". The Committee are totally dissatisfied with the reply, and they, therefore, reiterate their recommendation with an expectation that the Ministry would initiate the appropriate measures in this matter under intimation to them, within three months of presentation of this Report.

F. National Perspective Plan on Ground Water and Task Force to assess Ground Water Resources.

Recommendation (Para No. 20 & 21)

19. The Committee noted that based on the criteria suggested by the Ground Water Resources Estimation Committee (GEC 1997), assessment of ground water resources had been made and categorized under different assessment units. Accordingly, 1071 assessment units had been identified as 'Dark' (over-exploited) blocks, 217 as 'Critical' blocks and 697 'Semi-critical' blocks in 2011. According to the Ministry, the number of Dark (over-exploited) blocks had witnessed an increase of 765 in 2011 as compared with 2009. The Committee also noted that vagaries of Monsoon rainfall resulting into reduced rainfall and exploitation of ground water for irrigation, domestic and industrial purposes in a proportion more than the rainfall recharge are the main factors that have resulted in depletion of ground water. The Committee were fully convinced that the ground water scenario is heading towards a potential crisis in the future and that necessary corrective measures were needed to be undertaken by the Centre, State, Local governments/ bodies and all stakeholders, viz. villagers, urban dwellers, farmers, industrialists, Water Users Associations (WUAs), etc., without loss of further precious time. To begin with, the Committee were of the view that a national perspective plan needs to be evolved by the government for efficient management, development and augmentation of the rapidly-depleting ground water resources, and they, therefore, desired that the Government expeditiously initiate steps for creation of a separate panel comprising experts, specialists and officials drawn from cross-sections of society to deliberate on and formulate the national perspective plan on ground water resources, which would prepare a roadmap for arresting the present declining trend of ground water and also work out a comprehensive strategy for meeting the increasing demands for ground water from the growing population in the decades to come. The Committee desired to be apprised of the action taken by the government in this regard at the earliest.

The Committee noted that the ground water quality is gradually but surely declining everywhere. They also noted that a vast majority of ground water quality problems are caused by large scale

concentrated pollution such as industrial discharge, landfills, sub-surface injection of chemicals and hazardous waste. In some other areas, elevated level of Arsenic in ground water is caused by natural processes and also by application of fertilizers. According to the Central Pollution Control Board, a vast majority of ground water quality problems are caused by contamination, over-exploitation or combination of the two. Ground water pollution is difficult to detect, and the contamination is not detected until obnoxious substances actually appear in water used, by which time the pollution has often dispersed over a large area. Noting further the statement of the Ministry of Drinking Water and Sanitation that nearly 85% of rural drinking water supply in the country is based on ground water and over-exploitation and subsequent ground water development is inducing more chemical contamination in aquifers, the Committee were convinced that concerted action is urgently required to be launched by the Ministry of Water Resources, River Development & Ganga Rejuvenation to reverse this highly alarming trend of ground water depletion / contamination. The Committee, therefore, recommended that the Ministry, in coordination with other allied Ministries such as Environment, Forests & Climate Change, Agriculture, Drinking Water & Sanitation, Rural Development, Urban Development may institute a task force to undertake detailed study / assessment of the health, productivity and status of ground water, including aquifers and submit a report in the matter with recommendations within a time-frame to protect augment and restore the underground water. The Committee desired to be apprised of action taken by the Government in this regard.

20. The Ministry, in its action taken note has replied as follows:

> "Proposal for Constitution of Committee on National Perspective Plan on Ground Water is being formulated.
>
> The regional offices of CGWB have been requested to carry out the study recommended by the Hon'ble Committee or send a detailed proposal if outsourcing is required to carry out such a study.

CGWB under NAQUIM is in the process of compilation of data pertaining to aquifer characterization, ground water availability, utilization, chemical quality and formulation of sustainable management plan of the resources and resources enhancement.

However, in order to assess the health, productivity and status of ground water due to multi-sectoral utilization and its impact on ground water regime, it is proposed to constitute inter-ministerial Task Force as advised by the Hon'ble Standing Committee of Water Resources.

Ministry of Urban Development support the recommendations of task force. Central Public Health and Environmental Engineering Organization (CPHEEO), a technical wing of Ministry of Urban Development dealing with the matters related to Urban Water Supply & Sanitation may be involved in the above programme."

21. The Committee note with optimism from the reply of the Ministry that an Inter-Ministerial Task Force is proposed to be constituted in order to assess the health, productivity and status of ground water due to multi-sectoral utilization and its impact on ground water regime, and they recommend that necessary follow-up steps to be taken by the Government to fructify the constitution of the proposed task force in a definite time-frame as recommended by the Committee. The Committee also note that Central Ground Water Board (CGWB) under National Aquifer Mapping (NAQUIM) is in the process of compiling data pertaining to aquifer characterization, ground water availability, utilization, chemical quality and formulation of sustainable management plan of the resources and resources enhancement, and they desire that this exercise be completed during 2016-17 itself. As regards the Committee's recommendation for constitution of a separate panel comprising experts, specialists and officials to deliberate on and formulate National Perspective Plan on ground water resources, the Committee note from the Ministry's reply that a proposal for constitution of Committee on National Perspective Plan on Ground Water is being formulated. The Committee are convinced that the ground water scenario

of the country is headed towards a dangerous crisis in the near future, and they, therefore, recommend that the proposed constitution of Committee on National Perspective Plan on Ground Water be completed at the earliest by making concerted efforts by the Ministry / CGWB - so that a roadmap is chalked out for arresting the present declining trend of ground water in the country and for working out a comprehensive strategy for meeting the increasing demands for ground water from the growing population in the decades to come. The Committee would like to be informed of further action taken in this regard.

G. Contamination of Underground Water by Polluting Industries in Dark Blocks.

Recommendation (Para No. 22)

22. The Committee observed from the reply of the Central Pollution Control Board that industries responsible for ground water as well as surface water pollution fall broadly in the categories of slaughter houses, distilleries, pulp and paper, tanneries, textiles, chemicals and dyeing industries. The CPCB had undertaken a comprehensive assessment of 88 industrially polluted areas in the country based on the Comprehensive Environmental Pollution Index (CEPI) out of which 43 industrial clusters in sixteen States had been classified as critically polluted areas (CPAs) with CEPI scores of 70 and above. So far, 3 rounds of environmental quality monitoring (Air, Surface Water and Ground Water) had been undertaken by CPCB (in 2009, 2011,2013) at a total cost Rs. 21.43 lakh, Rs. 78.34 lakh and Rs. 56.00 lakh during 2009, 2011 and 2013 respectively. The Ministry of Water Resources, River Development and Ganga Rejuvenation also informed that directions had been issued by the CPCB to all the State Pollution Control Board (SPCBs) of 43 CPAs for installation of Continuous Ambient Air Quality Monitoring Stations and Continuous Water Quality Monitoring Stations in each of the 43 CPAs. The Committee were of the firm opinion that there is a need to keep a strict vigil on polluting activities of industrial establishments in the 24

CPAs, especially those located in the Dark Blocks Zones. The Committee, therefore, recommended that the Ministry in coordination with the Central Pollution Control Board of the Ministry of Environment, Forests & Climate Change, devise an effective mechanism to identify CPAs located in Dark Block areas and also to take steps to minimize and control the dumping of industrial waste into surface water as well as underground aquifers in these area. Noting that comprehensive remedial action plan for the 43 identified critically polluted industrial clusters was prepared by SPCBs, the Committee desired the Ministry to strictly pursue with the CPCB/SPCBs for effective implementation of the comprehensive remedial action plan in order to reduce and minimize ground water pollution in the Dark Blocks zones. Further noting that three rounds of environmental quality monitoring had been carried out by the CPCB through reputed environmental labs in 2009, 2011 and 2013, the Committee desired that such monitoring activity by the CPCB be undertaken on an annual basis in those 24 CPAs. The Committee also desired that the Ministry keep tab on CPCB to ensure that its directions to SPCBs concerned of the 43 CPAs regarding installation of Continuous Ambient Air Quality Monitoring Stations and Continuous Water Quality Monitoring Stations are duly complied with by the SPCBs. The Committee desired to be informed about further action taken in this regard.

23. The Ministry, in its action taken note has replied as follows:

> "Ministry of Water Resources, RD & GR has written several letters and D.O letters to Central Pollution Control Board (CPCB), but their Action Taken Report is still awaited. A copy of this Action Taken Report is being endorsed to CPCB for necessary action."

24. The Committee, in their 5th Report (16th Lok Sabha), had recommended the Ministry to (i) devise an effective mechanism with Central Pollution Control Board (CPCB) to identify Critically Polluted Areas (CPAs) located in Dark Blocks and take steps to minimize / control the dumping of industrial waste in surface and underground aquifers in these areas, (ii) pursue with CPCB/SPCBs

(State Pollution Control Boards) for implementation of the comprehensive remedial action plan for 43 critically polluted industrial clusters already prepared by SPCBs, (iii) undertake on annual basis, environmental quality monitoring by CPCB in 24 CPAs on line of three rounds of such monitoring undertaken by CPCB through reputed environmental labs in 2009, 2011 and 2013, and (iv) keep tab on CPCB for ensuring that its directions issued to SPCBs concerned of 43 CPAs regarding installation of Continuous Ambient Air Quality Monitoring Stations are duly complied with by SPCBs. Sadly, the reply of the Ministry has only indicated that the Committee's recommendations in the foregoing lines have been referred to CPCB, who is yet to send its Action Taken Report. The Committee desire to be apprised of the Action Taken Report of the CPCB within a period of one month from the presentation of this Report.

H. Implementation of 24X7 Monitoring Devices and Zero Liquid Discharge by Industries

Recommendation (Para No. 23)

25. The Committee noted that the CPCB has directed the SPCBs/PCCs (Pollution Control Committee) to install 24 x 7 real time monitoring devices at effluent and emission discharge points in industrial units throughout the country. Out of 2800 industries to which such directions were issued, nearly 50 per cent of the industrial units had moved towards compliance. More than 920 industries have installed 24 x7 monitoring devices and another 400 units had moved towards Zero Liquid Discharge (ZLD). Further, online monitoring data communication had been started by the industries to CPCB/SPCBs on the status of compliance with respect to effluents and emissions. The Committee also noted that new industrial units in Distillery, Textile, Tannery, Chemicals, Fertilizers, Dyes and Pharmaceuticals had been mandated to achieve ZLD from the commissioning along with installation of 24 x 7 monitoring systems. The existing units in these sectors were required to switch over to ZLD in a time bound manner and were required to

install web cameras instead of continuous effluent monitoring devices. The Committee desired that the CPCBs direction to SPCBs/PCCs regarding installation of 24x7 real time monitoring devices at effluent and emission discharge points in industrial units throughout the country be made a mandatory requirement for all heavy and medium industries. They also desired that the CPCB strictly monitor the implementation of its directions to SPCBs/PCCs in this regard so that no scope is left for emitting or discharging contaminated/ polluted air or waste water by the industries. The Committee also noted that only 50% of the industrial units out of 2800 industries to which the directions had been issued by CPCBs, have moved towards compliance and they desired that the remaining 50% of industrial units may also be prevailed upon by CPCB for compliance. The Committee further desired that all industrial units located in the Dark Blocks should be mandatorily required to install necessary devices for achieving ZLD (Zero Liquid Discharge) so that industrial wastes discharge to surface as well as ground water is kept at the bare minimum. Additionally, the Committee desired that all industries, especially those belonging to polluting categories such as slaughter houses, distilleries, pulp and paper, tanneries, textiles, chemicals and dyeing industries, be mandatorily required to treat their industrial waste through Common Effluent Treatment Plants (CETPs) and necessary steps may be initiated in this regard by CPCB at the earliest. The Committee desired to be apprised of further action taken in this regard.

26. The Ministry, in its action taken note has replied as follows:

"CPCB has formulated an action plan for implementation of zero liquid discharge, water conservation and management practices in water polluting industries. The Action points are as under :

(i) Preparation of Guidelines on techno-economic feasibility of implementation of Zero Liquid Discharge (ZLD), water conservation and management practices in water pollution industries, giving emphasis on Ganga Basin States.

(ii) Issue of directions to nine Ganga basin State Pollution Control Boards directing to follow time targeted action plan in Distillery, Sugar, Pulp & Paper, Tannery and Textile sectors.

(iii) Preparation and submission of action plan to achieve Zero Liquid Discharge in Tannery, Distillery and Textiles (Medium, Large and cluster based textile units).

(iv) Distilleries have been directed to operate on ZLD.

(v) Revised standards have been notified for Sugar industries. Wherein treated effluent discharge quantity has been limited to 200 lit/tonne of cane crushed with emphasis on water conservation and to reduce the pollution load. Effort is being done to utilise the treated effluent in irrigation in order to achieve ZLD to rivers.

(vi) Revised charter for corporate responsibility has been implemented in Pulp & Paper industries for reduction in water consumption.

(vii) Revised standard for tanneries and textile sector are in the process of notification.

(viii) Revised standards for CETP have been notified.

Comprehensive Environmental Pollution Index (CEPI)

Central Pollution Control Board (CPCB) in collaboration with Indian Institute of Technology (IIT), Delhi had carried out comprehensive environmental assessment of 88 prominent industrial clusters during 2009-10 based on Comprehensive Environmental Pollution Index (CEPI) criteria. CEPI is a rational number between 0 and 100, assigned to a given location to characterize the environmental quality following the algorithm of source, pathway and receptor. Out of identified 88 prominent industrial clusters, 43 industrial clusters in 16 States having CEPI score of 70 and above are identified as Critically Polluted Industrial Clusters, while industrial clusters with CEPI scores between 60 & 70 are categorized as severely polluted areas. Considering the practical problem in calculation of CEPI score, CPCB has developed revised CEPI criterion.

The revised Comprehensive Environmental Pollution Index (CEPI) is based on Sources of pollution, real time observed values of the pollutants in ambient air, surface water and ground water and in and around the industrial cluster and health related statistics. For assessment of the environmental quality of the area i.e. CEPI score, the concept of SNLF i.e. a surrogate number

which represents the level of exposure (a function of percentage sample exceedence & exceedence factor) shall be used.

Health component to be evaluated based on the health data available from major hospitals in the area was also retained in the revised concept.

Action plan has been prepared for all CPAs and it has been monitored by SPCB & CPCB regularly. Ministry of Environment, Forests & Climate Change (MoEFCC) imposed moratorium on consideration of developmental projects in CPAs in all the 43 CPAs. Subsequently, MoEFCC lifted the moratorium in a phased-manner. Presently, moratorium has been lifted from 28 CPAs and re-imposed in 08 CPAs inclusive Vapi (Gujarat) has been kept in abeyance vide MoEFCC's office Memorandum dated 10.06.2014. Currently, moratorium is in force in 6 CPAs namely- Ankaleshwar, Vatva, Vellore (North Arcot), Jodhpur, Pali, Najafgarh Drain Basin. The status of moratorium in the 43 CPAs (State-wise) is given below:

Status of Moratorium

(as on 09.03.2016)

State	**CPAs where moratorium has been lifted (28)**	**CPAs where the re-imposition of moratorium is kept in abeyance**	**CPAs where moratorium is currently in-force (15)**
Punjab (2)	Mandi-Gobindgarh	Ludhiana (R-KIA)	-------
Haryana (2)	Faridabad	Panipat (R-KIA)	-------
Uttar Pradesh (6)	Varanasi- Mirjapur Agra Noida Kanpur (LR)	Ghaziabad (R-KIA) Singraulli (R-KIA)	-------
West Bengal (3)	Howrah (LR) Haldia (LR) Asansole (LR)	-------	-------
Jharkhand (1)	Dhanbad (LR)	-------	-------

Orissa (3)	Angul-Talcher Ib valley	Jharsuguda (R-KIA)	-------
Chhattisgarh (1)	Korba (LR)	-------	-------
MP (1)	-------	Indore (R-KIA)	-------
Gujarat (6)	Bhavnagar Junagarh Ahmedabad (LR)	Vapi (R-KIA)	Ankaleshwar Vatva
Maharashtra (5)	Tarapur Navi Mumbai Aurangabad Dombivalli Chandrapur	-------	
AP (2)	Visakhapatanam (LR)	Patancheru-Bollaram (R-KIA)	-------
Karnataka (2)	Mangalore Bhadravati	-------	-------
Tamilnadu (4)	Coimbatore Cuddalore Manali (LR)	-------	Vellore (North Arcot)
Kerala (1)	Greater Kochin	-------	-------
Rajasthan (3)	Bhiwadi (LR)	-------	Jodhpur, Pali
Delhi (1)	-------	-------	Delhi (Action Plan awaited from DPCC)
Total	**29**	**8**	**6**
LR stands for 'Lifted vide MoEF's O.M. dated 17th September, 2013 R-KIA stands for 'Re-imposed vide MoEF's O.M. dated 17th September, 2013 and then implementation of provisions of this OM is kept in abeyance vide OM dated 10.06.2014			

CPCB has been receiving numbers of representations from Gujarat State Pollution Control Board (GPCB) and other agencies of State Government of Gujarat on a regular basis for lifting of moratorium. It has been decided that moratorium of CPAs be reviewed after carrying out another round of CEPI assessment based on the latest Environmental quality data in all the 43 CPAs after another round of CEPI assessment based on the latest environmental quality data."

27. Regarding the issue of contamination of underground water by industries, the Committee had recommended that the directions of the Central Pollution Control Board (CPCB) to the State Pollution Control Boards (SCPCBs) / Pollution Control Committees (PCCs) regarding installation of 24X7 realtime monitoring devices at effluent and emission discharge points in industrial units throughout the country be made mandatory for all the heavy and medium industries. They had also desired that all industrial units located in the Dark Blocks be mandatorily required to install necessary devices for achieving Zero Liquid Discharge (ZLD) so that industrial wastes discharge to surface and ground water is minimized. The Committee had further recommended that all industries of polluting category, i.e. slaughter houses, distilleries, pulp and paper, tanneries, textiles, chemicals and dyeing industries, be mandatorily required to treat their industrial waste through Common Effluent Treatment Plants (CETPs) and necessary steps be initiated by CPCB in this regard. However, the reply of the Ministry has suggested that the Committee's recommendations in this regard had been referred to the Central Pollution Control Board (CPCB) and its Action Taken Reply is still awaited. The Committee strongly recommend the Ministry to vigorously pursue the matter with the Central Pollution Control Board (CPCB), and apprise them about the factual position within one month of the presentation of this Report.

I. Water Quality Affected Habitations

Recommendation (Para No. 24)

28. The Committee noted that the Ministry of Drinking Water and Sanitation have informed that as per online 'Integrated Management Information System' (IMIS), as on 18th May, 2015 States had reported 63,282 water quality-affected rural habitations (Arsenic-1482, Fluoride-11309, Salinity-16289, Iron-32020, Nitrate-2182) in the country. Further, as reported by the States on online IMIS of the Ministry, heavy / toxic metals had been found in nearly 8862 rural in habitations, of which Punjab, Assam and West Bengal were the most affected States in terms of concurrence of emerging contaminants in drinking water sources. In this connection, the Committee further noted that excessive intake of Fluoride and Arsenic in drinking water poses serious health hazards especially in quality affected rural habitations. The Committee, therefore, desired that a concerted national programme be launched by the Ministry for the 63282 water quality affected rural habitations. They also desired that a new initiative may be taken up for those 8862 rural habitations which are facing contamination of heavy / toxic metals, especially for the States of Punjab, Assam and West Bengal, which are the most affected in terms of occurrence of emerging contaminants in drinking water sources. The Ministry of Drinking Water & Sanitation had advised all States to go in for surface water based, piped water supply PWS) for providing safe drinking water in this water quality affected areas and these States had been advised to provide community water purification plants. The Committee were pleased to note that most State Governments had shifted their schemes towards surface water based piped water scheme, especially in water quality affected areas. The Committee were also happy to note that in Fluoride affected Karnataka, they had installed 1320 reverse osmosis (RO) plants whereas in the State of Punjab, 1876 RO Plants had been installed for providing safe water for drinking and cooking purposes. The Committee, therefore, desired the Government to tackle the problem of drinking water in the rural areas on war footing and make all out efforts for provision of piped water supply to maximum rural areas in the country, wherever feasible. The Committee further

recommended to incentivize the worst affected States of Assam and West Bengal to go in for installation of RO plants as we done in Punjab and Karnataka. They also recommended that special steps be taken by the Ministry in coordination with the Ministry of Drinking Water and Sanitation to promote community water purification plants in the water quality affected rural habitations all over country and desired to be apprised accordingly.

29. The Ministry, in its action taken note has replied as follows:

"In each of the State, where cluster water supply is being provided through ground water sources, Regional Offices of Central Ground Water Board being Member of State Level Source Selection Committee (SLSSC) recommends necessary remedial measures if required.

As reported by the States on Integrated Management Information System (IMIS) of Ministry of Drinking Water & Sanitation (MoDWS), as on 03.02.2016, there are 60,953 water quality affected rural habitations in the Country which are yet to be provided safe drinking water as below:

Total water quality affected habitations	**Fluoride affected habitations**	**Arsenic affected habitations**	**Nitrate affected habitations**	**Iron affected habitations**	**Salinity affected habitations**
60,953	11,414	1,312	2,212	30,740	15,275

The above figure indicates that 2,329 water quality affected habitations have been tackled by the States from the previously submitted data by the Ministry (reported at IMIS, as on 18.05.2015). Furthermore, MoDWS has taken the issue of heavy/toxic metals contamination reported on the website of the Ministry with the States. The States were advised to check the data and delete the erroneous figures. Accordingly, States have revised the number of habitations affected with heavy/toxic metals to previously reported figure of 8,862 to 5,862 (as on 03.02.2016) as per the revised laboratory records entered into IMIS for the year 2015-16. However, if the laboratory

reports of all financial years is taken into cognizance since 2009-10, the total number of heavy/toxic metals affected habitations are 16,094.

MoDWS has prepared a Strategy Plan to provide safe drinking water to 90% of the rural population of the Country preferably through surface water based piped water supply schemes by the year-2022 as a long-term sustainable solution, subject to availability of funds. The Strategy Plan to tackle water quality affected habitations is as below:

Long term sustainable solution: Since Piped Water Supply (PWS) schemes based on safe water sources, is the sustainable solution, MoDWS has advised the States to cover all water quality affected habitations with PWS schemes, preferably based on surface water as sources.

In addition, World Bank assisted projects are presently being implemented in 4 Low Income States (Bihar, Uttar Pradesh, Assam & Jharkhand), for which the funds are provided through World Bank. Water quality affected habitations are also prioritized under this project.

Short Term solution: Since commencement of large PWS schemes take about 4-5 years, and the people living in these affected habitations cannot be put to risk of consuming contaminated water, the Ministry has advised all the States to install Community Water Purification Plants (CWPPs) in all water quality affected habitations prioritizing Arsenic and Fluoride affected habitations, as a short term measure to provide 8-10 litres per capita per day (lpcd) of water (meant for drinking and cooking purposes only).

States are tackling water quality affected habitations by implementation of PWS schemes (as long term measure) or by installation of CWPPs (as short term measures) with the funds available under the National Rural Drinking Water Programme (NRDWP). However, as the funding for NRDWP was reduced substantially in 2014-15, installation of new CWPPs in different water quality affected habitations was found to be difficult with the available funds under NRDWP. The matter was taken at the higher level. Since Arsenic and Fluoride in drinking water are the most hazardous elements from health point of view, it was decided that NITI Aayog would provide Rs. 1000 crore to the States having Arsenic and Fluoride affected rural habitations as below:

1. Rs. 800 crore for installation of CWPPs for providing 8-10 lpcd of safe drinking water meant for drinking and cooking purposes in 19 States having Arsenic and Fluoride affected rural habitations. This would be an interim measure till PWS schemes are commissioned in these habitations. CWPPs to be installed by the funds provided by NITI Aayog should, preferably, be commissioned by July, 2016 and Operation & Maintenance would rest with the State Governments. Allocation to the affected States is based on population affected in these States.

2. Rs. 200 crore would be provided for PWS schemes in water quality affected habitations with a specific funding pattern having internal and external monitoring and certain administrative expenses of NITI Aayog. Since Rajasthan has the largest number of Fluoride affected habitations and West Bengal has the largest number of Arsenic affected habitations in the Country, special focus has been given to prioritize/cover the problems in these States. NITI Aayog and MoDWS discussed with the Principal Secretaries of the States and identified such surface water based PWS schemes which require only last mile connectivity. It was decided that by provisioning of certain funds for this purpose, large number of Arsenic and Fluoride affected habitations would be covered. Based on the proposal to be submitted by the States of Rajasthan and West Bengal, NITI Aayog will release funds so that the Arsenic and Fluoride affected habitations are tackled, preferably, by March, 2017.

Funds to be provided by NITI Aayog would be in addition to the funds to be provided as 100% Central assistance to the States. This would be one time additional Central assistance. The fund to be provided by NITI Aayog would not be a part of the NRDWP funds. However, the schemes would be monitored jointly by NITI Aayog and MoDWS."

30. The Committee note that the Ministry of Drinking Water and Sanitation has prepared a Strategy Plan to provide safe drinking water to 90% of the rural population of the country through surface water based Piped Water Supply (PWS) schemes by the year 2022 as a long-term solution. As long-term solution under this Strategy Plan, the MoDWS has advised the States to cover all water quality affected habitations with PWS schemes, preferably based on surface water as sources. In addition, World Bank assisted projects are presently being implemented in 04 low-

income States (Bihar, Uttar Pradesh, Assam and Jharkhand), for which the funds are provided through World Bank and water quality habitations are prioritized under this project. The Committee desire that the coverage of the World Bank assisted projects presently being implemented in 04 low-income States may be widened to bring more States / UTs under its ambit in order to provide PWS to maximum rural areas of the country, and necessary steps be taken by the Ministry with MoDWS in this regard. The Committee also note that in view of the fact that commencement of large PWS schemes take about 4-5 years, the Ministry have advised all the States to install community Water Purification plants (CWPPs) in all water affected habitations, prioritizing Arsenic and Fluoride affected habitations, as a short-term measure to provide 8-10 litres per capita per day (1pcd) of water (meant for drinking and cooking purposes only). The Committee while appreciating these measures, are however dismayed that the reply of the Ministry has not spelt out steps taken by the Government to implement the Committee's recommendations, viz. (i) launching of a concerted programme for 63,282 water quality affected rural habitations and taking up of a new initiative for 8862 rural habitations facing heavy / toxic metal contamination in Punjab, Assam and West Bengal and (ii) incentivizing worst affected States of Assam and West Bengal to go in for installation of RO plants as done in Punjab and Karnataka. The Committee, therefore, reiterate their recommendation and desire that urgent initiatives be taken by the Ministry in the matter in consultation with the MoDWS. The Committee would like to be informed of further action in this regard.

J. Fluoride and Arsenic Contamination in West Bengal

Recommendation (Para No. 25)

31. The Committee noted the reply of the Ministry of Water Resources, River Development & Ganga Rejuvenation about the Fluoride contamination in Birbhum district and Arsenic contamination in Murshidabad district of West Bengal. They further noted that among various measures taken by the Union Government and the State Government of West Bengal, in coordination with UNICEF, a Master Plan on fluoride mitigation in Birbhum district was under preparation and would be finalized on publication of the report of the Fluoride task Force on technological option. The Committee hoped that the said Master Plan would be finalized expeditiously and desired to be apprised of the details of the same after its finalization. The Committee also noted that 47 exploratory wells had been constructed by the CGWB in Birbhum district, out of which 17 wells having fluoride free water had been handed over to the State authority. The Committee desired the Ministry/CGWB to intensify its efforts in Birbhum district for construction of more fluoride free exploratory well in order to ameliorate the distress of people affected by fluoride contamination. The Committee further noted that for tackling ground water contamination in the arsenic affected blocks of Murshidabad district, the Government of West Bengal had constituted a Working Group comprising of eminent experts in the related fields from both the State and Union Government organizations as well as from academic institutions to examine and investigate into the matter. The Committee desired to be informed of the report of the Working Group in the matter. They also noted that the CGWB, Kolkata, had carried out detailed ground water exploration in arsenic affected parts of Murshidabad district and 43 exploratory wells in 14 blocks had been constructed till March, 2014, out of which 22 arsenic free exploratory wells have been handed over and accepted by the State Departments. Further, a collaborative project had been conducted by the CGWB with the United Nations Industrial Development Organization (UNIDO) to explore the efficacy of the arsenic removal units in the arsenic infected areas of West Bengal. The Committee, while appreciating such efforts to eliminate arsenic

contamination of ground water in these areas of West Bengal, also desired to be apprised of the outcome of the collaborative project conducted by the CGWB with UNIDO in this regard.

32. The Ministry, in its action taken note has replied as follows:

"As informed by Public Health Engineering Department (PHED), Government of West Bengal, the Master Plan on Fluoride mitigation has been prepared, but the Report is yet to be published. However, several mitigation measures have already been undertaken as per the proposed Master Plan & these are as follows:

- A considerable number of piped water supply schemes have been implemented in the affected areas, tapping sub-surface water in river bed.

- Rainwater harvesting schemes in a number of schools have been commissioned.

- Pond based water supply schemes with minor treatment facilities have been implemented.

- Where any alternative source is not available, extraction of groundwater from deeper aquifer free from fluoride have been arranged.

Central Ground Water Board (CGWB) is going to undertake an exploration programme in Fluoride affected areas of Birbhum by deploying a DTH rig for delineation of Fluoride free aquifers.

Out of 729 affected villages in West Bengal, mitigation measures have already been taken up by commissioned or ongoing schemes in 572 villages.

The Working Group/ Arsenic Task Force, constituted by Government of West Bengal, examine the magnitude of problem from time to time, identify appropriate technology for mitigation, formulate action plan and discuss operation and maintenance issues as well as monitoring & evaluating aspects. Based on chemical analysis, carried out in the Water Testing laboratories set up in West Bengal, at present, 83 blocks have been identified as Arsenic affected by Arsenic Task Force. PHED has prepared a Master Plan for mitigation of Arsenic menace & the Committee has

approved the Plan. The Master Plan is being commissioned & the progress is being monitored by the Committee.

A collaborative project had been conducted by CGWB with the United Nations Industrial Development Organization (UNIDO) to explore the efficacy of the Arsenic removal units in the Arsenic infected areas of West Bengal in 2000-2001.

Water quality of 16 community-based Arsenic removal units comprising six technologies viz. AIIH&PH by Oxidation –Coagulation- flocculation –Sedimentation, Pal Trockner through Granular Ferric Hydroxide, WSI through resin based filter, AMAL through activated alumina , PHED by oxidation –coagulation-flocculation-sedimentation, APIRON through activated alumina and 40 domestic units comprising four technologies viz. AMAL through activated alumina, AIIH&PH by Oxidation –Coagulation- flocculation –Sedimentation, Pal Trockner through Granular Ferric Hydroxide & JU by fly ash -10 samples of each technology was examined for determination of Arsenic, Iron and heavy metals along with other parameters of general chemistry for the water samples before and after it has undergone the treatment process. All the water samples were analysed in the chemical laboratory of Eastern Regional office of CGWB. By and large, all the Arsenic removal equipments tested are effective in bringing down the concentration of input water (the initial concentration of Arsenic varies from place to place as available in field) to less than 0.05 mg/l, although there are few instances, when the output water does contain noticeable Arsenic concentration. The concentration of Arsenic in the treated water above the permissible limit can mainly be attributed to poor maintenance & monitoring than any inherent weakness in the technology itself. Effectiveness of Arsenic removal media is governed by the total quantity of water that has passed through it, its initial Arsenic concentration and its removal capacity. Since the collection of water samples was a time bound programme, it was not feasible to collect sample with fresh media every time with the same input of initial concentration. Again backwashing of the filter media may also influence the removal capacity, which is done off and on. Arsenic removal equipments were subjected to input water of Arsenic concentration that range between wide limits. As a result, it is difficult to judge their efficacy in terms of bringing down input water concentration to less than 0.05 mg/l in the output water. Experiments conducted by passing Arsenic rich water at three different controlled rates of flow through three different types of media i.e., granulated Ferric

Hydroxide of Pal Trockner, activated alumina of AMAL and Alkon supplied by UNIDO reveals that the rate of reduction of Arsenic concentration in the output water enhances with slower rate of flow through the media, indicating the influence of longer contact time of water with media in the removal process. The concentration of both Arsenic and Iron is high in the backwash samples that were analysed. Arsenic concentration which goes up to 2.52 mg/l is mainly high in the samples of community based plants. Iron concentration is also high and is of the order of 33 mg/l in some of the samples.

The study recommended that a Research and Development study is required for safe disposal of Arsenic Sludge otherwise backwashing may form a secondary source of contamination.

It is also recommended in the study report that periodic monitoring, over a considerable period of time, of any Arsenic removal equipment should be made mandatory; otherwise it is an act of sheer injustice to provide Arsenic rich water to the affected people in the name of arsenic free water.

It was observed that social acceptance of Arsenic removal equipment, especially the domestic filters are yet to gather momentum and requires awareness programmes for their promotion."

33. As per the reply of the Ministry, the Master Plan on Fluoride mitigation has been prepared, but the Report is yet to be published. The Committee also note from the reply of the Ministry that several mitigation measures have already been undertaken as per the proposed Master Plan, viz. (i) A considerable number of Piped Water Supply (PWS) schemes have been implemented in the affected areas, tapping sub-surface water in river bed (ii) rain water harvesting schemes in a number of schools have been commissioned, (iii) pond-based water supply schemes with minor treatment facilities have been implemented, and (iv) where any alternative source is not available, extraction of ground water from deeper aquifer free from fluoride have been arranged. The Committee regret that the information furnished to the Committee pertaining to fluoride mitigation in Birbhum (West Bengal) is couched in general terms without containing supporting data and

details. They, therefore, strongly advise the Ministry to desist from such tendency in future. The Committee also desire to see an early publication of the Master Plan on Fluoride mitigation in West Bengal, and apprise them of the steps taken in this regard. As regards the Arsenic mitigation, the Committee note that the Ministry's reply is silent on (i) Report of the Working Group of eminent experts (Union & States), academic institutions set up to investigate ground water contamination in arsenic blocks of Murshidabad district, and (ii) the outcome of the collaborative project conducted by CGWB with United Nations Industrial Development Organisation (UNIDO) to explore the efficacy of arsenic removal units in arsenic infected areas of West Bengal, as recommended by the Committee. The Committee are dismayed at the half-baked reply of the Ministry, and they would like to be informed of the details of follow-up action on the above two recommendations of the Committee at the earliest.

K. Pollution of Ground Water in Greater NOIDA and NCR

Recommendation (Para No. 26)

34. The Committee noted the reply of the Ministry of Water Resources, River Development & Ganga Rejuvenation regarding the deteriorating ground water quality in Greater NOIDA, that as per the order dated 14.05.2015 of the National Green Tribunal (NGT), the Uttar Pradesh Pollution Control Board (UPPCB) had filed a status report in NGT, wherein, violation by eight industries had been detected about 'No Objection Certificate (NOC)' issued by the CGWA in the Bisrakh Block of Greater NOIDA. They also noted that the NGT had issued 'show cause notices' returnable by 15.07.2015, as to why these industries should not be closed and that further action shall be taken up on directions of the NGT after it has considered the replies from the eight industries at the next hearing on 15.07.2015. The Committee further noted that as per ground water sampling carried out by the CGWB during 2013-14 in Chapraula Industrial

Area, Bisrakh block, of Gautam Budhh Nagar district, heavy metals above permissible limits were reported in respect of iron (from all samples), aluminum (Roopvas), lead (Khera Chauganpur and Durai Taalpur) and nickel (Chera Chaunganpur). The Committee desired that early remedial steps be taken by the Ministry in coordination with the Ministries of Drinking Water & Sanitation, Environment, Forests& Climate Change to address the issue of contamination of ground water with heavy metals in Greater NOIDA and apprise the Committee accordingly. They also desired to be apprised of the further action taken by the government in respect of the eight industries which violated the 'No Objection Certificate (NOC)' of CGWA while undertaking extraction of ground water in the Bisrakh Block of Greater NOIDA. Noting the serious situation arising out of the ground water contamination / pollution in many parts of the country, the Committee further recommended that the adverse impact of ground water pollution in India be studied and documented in detail and corrective measures as warranted therein initiated by the Government. The Committee also recommend the Government to seriously consider constituting of a single, centralized agency at the earliest, which would be mandated to curb, control and eliminate ground water contamination/ pollution in the country. The Committee desired to be apprised of the specific steps taken in this direction.

35. The Ministry, in its action taken note has replied as follows:

"Ministry of Environment, Forests and Climate Change (MoEFCC) has constituted a High Power Committee under the Chairmanship of Shri TSR Subramanian, Ex-Cabinet Secretary to generate mechanism for addressing the pollution issues. The committee will be apprised of the specific steps taken in this direction by MoEFCC on the basis of High Power Committee report along with the recommendations.

The matter is sub-judice and 'show cause notice' has since been given by the Hon'ble NGT to these industries. The concerned industries are in process of filing their reply before the Hon'ble NGT in responses to the 'show cause notice'. Since the Hon'ble NGT is taking action, CGWA is

not taking any separate action. The final outcome of the matter would be intimated to the Committee.

CGWB periodically monitors ground water quality of shallow aquifers on a regional scale, once every year mainly for geo-genic parameters.

CGWB also carried out water quality studies in all the 88 industrial clusters identified by Central Pollution Control Board (CPCB). The studies indicated that in most of the cases excess concentration of few chemical constituents beyond norms prescribed by Bureau of Indian Standards (BIS) are present. In Uttar Pradesh, ground water pollution studies were undertaken in 12 industrial clusters at Ghaziabad, Noida, Kanpur, Agra, Varanasi-Mirzapur, Moradabad, Aligarh, Ferozabad, Mathura, Meerut, Bulandshahr-Khurza, Singrauli.

In Ghaziabad, the study was undertaken in Sahibabad industrial area which includes medicine/ Pharmacy, textile, beverages, iron & steel, casting & printing. A number of dyeing units also exist in the area. It was found that in few locations Electrical Conductivity, Total Hardness, Ca, Mg, NO_3 and metals like Fe, Mn and As were above the permissible limits.

In the NOIDA industrial belt industries like Automobiles, IT services, Electronics, Electrical, Paints are dominant. Ground water pollution study undertaken here showed that only a few samples were found to be contaminated with Chlorine (Cl), Iron (Fe) and Lead (Pb) above permissible limits. The reports were circulated to concerned State Departments.

As informed, the Ministry of Drinking Water & Sanitation monitors drinking water quality through the States and provide funds to the States under National Rural Drinking Water Programme (NRDWP) for treatment of contaminated drinking water for supply of safe drinking water to the rural population.

Taking note of the observations of Hon'ble Members of the Committee on findings of CGWB on presence of some toxic heavy metals in ground water in some villages near Chapraula Industrial Area of Bisrakh Block of Gautam Budh Nagar district, a D.O letter has been written by Joint Secretary (Water) to the Principal Secretary, Rural Development, Government of Uttar Pradesh to look into the problem and send an updated status of the extent of ground water contamination

along with the remedial measures taken to mitigate the problem. The Ministry is awaiting the reply from the State Government of Uttar Pradesh and will furnish the same immediately after the reply is received."

36. The Committee note from the reply of the Ministry regarding the 'show cause notice' given by National Green Tribunal (NGT) to 08 industries, which were detected as having violated 'No Objection Certificate (NOC)' issued by CGWA in the Bisrakh Block of Greater NOIDA. The Committee desire to be apprised of the final outcome of the case, in due course. Regarding the Committee's recommendation to study and document along with corrective measures to be adopted by the Government on the adverse impact of ground water pollution in India, the Committee are dissatisfied that the reply of the Ministry has not mentioned new initiatives to address this issue but have merely stated the routine monitoring done by the CGWB. The Committee, therefore, recommend that the Ministry of Water Resources, River Development & Ganga Rejuvenation / CGWB immediately launch a programme in this regard, which is implementable in a specified time-frame, and also widely publicize their findings in mass media, CGWB website to create awareness among the general public on this issue. Further noting that the reply of the Ministry is silent on the Committee's recommendation for early constitution of a single, centralized agency with a mandate to curb, control and eliminate ground water contamination / pollution in the country, the Committee also reiterate that the Government may take specific steps in this regard, and apprise them at the earliest.

CHAPTER II

OBSERVATIONS / RECOMMENDATIONS WHICH HAVE BEEN ACCEPTED BY THE GOVERNMENT

Recommendation (Para No. 1)

The Committee note that India is endowed with a rich and vast diversity of natural resources, water being the most precious of them. In our country, ground water is a common-pool resource (CPR), used by millions of farmers. It also remains the only drinking water source in most of our rural households; besides, many industries depend upon ground water. The Committee also note that over the last four decades, around 84% of the total addition to the net irrigated area has come from ground water. Further, India is by far the largest and fastest growing consumer of ground water in the world. However, what is distressing is that ground water is being exploited beyond sustainable levels with an estimated 30 million ground water structures in play. The Committee are gravely concerned that the country is on the path towards a serious water crisis in the near future due to over-extraction and quality deterioration of ground water. The Committee also note with a sense of alarm that despite the fact that around 84% of the total addition to the net irrigated area in the country has come from ground water resources, the concerned Ministry/Department have not shown any interest in adoption of latest technology in this vital area and as such it has so far remained largely neglected. In view of the foregoing, the Committee would, therefore, strongly recommend that the specific steps be taken by the Central Government / States / UTs and concerned agencies in regard to adoption of modern technology for judicious, efficient management, utilization and development of ground water resources (States/UTs wise) in the country within a year after the presentation of this Report. The Committee would categorically like to be apprised of the concrete action taken in this direction.

Reply of the Government

Steps taken by Central Ground Water Board towards application of modern technology in Assessment and Management of Ground Water Resources:

- Application of Remote Sensing Techniques and Geographic Information System for analysis of data in aquifer mapping studies
- Application of Isotope techniques in ground water studies
- Information dissemination in public domain through Government e-portals (website and WRIS).

As informed, Department of Agriculture, Cooperation & Farmers Welfare is promoting micro irrigation system (drip and sprinkler), conservation of rain water by constructing water harvesting structure/farm ponds under its ongoing programmes/schemes, including recently launched scheme of Pradhan Mantri Krishi Sinchaee Yojana (PMKSY) for judicious and efficient use of available water resources across the country.

Recommendation (Para No. 3)

The Committee observe that the number of Dark Blocks (Over-exploited assessment units) in the country as per assessment made in 2011 was 1071. The figure for Dark Blocks in 2009 was 802. The Committee note the Ministry's reply that indiscriminate withdrawal of ground water for irrigation, industries and domestic purposes had led to over-exploitation of ground water in 1071 units. They also note in particular that while there are 1071 Dark Blocks a covering a total area of about 5 lakh square kms., information on land use in Dark Blocks is not readily available. The Committee note with concern that agricultural land comprises a vast chunk of area which forms the source of livelihood for millions of farmers. They, therefore, desire that the Ministry / Central Ground Water Board initiate urgent steps to assess the areas in proportion of agricultural land in India falling under Dark Blocks and apprise them accordingly. The Committee further note the Ministry's reply that no study has been undertaken by the Central Ground Water Board regarding the losses caused to agriculture, economy, health and environment due to the Dark

Blocks and they, therefore, recommend that a study in this regard should also be initiated by the Ministry / Central Ground Water Board within six months of the presentation of this Report and the Committee be apprised about the details of the study.

Reply of the Government

Information on total agricultural land falling in 'Over-Exploited' blocks is under compilation.

As the matter of impact of over exploitation is related to losses of agriculture produce, economy, health and environment, Central Ground Water Board through Ministry of Water Resources, RD & GR proposes to constitute an inter-ministerial Committee to initiate the recommended study.

Recommendation (Para No. 4)

The Committee note that the Ministry of Agriculture had informed them that the reason for over-exploitation in the North-Western part of India i.e. Punjab and Haryana, is indiscriminate extraction of ground water, mainly for irrigation purposes. In the Western part of the country, i.e. Rajasthan and Gujarat, over-exploitation is caused by arid climate, resulting in scanty and irregular rainfall and consequent less discharge, while in the Southern part, i.e. Karnataka and Tamil Nadu, the large number of over-exploited blocks are caused because of the hard rock terrain which permits less recharge, resulting in water stressed conditions. The Committee also note with concern the reply of the Ministry of Water Resources, River Development & Ganga Rejuvenation that the situation regarding ground water scenario is aggaravating in Punjab, Haryana and Rajasthan because of the unsuitable cropping pattern, i.e. the paddy that is grown in Punjab and Haryana uses up a large quantum of water. They also note the suggestion of the Ministry to improve the distressing ground water scenario in Punjab, Haryana and Rajasthan, viz.

(i) On-Farm Water Management techniques such as Laser Levelling, Zero Tillage, use of Tensiometer in Paddy cultivation, adoption of improved irrigation methods, adoption of micro irrigation (sprinkler & drip),

mulching for reduction of evaporation losses, timely transplanting of paddy, conjunctive use of canal and ground water etc.; (ii) implementation of a conceptual document entitled 'Master Plan for Artificial Recharge to Ground Water' by the States concerned; and (iii) revamping agricultural power supply and pricing structure, in view of the fact that the use of flat rates or free electricity, combined with unreliable supplies, tends to adversely affect the use of ground water. The Committee, therefore, recommend that (i) the Ministry immediately take follow-up action with the State Governments of Punjab, Haryana and Rajasthan and provide them technical know-how to adopt and implement the requisite water management techniques as outlined above. They also recommend that three States may also be encouraged to implement the 'Master Plan for Artificial Recharge to Ground Water' which has already been circulated to them for effective implementation. Further, acknowledging that the free supply of electricity to farmers at times indirectly encourages wasteful draft of ground water, the Committee recommend that the States concerned may be prevailed upon to undertake an exercise for revamping the agricultural power supply and pricing structure for implementation to curb wasteful and excessive withdrawal of water by the irrigation sector.

Reply of the Government

Master Plan for Artificial Recharge to Ground Water in India, 2013 has been provided to the Chief Secretaries of all the States including Punjab, Haryana and Rajasthan with request for its implementation. It has also been provided to all Hon'ble Members of Parliament with the request for its implementation in their constituencies.

MoWR, RD & GR has also requested the Chief Secretaries of all the States including Punjab, Haryana and Rajasthan for implementation of rainwater harvesting & artificial recharge programme.

Department of Agriculture, Cooperation & Farmers Welfare has informed that they already promoting various interventions relating to on farm water management, laser levelling, mulching etc.

under its ongoing programmes/schemes and also educating farmers by extension wings and Krishi Vigyan Kendras (KVKs) for efficient management of water resources by use of micro-irrigation (drip & sprinkler) and suitable cropping sequences as per availability of irrigation water.

Recommendation (Para No. 5)

The Committee further note that as per the latest assessment year 2011, ground water withdrawal for irrigation purpose accounts for 97.96% in the Punjab, 94.58% in Haryana and 88.47% in Rajasthan. The Committee note from the reply of the Ministry that no specific study has been conducted by the Central Ground Water Board so far on the problem of excessive withdrawal of groundwater due to paddy cultivation in these States. In view of the grim ground water scenario prevailing in the three States, the Committee strongly recommend that the Ministry should set up a study group comprising experts, professionals, officials drawn from their own Ministry / Central Ground Water Board, Ministry of Agriculture, State Governments of Punjab, Haryana and Rajasthan and reputed institutions to make a scientific assessment of the impact of excessive withdrawal of ground water due to paddy cultivation in the States of Punjab, Haryana and Rajasthan and to come out with remedial measures to curtail water draft without compromising on the output of paddy in these States and apprise the Committee accordingly.

Reply of the Government

An Inter-Ministerial Study Group will be set up.

Comment of the Committee

(Please see Para No. 9 of Chapter I of the Report)

Recommendation (Para No. 6)

The Committee note that (as on March, 2011), the annual ground water withdrawal for domestic and industrial purpose was 22.71 BCM, which constituted only 9.26% of the total ground water withdrawal.

In contrast to this, the ground water withdrawal for irrigation purposes reached the staggering level of 222.36 BCM or 90.75% of the total ground water withdrawal in the country. This, no doubt, underlines the grim reality that the prime cause for the declining ground water level in the country has been the withdrawal of ground water by the irrigation sector. The Committee are of the view that one of the factors responsible for this scenario has been the absence of clear-cut policy guidelines on ground water draft / extraction till now. The Committee, therefore, desire that the Government should come out with a well-defined policy on ground water extraction for ensuring long-term sustainability of the depleting ground water resources at the earliest. They also believe that free supply of electricity to farmers may tend to encourage wasteful draft of ground water, and hence, it should be regulated with proper accountability by the States where such schemes exist. Also, arrangements should be put in place for a proper time separation for pump operation for the farmers as well as the general public. In addition, in areas where farmers have developed their own resources for extraction of ground water, such an operation may also be regulated by the authorities concerned, and where there is Government infrastructure in this regard, private initiatives should be discouraged or banned. The Committee desire the Government to initiate steps in conjunction with the State Governments and authorities / agencies concerned to ensure compliance of the aforesaid recommendations and apprise them accordingly.

Reply of the Government

Central Ground Water Board has requested all the Chief Secretaries in the State Governments and the Administrators in the UTs for immediate intervention and action as per the recommendations of Standing Committee.

The issues / points suggested have been considered by the Review Committee of Central Ground Water Authority (CGWA) Guidelines and suitable measures have been incorporated as draft proposal in revised guidelines of CGWB.

Recommendation (Para No. 7)

According to the Ministry of Water Resources, River Development & Ganga Rejuvenation, the Central Ground Water Authority (CGWA) has notified 162 areas (Districts/ Blocks/ Mandals/ Talukas/ Municipal areas) in the country for regulation of ground water development and management. In these notified areas, installation of new ground water structure is not permitted without prior specific approval of authorized officers. The Committee also note that altogether 133 complaints have been received from the notified areas for violation of directions of the CGWA. Advisory Committees under the Chairmanship of District Collector / Deputy Commissioner with Members drawn from various organizations have been constituted and illegal wells have been sealed and action being taken by the authorized officers under the environment (Protection) Act, 1986. In non-notified areas, the Central Ground water Authority accords 'No Objection Certificate' (NOC) for the withdrawal of ground water to new projects and also for the expansion of industrial / infrastructure mining – projects with the condition to adopt artificial recharge measures, mandatory recycling and reuse of water. Further, the CGWA has informed all State Pollution control Boards to set up monitoring mechanism to verify requirement and actual withdrawal of ground water including implementation of artificial recharge measures by industries/ projects. In addition, random inspections by the Central Ground Water Board are carried out to check that the industries/ projects using ground water are complying with the conditions laid down in the NOC granted to them. The Committee are, however, constrained to note that no timeline for inspection is fixed at present, but such inspections are ordered/ directed only upon receipt of complaints of violations. The Committee desire that a system of regular inspections should be instituted in respect of industries / projects to whom NOC has been issued by the CGWA to ensure compliance of conditions mentioned in the NOC in addition to the system of random inspection already in place. The Committee also desire that the CGWA vigorously pursue with all

State Pollution Control Boards (SPCBs) to ensure that an appropriate, effective monitoring mechanism is set up by them to verify the requirement and actual withdrawal water, including implementation of artificial recharge measures by industries/ projects. Further, stringent action may be taken against non-complying industries / projects and they be booked under the provisions of the environment (Protection) Act, 1986. The Committee also desire that mandatory annual review of the status of implementation of the regulatory directions issued by the CGWA may be carried out by the Government to ensure the effective compliance by the State Government/ implementing authorities.

Reply of the Government

The CGWA grants NOC for a limited period of 2 years with opportunity to Industry/project for compliance of conditions of NOC. At the time of renewal of NOC, the CGWA ensures that the conditions of NOC are complied with and the Industry/Project submits the supporting evidence on compliance of conditions of NOC, failing which the NOC is not renewed for further period.

CGWA in the past has written letters to all the State Pollution Control Boards to ensure appropriate and effective monitoring mechanism at the time of collecting water cess from the Industries/projects.

The authorised officers i.e. the Collector/Deputy Commissioner/ District Magistrate/ Regional Director/Officer-in-Charge have been advised to take stringent action against industries/projects violating the directions of CGWA under relevant provisions of 'The Environment Protection Act, 1986'.

Chief Secretaries of State/UTs having areas as notified by CGWA and all the implementing authorities have been requested to furnish mandatory annual review report.

Recommendation (Para No. 9)

The Committee note that directions had been issued on 08.10.2009 to all the Residential Group Housing Societies/ Institutions/ Schools/ Hotels/ Industrial Establishments falling in the over-exploited and critical areas (except in waterlogged areas) in the country to adopt Rooftop Rainwater Harvesting System

in their premises and also for implementation of ground water recharge measures along all National Highways/ State Highways and other major roads by the CRRI, National Highways Authority of India, CPWD, State PWDs; along rail tracks by the Indian Railways; in the Stadia by the Sports Authority of India, BCCI and Departments of Sports and Youth Affairs; and in the Airports by the Airport Authority of India, Ministry of Civil Aviation, for Promoting Rain Water Harvesting / adoption of Artificial Recharge to Ground Water (except in the water-logged area). Further, the CGWA had issued directions vide letter dated 08.08.2006 to the Chief Secretaries of 12 States and Administrators in Union Territories having over-exploited blocks to take necessary measures to promote/ adopt artificial recharge to ground water/ rain water harvesting. However, despite these regulatory measures, not much has happened by way of improvement. To cite an example, the Committee note that there were wastages of water from five star hotels in Delhi. They also note that the Hon'ble National Green Tribunal (NGT) had issued billable warrants against 12 hospitals in Delhi for not installing Rainwater Harvesting in their hospital premises, which have been recalled upon application by the hospitals concerned. Noting that an MoU has been signed by the Government of NCT of Delhi with 33 hotels for completion of installation of Rain Water Harvesting System, installation of STPs (Sewage Treatment Plants), Solar Water Heating System, Organic Waste Converter and Re-use of treated effluent leading to Zero discharge and that, all these 33 hotels have installed Rain Water Harvesting structures and also installed STPs to treat and re-use the waste water, and also that the hotels have also been asked to obtain permission from the Delhi Jal Board (DJB) for ground water extraction, the Committee urge the Government to ensure that these Hotels do not extract water without obtaining prior permission of the DJB in the NCT of Delhi. The Ministry has informed that a Committee consisting of officials from the department of Environment, Delhi Pollution Control Committee (DPCC), academicians of IIT and Jamia Millia Islamia University had been reviewing the

progress of compliance by these hotels from time to time relating to Green Hotels Guidelines. The Committee would like to be apprised of the outcome of the review/ evaluation work being done by the Said Committee after completion of the exercise. They also desire the Government to ensure that the 12 hospitals in Delhi duly install rain water harvesting structures in their premises. The Committee would further desire that the Government take new initiatives to promote re-use of recycled water in very city town of the country, and would further like to be apprised of action taken in the matter by the Government.

Reply of the Government

The Hon'ble National Green Tribunal, New Delhi is issuing directions to all the hotels, hospitals, builders and developers in the matter of OA-59/2012 and OA-94/2013. Hon'ble NGT has appointed Local Commissioners and inspection teams for carrying out inspections to verify status of rainwater harvesting and 'No Objection Certificate (NOC)' for extraction of ground water. Hon'ble NGT is also taking coercive action against erring/non-compliant hotels, hospitals, builders and developers. Joint inspection teams headed by Central Ground Water Authority (CGWA), as constituted by NGT, are carrying out inspections and filing reports at present. Final outcome of the above pending matters will be apprised to the Committee.

Ministry of Urban Development has already revised the building bye-laws for reuse for recycle water which have been implemented / enacted in 61 cities across 30 States/ UTs.

Comment of the Committee

(Please see Para No. 12 of Chapter I of the Report)

Recommendation (Para No. 11)

The Committee note that the Government had circulated a Model Bill to regulate and control the development of ground water to all States/UTs as far as in 1970 to enact suitable legislation, which was re-circulated in 1992, 1996 and revised and re-circulated against on 28.02.2005, incorporating a new chapter

on Rainwater Harvesting for recharge to ground water. The Model Bill stipulates (i) establishing of State Ground water Authorities to frame polices for administration of the legislation; (ii) empowering the State/ Union Territory Government to control and / or regulate the abstraction of ground water; and (iii) requiring users of ground water to seek permission from the State Ground Water Authority to sink a well in the notified area. Regarding the implementation of the Model Bill, the Committee were apprised that 15 States/ UTs have so far enacted necessary legislation on the Model Bill, another 15 States/UTs have taken initiatives for enactment of the Model Bill, while another 5 States of the North-East region, i.e. Arunachal Pradesh, Manipur, Nagaland, Sikkim and Tripura do not feel the need for enactment of such legislation. In this connection, the Committee further note that the Supreme Court, while reviewing the Model Bill circulated by the Government in 1970 to the States/ Union Territories, had directed the National Environmental Engineering Research Institute (NEERI) in 1996 to examine and submit a report in this regard. They further note that a report from NEERI has since been received which, among others, included (i) Regulation on exploitation through legislation and effective administration with focus on water conservation, recycle, reuse, restrictions to ensure equitability in water availability and pragmatic land use; and (ii) regulation by education, i.e., by creating awareness amongst the people to enable their participation and traditional knowledge in sustainable water resource management. The Committee urge the Government to initiate specific action for implantation of the recommendations of NEERI under the framework of the existing constitutional provisions within six months of the presentation of this Report and apprise the Committee accordingly. The committee will also like the Ministry to pursue with all the States/ UTs and especially those 15 States/ UTs which have taken initiatives for enactment of Model Bill so that concrete results are achieved in this regard. The Committee further note that for regulation of supply of water and use of water, the ground water regulations have been implemented by various other countries

which include Ground Water Rule of United States Environmental Protection Agency (2006), California Water Code, Ground Water Management (2014), Oregon Ground Water Quality Protection Act, US (1989), British Columbia, Canada (2001), Water Resources Act, UK (1991), Water Act, UK (2003), and European Committee Environmental Objectives (Ground Water) Regulations, Ireland (2010). They desire that if needed be a review of the adequacy or otherwise of the provisions of the Model Bill be also undertaken keeping in view the provisions made under the various Acts/ regulations as stated above. In different countries of the world, within a definite time-frame to ensure that no loophole is left in the Model Bill for regulating ground water laws in various States/UTs in the country.

Reply of the Government

Ministry of Water Resources, River Development & Ganga rejuvenation has constituted a Committee to Re-draft National Water Framework Bill, Model Bill for Conservation, Protection and Regulation of Ground Water and River Basin Management Bill, which will look into all aspects related to Model Bill.

The Committee has submitted draft "Model Bill for Conservation, Protection and Regulation of Ground Water", which has been placed in public domain for comments / suggestions.

Recommendation (Para No. 13)

The Committee note with concern that the ground water monitoring data of the Central Ground Water Board for Pre-Monsoon 2014, compared with the decadal mean of Pre-Monsoon (2004-2014), indicates that out of the total wells analyzed, around 39% wells are showing decline in ground water levels as observed in parts of Andhra Pradesh, Assam, Chhattisgarh, Daman & Diu, Delhi, Gujarat, Haryana, Karnataka, Kerala, Punjab, Rajasthan, Tamil Nadu and West Bengal. However, as per ground water level data, the situation cannot be termed as drought like situation. They also note that the 'Dark (Over-exploited) Blocks' covering 1071 assessment units, i.e. 16.21% of the total units, hold implications such as

significant decline in ground water levels, critical (water) position/ situation in the Northern States, drying up of wells, deterioration in ground water quality, increasing energy consumption for lifting water, and need to regulate extraction, development and management of ground water. The Committee, therefore, note with concern that a very grim future awaits large parts of the country on the water front. They further note that the Central Ground Water Board carries out ground water monitoring four times a year on regional scale through a network of observation wells, which increased in number from 15653 to 20698 across the country during the period from March 2012-13 to March, 2014. However, while appreciating the increase in absolute numbers of ground water observation wells, has shown decrease in respect of several States/ UTs, viz. Andhra Pradesh (from 982 to 879), Delhi (from 162 to 120), Karnataka (from 1507 to 1273), Rajsathan (from 1118 to 1111) and Chandigarh (from 28 to 25) during the same period. The Committee desire to be apprised of the reasons for the fall the number of ground water observation wells in these States/ UTs. They also note that ground water level data has been collected from all the States except for Mizoram, Sikkim and UT of Lakshadweep where water level monitoring is not being carried out. The Committee will like to know the reasons for not undertaking water level monitoring in the States of Mizoram, Sikkim and UT of Lakshadweep and also urge the Ministry to initiate corrective steps in this regard and apprise them accordingly.

Reply of the Government

The ground water observation wells being monitored by Central Ground Water Board four times in a year has been further increased to on 22,339 (As on March, 2015). State-wise details are given at **Annexure-IV.**

As observed by the Standing Committee, though there is a general increase in ground water observation wells in the Country, however, in few States, the number of observation wells has decreased

as compared to the previous year. Also, there are some States/UTs in which there is no ground water observation wells, the reasons for above is as given below:

1. Majority of observation wells identified by CGWB for monitoring are private wells.
2. In Andhra Pradesh, total number of ground water observation wells has increased; however, the number appears to be reduced due to separation of Andhra Pradesh and Telangana.
3. In Karnataka, number of ground water observation wells has been increased to 1866 (in the year 2015) from 1273 (in the year 2014).
4. In Rajasthan and Chandigarh, the reduction in number of observation wells is not significant and reduction is mainly due to drying up of observation wells (Dug Wells) and abandoning due to various development activities.
5. In Delhi, reduction in number of observation wells is mainly due to urbanization and development activities.

Regarding the absence of ground water observation wells in the States/UT of Sikkim, Mizoram and Lakshadweep, it is to submit that all efforts are being made by CGWB for acquisition of water level data through community participation involving local people from the respective State.

Recommendation (Para No. 15)

According to the Ministry of Urban Development, revision of building by-laws for mandatory Rainwater Harvesting I all buildings has been implemented / enacted in 60 cites across 29 States/ UTs, viz. Andhra Pradesh (4), Arunachal Pradesh (1), Assam (1), Bihar (2), Chandigarh (1), Chhattisgarh (1), Goa (1), Gujarat (4), Haryana (1), Himachal Pradesh (1), Jammu & Kashmir (2), Jharkhand (1), Kerala (2), Karnataka (2), Madhya Pradesh (4), Maharashtra (5), Manipur (1), Meghalaya (1), Mizoram (1), Puducherry (1), Punjab (2), Odisha (2), Rajasthan (2), Tamil Nadu (3), Tripura (1), Uttarakhand (3), Uttar Pradesh (7) and West Bengal (2). They have also informed that by-laws on re-use of recycled water have

been implemented/ enacted in 61 cities across 30 States/ UTs. In this connection, the Committee note that the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) had ended on 31.03.2014 and a new Urban Rejuvenation Mission is under consideration of the Ministry for which the guidelines are being finalized. The Committee will like the Ministry to expeditiously launch the new Urban Rejuvenation Mission and work on it in a time-bound manner and apprise them accordingly.

Reply of the Government

Ministry of Urban Development has launched the new Urban Rejuvenation Mission named Atal Mission for Rejuvenation and Urban Transformation (AMRUT) with the purpose :

- Ensure that every household has access to a tap with assured supply of water and sewerage connection.
- Increase the amenity value of cities by developing greenery and well maintained open spaces.
- Reduce pollution by switching to public transport or constructing facilities for non-motorized transport (eg. Walking and cycling).

The Mission focuses on the following thrust areas :

- Water supply
- Sewerage facilities and Septage management
- Storm water Drain to reduce flooding
- Pedestrian, non-motorized and public transport facilities, parkind spaces.
- Enhancing amenity values of cities by creating and upgrading green space, parks and recreation centers, especially for children.

Earlier, MoUD use to give project-by-project sanctions. In AMRUT, this has been replaced by approval of the State annual action plan once a year by the MoUD and the State have to give project sanctions and approval at their end to make States equal partners in planning and implementation of projects. Five hundred cities will be taken up under AMRUT.

The total outlay for AMRUT is Rs. 50,000 crore for five years FY 2015-16 to FY 2019-20 and the mission will be operated as a centrally sponsored scheme.

Recommendation (Para No. 17)

The Committee are happy to note that the Ministry of Water Resources, River Development & Ganga Rejuvenation had organized three events under the 'India Water Week' during 2012, 2013 and 2015 at an approximate total expenditure of Rs. 8.42 crore to resolve water related issues and create awareness on ground water. The Committee also note the Ministry's reply that organization of ''India Water Week' provides a forum for interaction with stakeholders, policy makers, professionals, managers, academicians, etc., from States and various foreign countries and helps in having better understanding of the issues pertaining to water, identifying the most rational approach to water development and management and projecting know-how available in the country. Acknowledging that public participation and social awareness among the masses is a pre-requisite for the success of any initiative taken for addressing the problems associated with ground water depletion and pollution, the Committee are encouraged to observe that academicians, students and urban local bodies are already involved in India Water Week and that during the one day workshop on 'Harmara Jal – Hamara Jeewan' organized in various districts, representatives from NGOs/WALMIS (Water and Land Management Institutes) / Panchayati Raj Institutions / Departments of Agricultural / Horticulture/ Watershed Development/ PRD/PHED working in the districts were included as members of the organizing committee. The

Committee hope that the Ministry will continue its Endeavour for organizing mass awareness programme with participation of all stakeholders and various sections of the community. They also note that given the fact that the overall stage of ground water development has reached 62% of net ground water availability, focused efforts be made towards highlighting the issues related to ground water depletion and pollution. The committee, therefore, recommend that the Ministry evolve concrete measures to give ground water related issues more importance in all activities organized during such water awareness programmes. They also desire that the 'India Water Week' of the Ministry be synchronously organized on a permanent, annual basis at all State capitals as well, so that the impact of the programme permeate. Additionally, elected representatives at the Panchayat level, such as Sarpanch, village ward members, etc. and Corporation in urban local bodies may be trained about the basics of ground water, its withdrawal effects, reasons for contamination, health hazard effects etc. along with the need for taking remedial measures in order to make the villagers and other beneficiaries aware in this regard.

Reply of the Government

With reference to the observations of the Committee it is submitted that ground water related issues are being given importance in all the Media Campaigns undertaken by MoWR, RD & GR. To provide further impetus to the issues concerning water sector including ground water, 'JAL KRANTI ABHIYAN' was launched simultaneously at Jaipur, Shimla and Jhansi on 05.06.2015. Jal Kranti Abhiyan is being observed during 2015-16 to spread awareness on water conservation and management in the Country through a holistic and integrated approach involving all stakeholders and making it a mass movement. Various activities include Jal Gram Yojana, Development of Model Command Area, Pollution Abatement and Mass Awareness Programme. A number of workshops are to be conducted by CWC, CGWB at State/UT level.

As a part of Jal Kranti Abhiyan the Ministry through CGWB organized one day "Bhujal Manthan" at Kurukshetra University, Kurukshetra, Haryana on 21.08.2015. Public Representatives, Ground Water

Experts, Representatives of Central & State Governments, Farmers, Students and NGO etc. from across the country participated in this program for discussion and deliberation during various technical sessions. A book containing selected articles was also released during this program.

One day workshop on "HAMARA JAL - HAMARA JEEWAN" was taken up during organization of India Water Week-2015 in various districts, where, Scientists, Engineers, PRIs Water Communities, Public Health Engineering Department officers, Agriculture officers, BDOs, other stakeholders and NGOs deliberated on issues of water conservation, finding indigenous solutions for meeting the demands and suggested future road map to manage water for growth. Participation from school students was an integral part at the programme for sensitizing the next generation for water conservation.

Grand National Level One Day Conferences at 10 State Headquarters (Lucknow, Kolkata, Bangalore, Jodhpur, Bhopal, Hyderabad, Ahmedabad, Pune, Guwahati and Patna) are being organized under 'Jal Kranti Abhiyan'.

CGWB has regularly been publishing booklets/ pamphlets/ brochures etc. on various water conservation messages under Information Education & Communication (IEC) scheme. As regards to Rain Water Harvesting/ Artificial Recharge to ground water, CGWB has published the guidelines, manual, booklets etc., which are available in the public domain at the website of CGWB.

PRIs, State Government Officials, NGOs, Progressive Farmers and other stakeholders at grassroots level are being trained in the Tier III training of Rajiv Gandhi National Ground Water Training Institute.

Recommendation (Para No. 18)

The Committee also observe that several notable outcomes/ recommendations have emerged from the India Water Week events of 2012, 2013 and 2015. These include, among others, (i) need for adoption of water ethics in policies and practices for planning and management of water resources; (ii) need for scientific assessment of environmental and ecological needs of the river and creation of adequate storage needs to augment the flow during lean season; (iii) need for judicious deployment of all measures

for utilization of ground water as well as surface water in order to ensure their sustainability; (iv) need to frame policy and to design monitoring network based on available tools and technology for ensuring effective and extensive monitoring of water quality as also of waste water quality (v) need to treat waste water as resources and need to develop business model involving local entrepreneurship for making sewage treatment process a profitable proposition rather than a welfare work; and (vi) stress on participation of stakeholders in water management, i.e. 'Jan Andoland'. The Committee ardently hope and expect that the Ministry will initiate efforts to concretize these findings/ recommendations which emerged during the three India Water Week events of 2012, 2013 and 2015 and apprise the Committee accordingly. They also desire that the area specific factors of ground water depletion be publicized regularly in the print and electronic media especially in the States falling under the Dark Blocks, and useful devices/ techniques to avoid ground water depletion and adoption of conservative measures such as Rain water Harvesting/ Artificial Recharge to ground water be highlighted regularly and widely to the people.

Reply of the Government

The recommendations emerged out of India Water Week events are utilized for taking up new initiatives/programmes etc. In this connection, a half page coloured advertisement on climate change, in leading newspapers of Hindi, English and regional languages, was issued on 18th October, 2015 to highlight direct/indirect effects of climate change on water resources, the contributory factors and the recommended practices to conserve water by adopting efficient/ better water management practices to meet challenges of climate change in connection with 21st Conference of Parties held at Paris during 30th November, 2015 to 11th December, 2015.

Central Ground Water Board (CGWB) has regularly been publishing booklets/ pamphlets/ brochures etc. on various water conservation messages under Information Education & Communication (IEC) scheme. As regards to Rain Water Harvesting/ Artificial Recharge to ground water, CGWB has

published the guidelines, manual, booklets etc., which are available in the public domain at the website of CGWB.

Recommendation (Para No. 20)

The Committee note that based on the criteria suggested by the Ground Water Resources Estimation Committee (GEC 1997), assessment of ground water resources have been made and categorized under different assessment units. Accordingly, 1071 assessment units have been identified as 'Dark' (over-exploited) blocks, 217 as 'Critical' blocks and 697 'Semi-critical' blocks in 2011. According to the Ministry, the number of Dark (over-exploited) blocks has witnessed an increase of 765 in 2011 as compared with 2009. The Committee also note that vagaries of Monsoon rainfall resulting into reduced rainfall and exploitation of ground water for irrigation, domestic and industrial purposes in a proportion more than the rainfall recharge are the main factors that have resulted in depletion of ground water. The Committee are fully convinced that the ground water scenario is heading towards a potential crisis in the future and that necessary corrective measures need to be undertaken by the Centre, State, Local governments/ bodies and all stakeholders, viz. villagers, urban dwellers, farmers, industrialists, Water Users Associations (WUAs), etc., without loss of further precious time. To begin with, the Committee are of the view that a national perspective plan needs to be evolved by the government for efficient management, development and augmentation of the rapidly-depleting ground water resources, and they, therefore, desire that the Government expeditiously initiate steps for creation of a separate panel comprising experts, specialists and officials drawn from cross-sections of society to deliberate on and formulate the national perspective plan on ground water resources, which would prepare a roadmap for arresting the present declining trend of ground water and also work out a comprehensive strategy for meeting the increasing demands for ground water from the growing population in the decades to come. The Committee will like to be apprised of the action taken by the government in this regard at the earliest.

Reply of the Government

Proposal for Constitution of Committee on National Perspective Plan on Ground Water is being formulated.

Comment of the Committee

(Please see Para No. 21 of Chapter I of the Report)

Recommendation (Para No. 21)

The Committee note that the ground water quality is gradually but surely declining everywhere. They also note that a vast majority of ground water quality problems are caused by large scale concentrated pollution such as industrial discharge, landfills, sub-surface injection of chemicals and hazardous waste. In some other areas, elevated level of Arsenic in ground water is caused by natural processes and also by application of fertilizers. According to the Central Pollution Control Board, a vast majority of ground water quality problems are caused by contamination, over-exploitation or combination of the two. Ground water pollution is difficult to detect, and the contamination is not detected until obnoxious substances actually appear in water used, by which time the pollution has often dispersed over a large area. Noting further the statement of the Ministry of Drinking Water & Sanitation that nearly 85% of rural drinking water supply in the country is based on ground water and over-exploitation and subsequent ground water development is inducing more chemical contamination in aquifers, the Committee are convinced that concerted action is urgently required to be launched by the Ministry of Water Resources, River Development & Ganga Rejuvenation to reverse this highly alarming trend of ground water depletion / contamination. The Committee, therefore, recommend that the Ministry, in coordination with other allied Ministries such as Environment, Forests & Climate Change, Agriculture, Drinking Water & Sanitation, Rural Development, Urban Development may institute a task force to undertake detailed study / assessment of the health, productivity and status of ground water, including aquifers and submit a report in

the matter with recommendations within a time-frame to protect augment and restore the underground water. The Committee will like to be apprised of action taken by the Government in this regard.

Reply of the Government

The regional offices of CGWB have been requested to carry out the study recommended by the Hon'ble Committee or send a detailed proposal if outsourcing is required to carry out such a study.

CGWB under NAQUIM is in the process of compilation of data pertaining to aquifer characterization, ground water availability, utilization, chemical quality and formulation of sustainable management plan of the resources and resources enhancement.

However, in order to assess the health, productivity and status of ground water due to multi-sectoral utilization and its impact on ground water regime, it is proposed to constitute inter-ministerial Task Force as advised by the Hon'ble Standing Committee of Water Resources.

Ministry of Urban Development support the recommendations of task force. Central Public Health and Environmental Engineering Organization (CPHEEO), a technical wing of Ministry of Urban Development dealing with the matters related to Urban Water Supply & Sanitation may be involved in the above programme.

Comment of the Committee

(Please see Para No. 21 of Chapter I of the Report)

Recommendation (Para No. 23)

The Committee note that the CPCB has directed the SPCBs/PCCs (Pollution Control Committee) to install 24 x 7 real time monitoring devices at effluent and emission discharge points in industrial units throughout the country. Out of 2800 industries to which such directions were issued, nearly 50 per cent of the industrial units have moved towards compliance. More than 920 industries have installed 24 x7 monitoring devices and another 400 units have moved towards Zero Liquid Discharge (ZLD). Further,

online monitoring data communication has been started by the industries to CPCB/SPCBs on the status of compliance with respect to effluents and emissions. The Committee also note that new industrial units in Distillery, Textile, Tannery, Chemicals, Fertilizers, Dyes and Pharmaceuticals have been mandated to achieve ZLD from the commissioning along with installation of 24 x 7 monitoring systems. The existing units in these sectors are required to switch over to ZLD in a time bound manner and are required to install web cameras instead of continuous effluent monitoring devices. The Committee desire that the CPCBs direction to SPCBs/PCCs regarding installation of 24x7 real time monitoring devices at effluent and emission discharge points in industrial units throughout the country be made a mandatory requirement for all heavy and medium industries. They also desire that the CPCB strictly monitor the implementation of its directions to SPCBs/PCCs in this regard so that no scope is left for emitting or discharging contaminated/ polluted air or waste water by the industries. The Committee also note that only 50% of the industrial units out of 2800 industries to which the directions have been issued by CPCBs, have moved towards compliance and they desire that the remaining 50% of industrial units may also be prevailed upon by CPCB for compliance. The Committee further desire that all industrial units located in the Dark Blocks should be mandatorily required to install necessary devices for achieving ZLD (Zero Liquid Discharge) so that industrial wastes discharge to surface as well as ground water is kept at the bare minimum. Additionally, the Committee desire that all industries, especially those belonging to polluting categories such as slaughter houses, distilleries, pulp and paper, tanneries, textiles, chemicals and dyeing industries, be mandatorily required to treat their industrial waste through Common Effluent Treatment Plants (CETPs) and necessary steps may be initiated in this regard by CPCB at the earliest. The Committee will like to be apprised of further action taken in this regard.

Reply of the Government

CPCB has formulated an action plan for implementation of zero liquid discharge, water conservation and management practices in water polluting industries. The Action points are as under :

(i) Preparation of Guidelines on techno-economic feasibility of implementation of Zero Liquid Discharge (ZLD), water conservation and management practices in water pollution industries, giving emphasis on Ganga Basin States.

(ii) Issue of directions to nine Ganga basin State Pollution Control Boards directing to follow time targeted action plan in Distillery, Sugar, Pulp & Paper, Tannery and Textile sectors.

(iii) Preparation and submission of action plan to achieve Zero Liquid Discharge in Tannery, Distillery and Textiles (Medium, Large and cluster based textile units).

(iv) Distilleries have been directed to operate on ZLD.

(v) Revised standards have been notified for Sugar industries. Wherein treated effluent discharge quantity has been limited to 200 lit/tonne of cane crushed with emphasis on water conservation and to reduce the pollution load. Effort is being done to utilise the treated effluent in irrigation in order to achieve ZLD to rivers.

(vi) Revised charter for corporate responsibility has been implemented in Pulp & Paper industries for reduction in water consumption.

(vii) Revised standard for tanneries and textile sector are in the process of notification.

(viii) Revised standards for CETP have been notified.

Comprehensive Environmental Pollution Index (CEPI)

Central Pollution Control Board (CPCB) in collaboration with Indian Institute of Technology (IIT), Delhi had carried out comprehensive environmental assessment of 88 prominent industrial clusters during 2009-10 based on Comprehensive Environmental Pollution Index (CEPI) criteria. CEPI is a rational number between 0 and 100, assigned to a given location to characterize the environmental quality following the algorithm of source, pathway and receptor. Out of identified 88 prominent industrial clusters, 43 industrial clusters in 16 States having CEPI score of 70 and above are identified as Critically Polluted Industrial Clusters, while industrial clusters with CEPI scores between 60 & 70 are categorized as severely polluted areas. Considering the practical problem in calculation of CEPI score, CPCB has developed revised CEPI criterion.

The revised Comprehensive Environmental Pollution Index (CEPI) is based on Sources of pollution, real time observed values of the pollutants in ambient air, surface water and ground water and in and around the industrial cluster and health related statistics. For assessment of the environmental quality of the area i.e. CEPI score, the concept of SNLF i.e. a surrogate number which represents the level of exposure (a function of percentage sample exceedence & exceedence factor) shall be used.

Health component to be evaluated based on the health data available from major hospitals in the area was also retained in the revised concept.

Action plan has been prepared for all CPAs and it has been monitored by SPCB & CPCB regularly. Ministry of Environment, Forests & Climate Change (MoEFCC) imposed moratorium on consideration of developmental projects in CPAs in all the 43 CPAs. Subsequently, MoEFCC lifted the moratorium in a phased-manner. Presently, moratorium has been lifted from 28 CPAs and re-imposed in 08 CPAs inclusive Vapi (Gujarat) has been kept in abeyance vide MoEFCC's office Memorandum dated 10.06.2014. Currently, moratorium is in force in 6 CPAs namely- Ankaleshwar, Vatva, Vellore (North Arcot), Jodhpur, Pali, Najafgarh Drain Basin. The status of moratorium in the 43 CPAs (State-wise) is given below:

Status of Moratorium

(as on 09.03.2016)

State	***CPAs where moratorium has been lifted (28)***	***CPAs where the re-imposition of moratorium is kept in abeyance***	***CPAs where moratorium is currently in-force (15)***
Punjab (2)	Mandi-Gobindgarh	Ludhiana (R-KIA)	-------
Haryana (2)	Faridabad	Panipat (R-KIA)	-------
Uttar Pradesh (6)	Varanasi- Mirjapur Agra Noida Kanpur (LR)	Ghaziabad (R-KIA) Singraulli (R-KIA)	-------
West Bengal (3)	Howrah (LR) Haldia (LR) Asansole (LR)	-------	-------

Jharkhand (1)	Dhanbad (LR)	-------	-------
Orissa (3)	Angul-Talcher Ib valley	Jharsuguda (R-KIA)	-------
Chhattisgarh (1)	Korba (LR)	-------	-------
MP (1)	-------	Indore (R-KIA)	-------
Gujarat (6)	Bhavnagar Junagarh Ahmedabad (LR)	Vapi (R-KIA)	Ankaleshwar Vatva
Maharashtra (5)	Tarapur Navi Mumbai Aurangabad Dombivalli Chandrapur	-------	
AP (2)	Visakhapatanam (LR)	Patancheru-Bollaram (R-KIA)	-------
Karnataka (2)	Mangalore Bhadravati	-------	-------
Tamilnadu (4)	Coimbatore Cuddalore Manali (LR)	-------	Vellore (North Arcot)
Kerala (1)	Greater Kochin	-------	-------
Rajasthan (3)	Bhiwadi (LR)	-------	Jodhpur, Pali
Delhi (1)	-------	-------	Delhi (Action Plan awaited from DPCC)
Total	**29**	**8**	**6**
LR stands for 'Lifted vide MoEF's O.M. dated 17th September, 2013			

R-KIA stands for 'Re-imposed vide MoEF's O.M. dated 17th September, 2013 and then implementation of provisions of this OM is kept in abeyance vide OM dated 10.06.2014

CPCB has been receiving numbers of representations from Gujarat State Pollution Control Board (GPCB) and other agencies of State Government of Gujarat on a regular basis for lifting of moratorium. It has been decided that moratorium of CPAs be reviewed after carrying out another round of CEPI assessment based on the latest Environmental quality data in all the 43 CPAs after another round of CEPI assessment based on the latest environmental quality data.

Comment of the Committee

(Please see Para No. 27 of Chapter I of the Report)

Recommendation (Para No. 27)

Further noting that the National Green Tribunal (NGT) established on 18.10.2010 under the National Green Tribunal Act, 2010 is looking at resolving the issues related to ground water management, monitoring and conservation including ground water pollution / contamination with due regard to the provisions of the Environment (Protection) Act, 1986, with rules made there under and the Water (Prevention and Control of Pollution) Act, 1974 with rules made there under, the Committee desire that an effective synergy be devised by the government to bring all complaints of ground water related issues to the National Green Tribunal for getting immediate redressal. Additionally, the Water Quality Assessment Authority (WQAA) should be asked to prepare a roadmap for review/ assessment and addressing the problem of ground water pollution in the country, and the Committee be apprised accordingly. The Committee further desire that WQAA be revamped and strengthened to meet the challenges of ground water quality problems. Side by side, steps may be taken to constitute branches of WQAA in each State/UT at the earliest. The Committee will like to be apprised of further action taken by the Government in this regard.

Reply of the Government

Water Quality Assessment Authority (WQAA) is an inter-ministerial body constituted under 'The Environment (Protection) Act, 1986' headed by Secretary, Ministry of Environment, Forests & Climate Change (MoEFCC), scheduled to meet twice a year. The secretarial services are provided by Water Quality Cell of the Ministry of Water Resources, River Development & Ganga Rejuvenation. Joint Secretary (Admn. & Ground Water), MoWR, RD & GR is the Member Secretary of WQAA. WQAA is to exercise powers under Section 5 of the said Act for issuing directions and for taking measures with respect to matters referred to in clauses (ix), (xi), (xii) and (xiii) of Sub-Section 2 of Section 3 of 'The Environment (Protection) Act, 1986' elaborated as follows:

Clause (ix)	carrying out and sponsoring investigations and research, relating to problems of environmental pollution;
Clause (xi)	establishment or recognition of environmental laboratories and institutes to carry out the functions entrusted to such environmental laboratories and institutes under this Act;
Clause (xii)	collection and dissemination of information in respect of matters relating to environmental pollution;
Clause (xii)	preparation of manuals, codes or guides relating to the prevention, control and abatement of environmental pollution;

Thus, WQAA is vested with very little powers and no judicial powers. As such, in its present capacity, WQAA cannot have synergy with National Green Tribunal (NGT), which is a judicial organization.

Decision in respect of revamping has already been taken by WQAA. For this, a sub-committee was constituted. The Sub-committee recommended that owing to constraints of infrastructure and inadequate manpower, WQAA should focus only on monitoring and assessment of water quality and address all the related aspects holistically. The report of the sub-committee has been accepted by WQAA.

Accordingly, the revised WQAA notification has been prepared and the same is under process of notification.

As regards to preparation of a roadmap for review/assessment and addressing the problem of ground water pollution in the Country, it is submitted that 'Water (Prevention and Control of Pollution) Act, 1974' provides power to Central Pollution Control Board (CPCB) and State Pollution Control Boards (SPCB) to deal with the pollution caused due to discharge of sewage, sullage and trade effluents. Likewise, 'The Environment (Protection) Act, 1986' also empowers CPCB & SPCB for protection, improvement of environment including addressing to environmental pollution from various sources, whatsoever. Thus, these two Acts fully empower CPCB & SPCBs to deal with the sewage pollution including those from municipalities'. Further, there is a robust mechanism to curb environmental pollution including ground water pollution. It may be emphasized that undertaking the steps given below, which are already under implementation and effective implementation of the provisions of the above Acts in principle would curb and prevent the pollution of both surface & underground water, which are interlinked:

- Control of Industrial pollution under the provision of Water (Prevention and Control of Pollution) Act, 1974.
- A mutually agreed time targeted programme is implemented under Corporate Responsibility on Environmental Protection (CREP) with a bank guarantee on various commitments.
- Environmental auditing.
- Common effluent treatment plants for cluster of Small Scale Industrial units.
- Promotion of low-waste and no-waste technology.
- Standards and norms have been fixed for disposal of treated liquid effluents by the industries for disposal on land.
- Industries have been directed to install piezometers to detect ground water contamination wherever there is apprehension for disposal of effluents on land.
- In identified critically polluted industrial clusters, action plans have been implemented to prevent ground water pollution.

- Industries discharging high organic load effluents (like Distilleries, Tanneries, Pulp & Paper) are insisted upon to achieve Zero liquid Discharge and adopt cleaner production process technologies.
- Zero Liquid Discharge has been implemented in a number of categories of industries to protect the water quality in view of lean flow situation in rivers and streams in a larger non monsoon period.
- The continuous water quality monitoring systems are being established on industrial units in the country through the directives issued by CPCB for getting real time information on the effluent quality.

To coordinate the work with the States, State-level Water Quality Review Committees (WQRC) is to be constituted. It has so far been constituted in 17 States. The States where WQRCs are not yet constituted have been requested to constitute these bodies.

CHAPTER III

OBSERVATIONS / RECOMMENDATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF THE GOVERNMENT'S REPLIES

Recommendation (Para No. 12)

The Committee observe that for strengthening the Satellite Application Centres (SACs) in 8 States, namely Maharashtra, Karnataka, Kerala, Chhattisgarh, Andhra Pradesh, Haryana, West Bengal and Assam to assist MGNREGA functionaries in better planning of water conservation structures, a pilot scheme has been initiated with Indore district, Madhya Pradesh, as the first of its kind, which is yet to take off. The Committee trust that the Pilot project in Indore district will be completed expeditiously, thereby setting the pace for similar projects to be worked out with the other remaining 7 States. They will also like the Government to pursue with the State Governments concerned to submit proposals for funding the project so that the SACs are strengthened to effectively assist the MGNREGA functionaries for better planning of water conservation structures. The Committee further desire that, given the fact that different district of Odisha have suffered severe drought in the recent years, accordingly steps be taken to include Odisha among the States – where SACs are being strengthened for water conservation planning in the country. The Committee would like to be informed of action taken in the matter.

Reply of the Government

In this regard, Ministry of Rural Development is of the view that if Satellite Application Centres (SACs) are strengthened to assist Mahatma Gandhi National Rural Employment Guarantee Act, functionaries in better planning of water conservation structures, it will be of great help to MGNREGA scheme.

Recommendation (Para No. 14)

The Committee note that expenditure on water conservation and water harvesting and renovation of traditional water bodies constitute 15.1% and 29.4%, respectively of the total expenditure on the Mahatma Gandhi National Rural Employment Guarantee Act, 2015. As per a study conducted by the Indian Institute of Science, Bengaluru, and GIZ across 5 States, viz. Rajasthan (Bhilwara), Madhya Pradesh (Dhar), Andhra Pradesh (Medak), Karnataka (Chitradurga) and Sikkim (South District), the MGNREGA had a positive impact on the environment, which also include rise in water availability and area irrigated, improvement in soil quality, improvement in ground water levels, increase in area under crop production and reduction in soil erosion. The Committee are fully convinced that works undertaken under MGNREGA, including creation of water conservation and water harvesting structures to augment and improve ground water like dykes, earthern dams, stop dams, check dams, etc., will go a long way in recharging and stabilizing ground water, including drinking water source, and they, therefore, recommend that concerted efforts be launched by the Government to achieve optimized returns on works undertaken under the MGNREGA scheme, in respect of ground water augmentation and related works all over the country. The Committee also desire that appropriate steps be initiated to achieve synergy among various Ministries concerned, i.e. Ministry of Water Resources, River Development & Ganga Rejuvenation, , Environment, Forests & Climate Change, Agriculture, Drinking Water & Sanitation and Rural Development in delivering optimized results under the MGNREGA scheme in both rural and urban areas, specially on the works related to ground water conservation. To achieve this goal, they urge the Ministry to set up a special coordination cell dedicated to achieve the goal of synergy among the Ministries concerned which will coordinate information flow among these Ministries and with the States on MGNREGA works related to ground water / water harvesting. The Committee further desire that the Ministry keep a strict watch on the

execution of these MGNREGA works, including fund utilization to check misuse and under utilization of funds meant for those purposes. The Committee will like to be apprised to action taken in this regard.

Reply of the Government

For Water Conservation, water harvesting and renovation of traditional water bodies under taken by MGNREGA, technical guidance will be provided by the regional offices of CGWB.

CGWB has already provided standard design for water conservation and ground water recharge structures feasible for different hydrogeological terrain for adoption under water conservation activities under MGNERGA.

Regarding concerted efforts in order to achieve optimized returns on works undertaken under MGNREG Scheme, in respect of ground water augmentation and related works as informed by Ministry of Rural Development the information is as follows:

(i) Discussed with selected States over a Joint- Video conference (Department of Land Resources and Department of Rural Development) and a detailed Action plan was issued for convergence of Integrated Watershed Management programme (IWMP) and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in 1023 blocks (out of 2500 most backward blocks in which IWMP watershed are under implementation) for achieving the goals of Pradhan Mantri Krishi Sanchi Yojna (PMKSY).

(ii) An emergency meeting of State RD Secretaries was called on 11th June, 2015 to review the action plan of each State for taking up water conservation and water harvesting structures on a war-footing basis, in view of the predicted deficit monsoon. In the meeting, it was decided that nearly 18 lakh rain water harvesting structures will be taken up under the campaign. Accordingly, an advisory on “Rain water harvesting on a campaign mode through MGNREGA” was issued. In current financial year, till December, 2015, nearly 16.73 lakh water related works have been taken up under MGNREGA.

(iii) In addition to above, the technical functionaries implementing MGNREGS are trained and advisories/guidelines/ manuals are issued to achieve optimized returns on works undertaken under MGNREGA, in respect of ground water augmentation and related works.

MoRD has issued the following joint convergence guidelines.

(i) Guidelines for convergence between MGNREGS and the schemes of Ministry of Water Resources.

(ii) Guidelines for convergence between MGNREGS and the schemes of Ministry of Environment & Forest.

(iii) Guidelines for convergence between MGNREGS and the schemes of Ministry of Agriculture for development of agriculture & allied sector.

(iv) Guidelines on watershed management works taken up independently under MGNREGA or in convergence with IWMP.

(v) Guidelines for taking up Rubber plantation through convergence of MGNREGS and schemes of Rubber Board, Ministry of Commerce & Industry.

(vi) Guidelines for taking up Coconut plantation through convergence of MGNREGS and Expansion of Area under Coconut scheme of Coconut Development Board, MoA &FW.

Expenditure on water conservation/ harvesting works since inception under Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is given as under:-

MGNREGA: Work wise expenditure since inception (as per information available in MIS)

No.	Works	Expenditure (In lakh)	%age
1	Anganwadi	17619.8	0.1%
2	Coastal Areas	449.9	0.0%
3	Drought Proofing	1322986.5	4.5%
4	Rural Drinking Water	9877.6	0.0%

5	Food Grain	3489.4	0.0%
6	Flood Control and Protection	1065778.2	3.7%
7	Fisheries	20993.7	0.1%
8	Micro Irrigation Works	1255564.2	4.3%
9	Works on Individuals Land (Category IV)	1598735.9	5.5%
10	Land Development	1786247.5	6.1%
11	Other Works	541142.7	1.9%
12	Play Ground	5735.5	0.0%
13	Rural Connectivity	8689276.2	29.9%
14	Rural Sanitation	244370.1	0.8%
15	Bharat Nirman Rajeev Gandhi Sewa Kendra	436981.5	1.5%
16	Water Conservation and Water Harvesting	4315443.4	14.8%
17	Renovation of traditional water bodies	7793516.7	26.8%
	Grand Total	29108208.9	

During the period of 2012-16, a total of 16,36,355 Water Conservation and Recharge structures including renovation of Traditional Water Bodies have been completed. In addition, priority has been given for construction of farm ponds in the year 2016-17 to harvest rain water. Ministry of Rural Development has kept a target to construct 8,82,325 farm ponds under MGNREGA during the FY 2016-17.

Recommendation (Para No. 25)

The Committee note the reply of the Ministry of Water Resources, River Development & Ganga Rejuvenation about the Fluoride contamination in Birbhum district and Arsenic contamination in Murshidabad district of West Bengal. They further note that among various measures taken by the Union Government and the State Government of West Bengal, in coordination with UNICEF, a Master Plan on fluoride mitigation in Birbhum district is under preparation and will be finalized on publication of the report of the Fluoride task Force on technological option. The Committee hope that the said Master Plan will be

finalized expeditiously and desire to be apprised of the details of the same after its finalization. The Committee also note that 47 exploratory wells had been constructed by the CGWB in Birbhum district, out of which 17 wells having fluoride free water have been handed over to the State authority. The Committee will like the Ministry/CGWB to intensify its efforts in Birbhum district for construction of more fluoride free exploratory well in order to ameliorate the distress of people affected by fluoride contamination. The Committee further note that for tackling ground water contamination in the arsenic affected blocks of Murshidabad district, the Government of West Bengal had constituted a Working Group comprising of eminent experts in the related fields from both the State and Union Government organizations as well as from academic institutions to examine and investigate into the matter. The Committee will like to be informed of the report of the Working Group in the matter. They also note that the CGWB, Kolkata, has carried out detailed ground water exploration in arsenic affected parts of Murshidabad district and 43 exploratory wells in 14 blocks have been constructed till March, 2014, out of which 22 arsenic free exploratory wells have been handed over and accepted by the State Departments. Further, a collaborative project has been conducted by the CGWB with the United Nations Industrial Development Organization (UNIDO) to explore the efficacy of the arsenic removal units in the arsenic infected areas of West Bengal. The Committee, while appreciating such efforts to eliminate arsenic contamination of ground water in these areas of West Bengal. They also will like to be apprised of the outcome of the collaborative project conducted by the CGWB with UNIDO in this regard.

Reply of the Government

As informed by Public Health Engineering Department (PHED), Government of West Bengal, the Master Plan on Fluoride mitigation has been prepared, but the Report is yet to be published. However, several mitigation measures have already been undertaken as per the proposed Master Plan & these are as follows:

- A considerable number of piped water supply schemes have been implemented in the affected areas, tapping sub-surface water in river bed.
- Rainwater harvesting schemes in a number of schools have been commissioned.
- Pond based water supply schemes with minor treatment facilities have been implemented.
- Where any alternative source is not available, extraction of groundwater from deeper aquifer free from fluoride have been arranged.

Central Ground Water Board (CGWB) is going to undertake an exploration programme in Fluoride affected areas of Birbhum by deploying a DTH rig for delineation of Fluoride free aquifers.

Out of 729 affected villages in West Bengal, mitigation measures have already been taken up by commissioned or ongoing schemes in 572 villages.

The Working Group/ Arsenic Task Force, constituted by Government of West Bengal, examine the magnitude of problem from time to time, identify appropriate technology for mitigation, formulate action plan and discuss operation & maintenance issues as well as monitoring & evaluating aspects. Based on chemical analysis, carried out in the Water Testing laboratories set up in West Bengal, at present, 83 blocks have been identified as Arsenic affected by Arsenic Task Force. PHED has prepared a Master Plan for mitigation of Arsenic menace & the Committee has approved the Plan. The Master Plan is being commissioned & the progress is being monitored by the Committee.

A collaborative project had been conducted by CGWB with the United Nations Industrial Development Organization (UNIDO) to explore the efficacy of the Arsenic removal units in the Arsenic infected areas of West Bengal in 2000-2001.

Water quality of 16 community-based Arsenic removal units comprising six technologies viz. AIIH&PH by Oxidation –Coagulation- flocculation –Sedimentation, Pal Trockner through Granular Ferric Hydroxide, WSI through resin based filter, AMAL through activated alumina , PHED by oxidation – coagulation-flocculation-sedimentation, APIRON through activated alumina and 40 domestic units comprising four technologies viz. AMAL through activated alumina, AIIH&PH by Oxidation –Coagulation-

flocculation –Sedimentation, Pal Trockner through Granular Ferric Hydroxide & JU by fly ash -10 samples of each technology was examined for determination of Arsenic, Iron and heavy metals along with other parameters of general chemistry for the water samples before and after it has undergone the treatment process. All the water samples were analysed in the chemical laboratory of Eastern Regional office of CGWB. By and large, all the Arsenic removal equipments tested are effective in bringing down the concentration of input water (the initial concentration of Arsenic varies from place to place as available in field) to less than 0.05 mg/l, although there are few instances, when the output water does contain noticeable Arsenic concentration. The concentration of Arsenic in the treated water above the permissible limit can mainly be attributed to poor maintenance & monitoring than any inherent weakness in the technology itself. Effectiveness of Arsenic removal media is governed by the total quantity of water that has passed through it, its initial Arsenic concentration and its removal capacity. Since the collection of water samples was a time bound programme, it was not feasible to collect sample with fresh media every time with the same input of initial concentration. Again backwashing of the filter media may also influence the removal capacity, which is done off and on. Arsenic removal equipments were subjected to input water of Arsenic concentration that range between wide limits. As a result, it is difficult to judge their efficacy in terms of bringing down input water concentration to less than 0.05 mg/l in the output water. Experiments conducted by passing Arsenic rich water at three different controlled rates of flow through three different types of media i.e., granulated Ferric Hydroxide of Pal Trockner, activated alumina of AMAL and Alkon supplied by UNIDO reveals that the rate of reduction of Arsenic concentration in the output water enhances with slower rate of flow through the media, indicating the influence of longer contact time of water with media in the removal process. The concentration of both Arsenic and Iron is high in the backwash samples that were analysed. Arsenic concentration which goes up to 2.52 mg/l is mainly high in the samples of community based plants. Iron concentration is also high and is of the order of 33 mg/l in some of the samples.

The study recommended that a Research and Development study is required for safe disposal of Arsenic Sludge otherwise backwashing may form a secondary source of contamination.

It is also recommended in the study report that periodic monitoring, over a considerable period of time, of any Arsenic removal equipment should be made mandatory; otherwise it is an act of sheer injustice to provide Arsenic rich water to the affected people in the name of arsenic free water.

It was observed that social acceptance of Arsenic removal equipment, especially the domestic filters are yet to gather momentum and requires awareness programmes for their promotion.

Comment of the Committee

(Please see Para No. 33 of Chapter I of the Report)

CHAPTER IV

OBSERVATIONS / RECOMMENDATIONS IN RESPECT OF WHICH REPLIES OF THE GOVERNMENT HAVE NOT BEEN ACCEPTED BY THE COMMITTEE

Recommendation (Para No. 2)

As per the latest available assessment carried out by the Central Ground Water Board in the year 2011, the total annual replenishible ground water resources and the net ground water availability are 433 Billion Cubic Metres (BCM) and 398 (BCM), respectively. Out of the net annual ground water availability of 398 BCM, the total annual ground water draft in the country is 245 BCM and the overall stage of the ground water development has reached 62% of the net ground water availability. The Committee also note that the annual natural recharge to ground water (as in 2011) is around 433 BCM, which includes recharge from rainfall, tanks, ponds, Minor Irrgation structures, surface water bodies, irrigation seepage, etc., while the artificial recharge to ground water is being taken up by various Central / State Government Department / NGOs, individuals, etc. In this regard, the Committee are surprised to note that the latest assessment of replenishable ground water resources was undertaken by the Central Ground Water Board of the Ministry of Water Resources, River Development & Ganga Rejuvenation way back in 2011, which reveals that no serious and systematic efforts have been made by the Government towards development, management, conservation and related issues such shortages, scarcity, depletion and pollution of ground water, in spite of the alarming trend towards ground water problems in both quantitative and qualitative terms. The

Committee are also dismayed to note the Ministry's reply that no single agency is maintaining the database on quantum of artificial recharge to ground water. The Committee, therefore, will like to underline the urgent need on the part of the Ministry of Water Resources, River Development & Ganga Rejuvenation / Central Ground Water Board to undertake assessment of replenishable ground water resources on a regular basis, preferably after two years, starting from this year. Further, noting that the absence of a single agency in maintaining the database on quantum of artificial recharge to ground water is a serious lacuna in the efforts towards conservation, development and management of ground water resources and tackling related issues such as its over-exploitation, depletion and pollution, etc., the Committee recommend that the Ministry prepare a roadmap for creating a single agency to maintain database on the quantum of natural and artificial recharge to ground water and also on the quantum of ground water being utilized by various stakeholders, including farmers, industries and domestic sectors. The Committee may be apprised of the steps taken by the Government in this regard.

Reply of the Government

The ground water resources estimation of the country is being carried out jointly by Central Ground Water Board (CGWB) and State Government Departments at required intervals of two years as suggested by the Hon'ble Standing Committee of Parliament. The ground water estimations were carried out in 2004, 2009 and 2011. The Estimation of Dynamic Ground Water Resources as on 2013 is under compilation.

State Government being the custodian of all the data pertaining to assessment of ground water resources are being maintained by respective States, which are being used for assessment jointly carried out by State Government and CGWB. However, at the central level CGWB is compiling the data pertaining to natural recharge of ground water and ground water discharge components of ground water estimation.

Comment of the Committee

(Please see Para No. 6 of Chapter I of the Report)

Recommendation (Para No. 8)

According to the According to the Ministry of Water Resources, River Development & Ganga Rejuvenation, the CGWB has undertaken Demonstrative Rainwater Harvesting and Artificial Recharge Projects in priority areas such as 'Over-exploited' (Dark Blocks) and 'Critical' Assessment Units during the 11th Plan under the scheme of 'Ground Water Management & Regulation'. A total of 1661 structures were approved and 1389 structures completed at a total approved cost of Rs. 9987.447 lakh, out of which Rs. 8971.46 lakh have been released to 22 States as on 31.01.2015. The Committee note that the Demonstrative Rainwater Harvesting and Artificial Recharge to ground water during the 8th, 9th, and 10th Plan periods resulting in the annual ground water recharge of 4.0 Million Cubic Meter (MCM), 45.0 MCM and 2.14 MCM, respectively, while the anticipated recharge from the Demonstrative Artificial Recharge project implemented during the 11th Plan was likely to be 55.20 MCM. The Committee are unhappy to note that in spite of the substantial benefits brought by the Demonstrative Projects for Rainwater Harvesting and Artificial Recharge Projects, the scheme was closed on 31.03.2012. The Committee are further perturbed that there is no separate scheme for artificial recharge to ground water or contamination of ground water during the 12th Plan, which displays the lack of commitment towards promoting artificial recharge and Rainwater Harvesting in the Dark Blocks and 'Critical' assessment units. The Committee, therefore, recommend that the Demonstrative Projects for Rainwater Harvesting and Artificial Recharge Projects in the 'Dark Blocks' and 'Critical' assessment units should be renewed during the 12th Plan with additional financial allocation. They also desire to be apprised about the actual achievement (physical and financial) made under the Scheme during the 11th Plan for the entire country. Further, the Committee also feel in this regard, there is a need for ensuring proper functioning of tube-wells which are defunct and are

not in use, since they serve as dustbins in the villages / paddy fields and are a major source of ground water contamination. Regarding tube-wells, the Committee are aware that the several villages, tube-wells for the drinking water supply have been installed on this agricultural land, which face the risk of contamination given the fact that pesticides are being extensively used for cultivation across the country. The Committee also feel that steps should be taken to ensure proper spacing between tube-wells in general to ensure there is perennial water in the tube-wells located in different parts of the country. As for the urban areas, given the fact that the existence of concrete structures and roads do not allow the water to percolate to the ground, ponds should be mandatorily set up in every urban locality, and urban local bodies should be specifically asked to strictly monitor the Rain Water storage and recharge to ground water. Additionally, in the coastal areas, steps be taken to prevent the encroachment of saline water into fresh water pockets, and saline water zones need to be sealed – wherever such encroachments have occurred. The Committee also desire that the periodic aquifer – mapping be carried out in India's coastal areas for assessment of the levels of saline encroachments.

Reply of the Government

As desired by the Hon'ble Committee, CGWB has submitted Proposal/ EFC amounting to Rs. 129.41 crore for taking up ground water recharge works as Pilot Project in one 'Over-Exploited' block in each of the eleven States namely Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Telangana and Uttar Pradesh of the Country.

During XI Plan, overall 133 demonstrative recharge projects costing Rs. 99.87 crore were approved for construction of 1661 artificial recharge structures in the States of Andhra Pradesh, Arunachal Pradesh, Bihar, Chandigarh, Chhattisgarh Delhi, Gujarat, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Nagaland, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. A sum of Rs. 73.62 crore was released to the State implementing agencies by the end of XI Plan i.e., on 31.03.2012.

An amount of Rs. 4.08 crore, Rs. 7.34 crore & Rs. 7.66 crore has been released to State implementing agencies as second installment (spill over) during 2012-13, 2013-14 and 2014-15 respectively. Thus, a total of Rs. 92.69 crore was released against the approved cost of Rs. 99.87 Crores.

The information on the utilization of funds under the programme of Demonstrative Artificial Recharge projects is attached as **Annexure-I.**

It is to mention that 17 Artificial Recharge Projects envisaging construction of 78 number of artificial recharge structures with an approved cost of Rs. 317.128 lakhs had been dropped due to different reasons as mentioned below :-

- **Rajasthan** → Fifteen artificial recharge projects with an approved cost Rs. 78.825 lakhs envisaging construction of 13 artificial recharge structures had been dropped as the implementing agency had returned the first instalment funds for thirteen projects (Rs. 47.7142 lakhs) expressing their inability to execute the Schemes. For the other two projects, with an approved cost Rs. 17.25 lakhs envisaging construction of 2 artificial recharge structures, the implementing agency has been requested to return the funds amounting to Rs. 9.66 lakhs, released as first instalment, as these two projects have been implemented by the implementing agency from their own funds.

- **Kerala** → One Project with an approved cost Rs. 41.6 lakhs envisaging construction of one artificial recharge structure was dropped as the implementing agency has expressed its inability to execute the Scheme. Funds were not released to implementing agency.

- **Punjab** → One Project with an approved cost Rs. 179.453 lakhs envisaging construction 62 artificial recharge structures had been dropped, as there was no progress in three years after release of the first instalment. The implementing agency has returned the funds (Rs. 53.836 lakhs).

In addition to above, 46 artificial recharge structures have been dropped due to different reasons viz. 2 in Andhra Pradesh, 16 in Gujarat, 27 in Kerala & 1 in West Bengal.

Thus, against the target of 1661 artificial recharge structures with the revised target of 1537, so far, 1432 artificial recharge structures have been constructed.

During XII Plan, under National Aquifer Mapping Programme of Central Ground Water Board (CGWB), some areas of the coastal tracts of the Country have also been prioritized for aquifer mapping, modelling and formulation of aquifer management plans. This would include detailed mapping of the coastal aquifers and its interaction with sea water. Accordingly, in vulnerable areas suitable plans would be formulated to control the sea water ingress through suitable interventions involving regulation, artificial recharge and other management of water resources. A suitable mechanism is also proposed to be developed for regular monitoring of these aquifers along coastal tracts.

As informed, Department of Agriculture, Cooperation & Farmers Welfare is promoting Integrated Pest Management (IPM) in which emphasis is given to non-chemical methods and bio pesticides in conjunction with chemical pesticides for pest management across the Country.

Recommendation (Para No. 10)

The Committee were apprised that a conceptual document titled 'Master Plan for Artificial Recharge to Ground Water to India' prepared by the Central Ground Water Board in 2013 was circulated to all State Government incorporating (i) identification of suitable areas for artificial recharge; (ii) estimation of sub-surface storage space availability; (iii) quantification of local surplus annual run-off availability as source water for artificial recharge; and (iv) recommending number and types of structures required along with their estimated costs, and which also provides district-wise number of feasible artificial recharge structures along with their estimated costs. The total area identified for artificial recharge in the country is nearly 9.4 lakh sq. km., while the total estimated volume of water to be recharge is 85.6 BCM. However, regrettably, only 6 States/ UT Governments have taken follow-up action on the Master Plan viz. Gujarat, Madhya Pradesh, Rajashtan, Uttar Pradesh, West Bengal and Andaman & Nicobar Islands. Nothing that no review has been done regarding implementation of the Master Plan, the Committee desire that the Government take proactive and concerted efforts to encourage all the States/ UTs to take follow-up action on the 'Master Plan for Artificial Recharge to Ground Water to India' and also undertake a comprehensive

review of follow-up action taken by States/UTs in this regard during 2014-15 positively. The Committee also note that the Master Plan envisaged construction of different types of Artificial Recharge and Rain Water Harvesting structures in an area of 91541 sq. kms. By harnessing surplus Monsoon run-off to augment ground water resources. The Ministry have informed the Committee in this regard that during the 12th Plan, the CGWB has taken up the Aquifer Mapping and Management Programme, wherein aquifer-wise ground water resources and quality is to be assessed in priority areas covering 8.89 lakh sq. km which include water stressed ("Over-exploited' areas_ and quality vulnerable areas. Rs. 2051 crore have been allocated for the Aquifer Mapping and Management Plan during the 12th Plan as per the Ministry of Water Resources, River Development & Ganga Rejuvenation. The Committee recommend that the Ministry take necessary steps for judicious utilization of Rs. 2051 crore allocated towards Aquifer Mapping and Management Plan during the 12th Plan by implementing a time-bound road map to achieve its objective, i.e. assessing aquifer-wise ground water resources and quality in priority areas covering 8.89 lakh sq. km. in the country. The Committee desire to be informed of the steps taken by the Ministry as also the achievements (physical and financial) made during the 12th Plan so far under the Aquifer Mapping and Management Plan.

Reply of the Government

Chairman, CGWB has written a DO letter on 15.01.2015 to Chief Secretaries/ Administrator of all the States/UTs enclosing therewith a copy of the Master Plan for Artificial Recharge to Ground Water in India, 2013 for implementation of rain water harvesting & artificial recharge.

A review was done in 2014-15 regarding implementation of the Master Plan by the respective State Governments and status of implementation is given at **Annexure-II.**

Steps taken on Aquifer Mapping : -

1. During XII plan, an area of about 8.89 lakh sq.km area has been prioritized, out of 23 lakh sq.km map-able area of the Country.

2. The prioritized area include 'Over-Exploited', 'Critical' and 'Semi-Critical' assessment units as well as water quality affected and other vulnerable areas in 8 states viz. Punjab, Haryana, Rajasthan, Gujarat, Andhra Pradesh, Telangana, Karnataka, Tamil Nadu and in the National Capital Region. Moreover, water scarce areas such as Bundelkhand region covering parts of the Madhya Pradesh & Uttar Pradesh and; parts of Arsenic affected areas have also been prioritized.

3. Current activities of data generation for various activities under Aquifer Mapping have been taken up on a mission mode in prioritized areas of these States and Bundelkhand Region covering an area of around 5.25 lakh sq.km.

4. The activities for data generation in the remaining areas of XII plan across the Country are also being taken up simultaneously.

Physical achievements during the XII Plan (2012-17), as on 31st December, 2015 under the aquifer mapping programme is as given below :

- Data collection, compilation and data gap analysis for the entire prioritized area of 8.89 lakh sq.km have been completed.

- Pilot projects in an area of 3006 sq.km falling under the States of Bihar, Rajasthan, Maharashtra, Karnataka and Tamilnadu has been completed. Reports have been finalized and uploaded on the website of the department.

- Aquifer mapping of National Capital Region encompassing an area of 26185 sq.km falling under the States/UT of Uttar Pradesh, Haryana and Delhi has been completed and ground water management plan has been prepared.

- 9146 number of Vertical Electrical Sounding (VES) and 383 number of bore-hole logging have been conducted.

- 2842 number of ground water exploration wells have been constructed.

- 89651 ground water samples have been analyzed.

Financial performance in respect of Aquifer Mapping during XII Plan, as on 31st December, 2015 is given at **Annexure-III.**

Comment of the Committee

(Please see Para No. 15 of Chapter I of the Report)

Recommendation (Para No. 16)

The Committee note that as per the 4th Minor Irrigation Census (2006-07), the total number of water bodies used for Minor Irrigation in the country was 523816, of which the number of water bodies in use and not in use are 443688 and 80128 respectively. The Committee were informed that the data on the number of ponds is not available separately. The Committee also note the reply of the Ministry that inventorization of water bodies is feasible and in order to collect the details of water bodies, the Ministry of Water Resources, River Development & Ganga Rejuvenation has planned to undertake census of all water bodies in the country. Noting the importance of water bodies for their potential to recharge ground water resources, the Committee recommends the Ministry to initiate urgent steps to complete inventorization of water bodies and also complete the exercise of undertaking census of water bodies, being planned by the Ministry, within a definite time-frame. The Committee are surprised to find that even the data on number of ponds is not available separately with the Ministry, and they desire that a comprehensive assessment in this regard also is an imperative need to be made at the earliest. Further, the Committee are of the view that no programme/ scheme has been initiated by either the Union or State Government for desilting water bodies, which are in fact facing encroachments from human settlements as well as plants/weeds etc. The Committee, therefore, recommend that new initiatives in this regard be

taken up by the Ministry for launching special programme for upkeep, maintenance and restoration of water bodies, especially in those areas which fall under the Dark Blocks, with sufficient budgetary allocation for its proper implementation. Further, steps should be taken so that extraction of water from water bodies is limited only upto certain permissible level in order to guarantee the sustainable level of water bodies. The Committee further recommends strong measures need to be taken by the Government to undertake survey of the water bodies encroached upon all over the country and steps be initiated for removal of all encroachment therefrom. Noting that the extraction of ground water has not been regulated effectively which has led to serious decline in the ground water levels in many parts of the country, the Committee also desire that to restrain unnecessary use of ground water for irrigation and drinking purposes, installation of water meters should be made mandatory on the principle of 'Beneficiary Pays' in all tube-wells across the country. In the Dark Blocks, special irrigation functional schemes should be introduced and farmers should be incentivized to grow more water efficient crops and adopt water efficient irrigation techniques like drip irrigation, sprinkler irrigation, etc. to reduce water consumption in agriculture and people should also be encouraged to adopt and apply water efficient technologies and re-use of waste water.

Reply of the Government

As regards the mandatory metering on principle of 'Beneficiary Pays' to all tube wells across the country, it is submitted that at present one SLP is pending in Hon'ble Supreme Court of India (SLP No. 20888 of 2015: Ramesh Ailawadi Vs UOI and Others) on pricing of ground water. The matter being sub-judice and also, being an issue falling under State subject, it is proposed to send a letter to all the States/UTs from M/o WR, RD&GR for taking action as per the observations of Standing Committee. A Draft letter is this regard would be submitted to MOWR, RD & GR.

As informed, Department of Agriculture, Cooperation & Farmers Welfare is already implementing Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) with the vision of extending the coverage of irrigation 'Har Khet Ko Pani' and improving water use efficiency 'More Crop Per Drop' in a focused manner and to expand cultivable area under assured irrigation and improve on-farm water use efficiency.

The matter of keeping water bodies encroachment free comes under the purview of concerned State Governments. However, Secretary (WR, RD & GR) vide letter dated 26.02.2016 has issued an advisory to the States for keeping water bodies free from encroachment, removing encroachment of existing water bodies and rejuvenate those water bodies, which have been encroached, in mission mode.

Comment of the Committee

(Please see Para No. 18 of Chapter I of the Report)

Recommendation (Para No. 24)

The Committee note that the Ministry of Drinking Water & Sanitation have informed that as per online 'Integrated Management Information System' (IMIS), as on 18th May, 2015 States have reported 63,282 water quality-affected rural habitations (Arsenic-1482, Fluoride-11309, Salinity-16289, Iron-32020, Nitrate-2182) in the country. Further, as reported by the States on online IMIS of the Ministry, heavy / toxic metals have been found in nearly 8862 rural in habitations, of which Punjab, Assam and West Bengal are the most affected States in terms of concurrence of emerging contaminants in drinking water sources. In this connection, the Committee further note that excessive intake of Fluoride and Arsenic in drinking water poses serious health hazards especially in quality affected rural habitations. The Committee, therefore, desire that a concerted national programme be launched by the Ministry for the 63282 water quality affected rural habitations. They also desire that a new initiative may be taken up for those 8862 rural habitations which are facing contamination of heavy / toxic metals, especially for the States of Punjab, Assam and West Bengal, which are the most affected in terms of occurrence of emerging contaminants in drinking water sources. The Ministry of Drinking Water & Sanitation have advised all States to go in for

surface water based, piped water supply PWS) for providing safe drinking water in this water quality affected areas and these States have been advised to provide community water purification plants. The Committee are pleased to note that most State Governments have shifted their schemes towards surface water based piped water scheme, especially in water quality affected areas. The Committee are also happy to note that in Fluoride affected Karnataka, they have installed 1320 reverse osmosis (RO) plants whereas in the State of Punjab, 1876 RO Plants have been installed for providing safe water for drinking and cooking purposes. The Committee, therefore, desire the Government to tackle the problem of drinking water in the rural areas on war footing and make all out efforts for provision of piped water supply to maximum rural areas in the country, wherever feasible. The Committee further recommend to incentivize the worst affected States of Assam and West Bengal to go in for installation of RO plants as we done in Punjab and Karnataka. They also recommend that special steps be taken by the Ministry in coordination with the Ministry of Drinking Water & Sanitation to promote community water purification plants in the water quality affected rural habitations all over country and desire to be apprised accordingly.

Reply of the Government

In each of the State, where cluster water supply is being provided through ground water sources, Regional Offices of Central Ground Water Board being Member of State Level Source Selection Committee (SLSSC) recommends necessary remedial measures if required.

As reported by the States on Integrated Management Information System (IMIS) of Ministry of Drinking Water & Sanitation (MoDWS), as on 03.02.2016, there are 60,953 water quality affected rural habitations in the Country which are yet to be provided safe drinking water as below:

Total water quality affected habitations	*Fluoride affected habitations*	*Arsenic affected habitations*	*Nitrate affected habitations*	*Iron affected habitations*	*Salinity affected habitations*

60,953	11,414	1,312	2,212	30,740	15,275

The above figure indicates that 2,329 water quality affected habitations have been tackled by the States from the previously submitted data by the Ministry (reported at IMIS, as on 18.05.2015). Furthermore, MoDWS has taken the issue of heavy/toxic metals contamination reported on the website of the Ministry with the States. The States were advised to check the data and delete the erroneous figures. Accordingly, States have revised the number of habitations affected with heavy/toxic metals to previously reported figure of 8,862 to 5,862 (as on 03.02.2016) as per the revised laboratory records entered into IMIS for the year 2015-16. However, if the laboratory reports of all financial years is taken into cognizance since 2009-10, the total number of heavy/toxic metals affected habitations are 16,094.

MoDWS has prepared a Strategy Plan to provide safe drinking water to 90% of the rural population of the Country preferably through surface water based piped water supply schemes by the year-2022 as a long-term sustainable solution, subject to availability of funds. The Strategy Plan to tackle water quality affected habitations is as below:

Long term sustainable solution: Since Piped Water Supply (PWS) schemes based on safe water sources, is the sustainable solution, MoDWS has advised the States to cover all water quality affected habitations with PWS schemes, preferably based on surface water as sources.

In addition, World Bank assisted projects are presently being implemented in 4 Low Income States (Bihar, Uttar Pradesh, Assam & Jharkhand), for which the funds are provided through World Bank. Water quality affected habitations are also prioritized under this project.

Short Term solution: Since commencement of large PWS schemes take about 4-5 years, and the people living in these affected habitations cannot be put to risk of consuming contaminated water, the Ministry has advised all the States to install Community Water Purification Plants (CWPPs) in all water quality affected habitations prioritizing Arsenic and Fluoride affected habitations, as a short term measure to provide 8-10 litres per capita per day (lpcd) of water (meant for drinking and cooking purposes only).

States are tackling water quality affected habitations by implementation of PWS schemes (as long term measure) or by installation of CWPPs (as short term measures) with the funds available under the

National Rural Drinking Water Programme (NRDWP). However, as the funding for NRDWP was reduced substantially in 2014-15, installation of new CWPPs in different water quality affected habitations was found to be difficult with the available funds under NRDWP. The matter was taken at the higher level. Since Arsenic and Fluoride in drinking water are the most hazardous elements from health point of view, it was decided that NITI Aayog would provide Rs. 1000 crore to the States having Arsenic and Fluoride affected rural habitations as below:

1. Rs. 800 crore for installation of CWPPs for providing 8-10 lpcd of safe drinking water meant for drinking and cooking purposes in 19 States having Arsenic and Fluoride affected rural habitations. This would be an interim measure till PWS schemes are commissioned in these habitations. CWPPs to be installed by the funds provided by NITI Aayog should, preferably, be commissioned by July, 2016 and Operation & Maintenance would rest with the State Governments. Allocation to the affected States is based on population affected in these States.

2. Rs. 200 crore would be provided for PWS schemes in water quality affected habitations with a specific funding pattern having internal and external monitoring and certain administrative expenses of NITI Aayog. Since Rajasthan has the largest number of Fluoride affected habitations and West Bengal has the largest number of Arsenic affected habitations in the Country, special focus has been given to prioritize/cover the problems in these States. NITI Aayog and MoDWS discussed with the Principal Secretaries of the States and identified such surface water based PWS schemes which require only last mile connectivity. It was decided that by provisioning of certain funds for this purpose, large number of Arsenic and Fluoride affected habitations would be covered. Based on the proposal to be submitted by the States of Rajasthan and West Bengal, NITI Aayog will release funds so that the Arsenic and Fluoride affected habitations are tackled, preferably, by March, 2017.

Funds to be provided by NITI Aayog would be in addition to the funds to be provided as 100% Central assistance to the States. This would be one time additional Central assistance. The fund to be provided by NITI Aayog would not be a part of the NRDWP funds. However, the schemes would be monitored jointly by NITI Aayog and MoDWS.

Comment of the Committee

(Please see Para No. 30 of Chapter I of the Report)

CHAPTER V

OBSERVATIONS / RECOMMENDATIONS IN RESPECT OF WHICH FINAL REPLIES OF THE GOVERNMENT ARE STILL AWAITED

Recommendation (Para No. 19)

The Committee note the reply of the Ministry that the proposal to bring 'Water' in the Concurrent List of the Constitution has been opposed by most of the States and the proposal did not find favour with the two Commissions on Centre-State relations chaired by Justice R.S. Sarkaria (1983-88) and Justice M.M. Punchhi (2007-10). However, the Committee believe that the subject of water needs to be dealt within a consultative manner, taking into consideration the overall national perspective, given the fact that the country will be facing acute water crisis in the near future especially on the ground water front. In view of the need to adopt a holistic approach for tackling the problem in a comprehensive and equitable manner, the Committee therefore, reiterate their earlier recommendation contained in the 10th Report and 16th Report (15th Lok Sabha) and 4th Report (16th Lok Sabha) and urge the Government to initiate earnest efforts to build national consensus to bring the subject of 'Water' in the Concurrent List of the Constitution after undertaking necessary consultations with the States with a view to evolving a comprehensive national plan of action for better conservation, development and management of water, including ground water.

Reply of the Government

The matter regarding bringing 'Water' in the Concurrent List has been raised from time to time. There has been growing demand by the professionals and civil society to bring 'Water' in the Concurrent List, primarily to ensure national perspective on water management and to avoid inter-State disputes and the tendencies of the State Governments to use more water (in excess of justified needs, through efficient use) only to claim more apportionment of water in inter-State rivers. However, the proposal to bring 'Water' in Concurrent List has been opposed by most of the States.

The matter regarding making 'Water' a Union/Concurrent List Subject was examined by the two Commissions on Centre State Relations chaired by Justice R.S. Sarkaria (1983-88) and Justice M.M. Punchhi (2007-10). The said proposal did not find favour with either of the two Commissions.

The matter requires extensive deliberations with the States and other stakeholders so that a broader consensus emerges in the matter.

However, Ministry of Water Resources, RD & GR had constituted a Drafting Committee headed by Dr. Y.K. Alagh, on 3rd July, 2012 for Drafting of National Water Framework Law. The Committee submitted its report in May, 2013. The Salient features of the draft National Water Framework Bill are at **Annexure-V.**

Further, Ministry of Water Resources, RD & GR had constituted a Drafting Committee under the Chairmanship of Justice T.S. Doabia (Retd.) to study the activities that are required for optimum development of river basin and changes required in the existing River Board Act, 1956 for achievement of the same. The Committee submitted is Report in November, 2012 and has prepared a Draft River Basin Management Bill. The salient features of the draft River Basin Management Bill recommended by the Committee are given at **Annexure-VI.**

The Draft National Water Framework Law and the draft River Basin Management Bill are under examination in this Ministry in consultation with different stakeholders. A Committee has been constituted under the Chairmanship of Dr. Mihir Shah to examine the draft National Water Framework Law and the draft River Basin Management Bill.

The objectives of better conservation, development and management of water are sought to be achieved through the Draft National Water Framework Law and the draft River Basin Management Bill.

Recommendation (Para No. 22)

The Committee observe from the reply of the Central Pollution Control Board that industries responsible for ground water as well as surface water pollution fall broadly in the categories of slaughter

houses, distilleries, pulp and paper, tanneries, textiles, chemicals and dyeing industries. The CPCB had undertaken a comprehensive assessment of 88 industrially polluted areas in the country based on the Comprehensive Environmental Pollution Index (CEPI) out of which 43 industrial clusters in sixteen States have been classified as critically polluted areas (CPAs) with CEPI scores of 70 and above. So far, 3 rounds of environmental quality monitoring (Air, Surface Water and Ground Water) have been undertaken by CPCB (in 2009, 2011, 2013) at a total cost Rs. 21.43 lakh, Rs. 78.34 lakh and Rs. 56.00 lakh during 2009, 2011 and 2013 respectively. The Ministry of Water Resources, River Development and Ganga Rejuvenation have also informed that directions have been issued by the CPCB to all the State Pollution Control Board (SPCBs) of 43 CPAs for installation of Continuous Ambient Air Quality Monitoring Stations and Continuous Water Quality Monitoring Stations in each of the 43 CPAs. The Committee are of the firm opinion that there is a need to keep a strict vigil on polluting activities of industrial establishments in the 24 CPAs, especially those located in the Dark Blocks Zones. The Committee, therefore, recommend that the Ministry in coordination with the Central Pollution Control Board of the Ministry of Environment, Forests & Climate Change, devise an effective mechanism to identify CPAs located in Dark Block areas and also to take steps to minimize and control the dumping of industrial waste into surface water as well as underground aquifers in these area. Noting that comprehensive remedial action plan for the 43 identified critically polluted industrial clusters was prepared by SPCBs, the Committee would like the Ministry to strictly pursue with the CPCB/SPCBs for effective implementation of the comprehensive remedial action plan in order to reduce and minimize ground water pollution in the Dark Blocks zones. Further noting that three rounds of environmental quality monitoring have been carried out by the CPCB through reputed environmental labs in 2009, 2011 and 2013, the Committee desire that such monitoring activity by the CPCB be undertaken on an annual basis in those 24 CPAs. The Committee also desire that the Ministry

keep tab on CPCB to ensure that its directions to SPCBs concerned of the 43 CPAs regarding installation of Continuous Ambient Air Quality Monitoring Stations and Continuous Water Quality Monitoring Stations are duly complied with by the SPCBs. The Committee will like to be informed about further action taken in this regard.

Reply of the Government

Ministry of Water Resources, RD & GR has written several letters and D.O letters to Central Pollution Control Board (CPCB), but their Action Taken Report is still awaited. A copy of this Action Taken Report is being endorsed to CPCB for necessary action.

Comment of the Committee

(Please see Para No. 24 of Chapter I of the Report)

Recommendation (Para No. 26)

The Committee note the reply of the Ministry of Water Resources, River Development & Ganga Rejuvenation regarding the deteriorating ground water quality in Greater NOIDA, that as per the order dated 14.05.2015 of the National Green Tribunal (NGT), the Uttar Pradesh Pollution Control Board (UPPCB) has filed a status report in NGT, wherein, violation by eight industries has been detected about 'No Objection Certificate (NOC)' issued by the CGWA in the Bisrakh Block of Greater NOIDA. They also note that the NGT has issued 'show cause notices' returnable by 15.07.2015, as to why these industries should not be closed and that further action shall be taken up on directions of the NGT after it has considered the replies from the eight industries at the next hearing on 15.07.2015. The Committee further note that as per ground water sampling carried out by the CGWB during 2013-14 in Chapraula Industrial Area, Bisrakh block, of Gautam Budhh Nagar district, heavy metals above permissible limits were reported in respect of iron (from all samples), aluminum (Roopvas), lead (Khera Chauganpur and Durai

Taalpur) and nickel (Chera Chaunganpur). The Committee desire that early remedial steps be taken by the Ministry in coordination with the Ministries of Drinking Water & Sanitation, Environment, Forests& Climate Change to address the issue of contamination of ground water with heavy metals in Greater NOIDA and apprise the Committee accordingly. They also desire to be apprised of the further action taken by the government in respect of the eight industries which violated the 'No Objection Certificate (NOC)' of CGWA while undertaking extraction of ground water in the Bisrakh Block of Greater NOIDA. Noting the serious situation arising out of the ground water contamination / pollution in many parts of the country, the Committee further recommend that the adverse impact of ground water pollution in India be studied and documented in detail and corrective measures as warranted therein initiated by the Government. The Committee also recommend the Government to seriously consider constituting of a single, centralized agency at the earliest, which would be mandated to curb, control and eliminate ground water contamination/ pollution in the country. The Committee would like to be apprised of the specific steps taken in this direction.

Reply of the Government

Ministry of Environment, Forests and Climate Change (MoEFCC) has constituted a High Power Committee under the Chairmanship of Shri TSR Subramanian, Ex-Cabinet Secretary to generate mechanism for addressing the pollution issues. The committee will be apprised of the specific steps taken in this direction by MoEFCC on the basis of High Power Committee report along with the recommendations.

The matter is sub-judice and 'show cause notice' has since been given by the Hon'ble NGT to these industries. The concerned industries are in process of filing their reply before the Hon'ble NGT in responses to the 'show cause notice'. Since the Hon'ble NGT is taking action, CGWA is not taking any separate action. The final outcome of the matter would be intimated to the Committee.

CGWB periodically monitors ground water quality of shallow aquifers on a regional scale, once every year mainly for geo-genic parameters.

CGWB also carried out water quality studies in all the 88 industrial clusters identified by Central Pollution Control Board (CPCB). The studies indicated that in most of the cases excess concentration of few chemical constituents beyond norms prescribed by Bureau of Indian Standards (BIS) are present. In Uttar Pradesh, ground water pollution studies were undertaken in 12 industrial clusters at Ghaziabad, Noida, Kanpur, Agra, Varanasi-Mirzapur, Moradabad, Aligarh, Ferozabad, Mathura, Meerut, Bulandshahr-Khurza, Singrauli.

In Ghaziabad, the study was undertaken in Sahibabad industrial area which includes medicine/ Pharmacy, textile, beverages, iron & steel, casting & printing. A number of dyeing units also exist in the area. It was found that in few locations Electrical Conductivity, Total Hardness, Ca, Mg, NO_3 and metals like Fe, Mn and As were above the permissible limits.

In the NOIDA industrial belt industries like Automobiles, IT services, Electronics, Electrical, Paints are dominant. Ground water pollution study undertaken here showed that only a few samples were found to be contaminated with Chlorine (Cl), Iron (Fe) and Lead (Pb) above permissible limits. The reports were circulated to concerned State Departments.

As informed, the Ministry of Drinking Water & Sanitation monitors drinking water quality through the States and provide funds to the States under National Rural Drinking Water Programme (NRDWP) for treatment of contaminated drinking water for supply of safe drinking water to the rural population.

Taking note of the observations of Hon'ble Members of the Committee on findings of CGWB on presence of some toxic heavy metals in ground water in some villages near Chapraula Industrial Area of Bisrakh Block of Gautam Budh Nagar district, a D.O letter has been written by Joint Secretary (Water) to the Principal Secretary, Rural Development, Government of Uttar Pradesh to look into the problem and send an updated status of the extent of ground water contamination along with the remedial measures taken to mitigate the problem. The Ministry is awaiting the reply from the State Government of Uttar Pradesh and will furnish the same immediately after the reply is received.

Comment of the Committee

(Please see Para No. 36 of Chapter I of the Report)

NEW DELHI
26 November, 2016
05 Agrahayana, 1938 (Saka)

HUKUM SINGH,
Chairperson,
Standing Committee on Water Resources

ANNEXURE – I

DETAILS OF FUNDS RELEASED & INCURRED ON ARTIFICIAL RECHARGE PROJECTS BY CGWB DURING VARIOUS PLANS

(Rs. In Lakh)

S.No.	State	VIII	IX	X	XI Plan	XII	Total
						Funds Released as Spill Over of Artificial Recharge Projects Sanctioned During XI Plan	Funds Released
1	Andhra Pradesh			130.44	130.02		260.46
2	Arunachal Pradesh		20		409.377	83.73	513.107
3	Assam		63.5				63.5
4	Bihar		5.84		67.21	28.8	101.85
5	Chhattisgarh				150.40	108.45	258.85
6	Delhi	43.58	92.23		30.41	13.029	179.249
7	Goa						0
8	Gujarat		20.05		221.368	65.282	306.7
9	Haryana		107.44				107.44
10	Himachal		81.65		165.14	84.882	331.672
11	Jammu & Kashmir		78.96		91.277	45.419	215.656
12	Jharkhand		17.95		133.943	72.013	223.906
13	Karnataka	44.116	43.3	86.64	447.02	141.071	762.147
14	Kerala	31.55	88.18		77.604	4.05	201.384
15	Madhya Pradesh	11.765	45.58	116.83	633.376	99.504	907.055
16	Maharashtra	101.6	76.63		15.15		193.38
17	Manipur						0
18	Meghalaya		20.32				20.32
19	Mizoram		28				28
20	Nagaland		116.43		141.34	82.8	340.57
21	Odisha		1493.29		325.04	139.32	1957.65
22	Punjab	5.76	361.68		110.46		477.9
23	Rajasthan		121.31		235.055	107.702	464.067
24	Sikkim						0
25	Tamil Nadu	15	163.59	223.15	514.35	12	928.09
26	Telangana	2.12	51.82		307.674	135.712	497.326
27	Tripura						0
28	Uttar Pradesh		137.05		2502.43	451.684	3091.164
29	Uttarakhand		1.87				1.87
30	West Bengal	1.375	149.63		111.09		262.095
31	Andaman & Nicobar Island		12.92				12.92

S.No.	State	VIII	IX	X	XI Plan	XII	Total
						Funds Released as Spill Over of Artificial Recharge Projects Sanctioned During XI Plan	Funds Released
32	Chandigarh	2.2	60.76		543.221	231.3	837.481
33	Dadra & Nagar Haveli						0
34	Daman and Diu						0
35	Lakshadweep		19.85				19.85
36	Puducherry						0
	TOTAL	**259.066**	**3479.83**	**557.06**	**7362.955**	**1906.748**	**13565.659**

ANNEXURE-II

MASTER PLAN FOR ARTIFICIAL RECHARGE TO GROUND WATER

S.No.	State	Status
1	Andhra Pradesh	Not Implemented
2	Bihar	Not Implemented
3	Chhattisgarh	Under consideration for Implementation
4	Delhi	Under consideration for Implementation
5	Goa	Not Implemented
6	Gujarat	The Master Plan of Artificial Recharge to the Ground Water -2013 was distributed to Gujarat Water Resources Development Corporation (Govt. of Gujarat). A "Project task force was prepared by GWRDC for Managed Aquifer Recharge and it was submitted Government of Gujarat which is under consideration. The task force comprising of Technical experts was constituted by GOG to prepare First Approximation Report for ground water recharge in 6 major river basins and the task force recommended construction of 15678 percolation tanks ,22607 check dams, 14712 recharge tube wells and 42000 modifications to dug wells costing Rs 2756 crores to recharge 1643 mcm water land the implementation of the report is under active consideration.
7	Haryana	Not Implemented
8	Himachal Pradesh	Not Implemented
9	Jammu & Kashmir	Not Implemented
10	Jharkhand	Not Implemented
11	Karnataka	i). Department of Mines and Geology, Govt. of Karnataka has spent about Rs. 15 lakhs (ii). Minor Irrigation Department, Govt. of Karnataka has spent about Rs. 9,899/- lakhs constructing artificial recharge structures like Check Dams, Percolation Ponds, Gokat etc
12	Kerala	Not Implemented due to non availability of funds Being Used as guide for the Implementation of AR/RWH ongoing Projects
13	Madhya Pradesh	The Chief Engineer (Bodhi), constituted a co-ordination committee for finalizing Master Plan of Artificial Recharge to Ground Water of M.P. The divisional Ground Water survey units of Water Resources Department were directed to submit proposal based on the Master Plan . The SE, Ground Water Survey, Water Resources Department,Govt of MP has informed that a proposal for artificial recharge to groundwater in and around Bazada Zone of Burhanpur district is prepared in consultation with CGWB Bhopal and submitted to Chief Engineer for its approval . Some more proposals are also awaited from field officers. As soon as proposals received from field officers, it discuss the same with CGWB officers also before finalizing them.
14	Maharashtra	Not Implemented
15	NER states	Not Implemented
16	Odisha	Not Implemented
17	Punjab	Not Implemented
18	Rajasthan	Not Implemented
19	Sikkim	Not Implemented

20	Tamil Nadu	Not Implemented
21	Uttar Pradesh	Uttar Pradesh Govt. has prepared Comprehensive Policy for Ground Water Management, Rain Water Harvesting & Ground Water. The policy highlights the Master Plan of CGWB.
22	Uttarakhand	Not Implemented
23	West Bengal	Certain artificial recharge structures are being constructed by PHED, Govt. of West Bengal utilizing the guidelines provided in Master Plan
24	Andaman & Nicobar Island	Recommendation of CGWB as per master plan is being considered for implementatio A & N Islands as stated by APWD
25	Chandigarh	Not Implemented
26	Dadra & Nagar Haveli	Not Implemented
27	Daman and Diu	Being implemented
28	Lakshadweep	Not Implemented
29	Puducherry	Not Implemented

ANNEXURE – III

FINANCIAL PERFORMANCE IN RESPECT OF AQUIFER MAPPING UNDER GROUND WATER MANAGEMENT AND REGULATION DURING XII PLAN (2012-17) ***(As on 31st December, 2015)***

(Rs. in Crore)

S.No.	Years	Expenditures
1.	12-13	Rs 118.64
2.	13-14	Rs 83.17
3.	14-15	Rs 125.42
4.	15-16 31st December, 2015)	Rs 76.54

ANNEXURE – IV

STATUS OF GROUND WATER MONITORING STATIONS (MARCH, 2015)

S.No.	Name of the State/UT	Number of Ground Water Monitoring Stations		
		DW	PZ	Total
1	Andhra Pradesh	772	109	881
2	Arunachal Pradesh	29	0	29
3	Assam	402	60	462
4	Bihar	631	33	664
5	Chhattisgarh	843	268	1111
6	Delhi	20	96	116
7	Goa	102	49	151
8	Gujarat	809	390	1199
9	Haryana	481	483	964
10	Himachal Pradesh	112	0	112
11	Jammu & Kashmir	256	32	288
12	Jharkhand	407	20	427
13	Karnataka	1483	383	1866
14	Kerala	1369	269	1638
15	Madhya Pradesh	1134	348	1482
16	Maharashtra	1541	219	1760
17	Manipur	13	10	23
18	Meghalaya	56	4	60
19	Nagaland	26	5	31
20	Odisha	1583	98	1681
21	Punjab	169	744	913
22	Rajasthan	734	377	1111
23	Tamil Nadu	819	532	1351
24	Telangana	360	376	736
25	Tripura	58	9	67
26	Uttar Pradesh	940	185	1125
27	Uttarakhand	43	126	169
28	West Bengal	855	886	1741
	UT			
1	Andaman & Nicobar	108	2	110
2	Chandigarh	1	24	25
3	Dadra & Nagar Haveli	12	0	12
4	Daman & Diu	11	5	16
5	Pondicherry	11	7	18
TOTAL		**16190**	**6149**	**22339**

State of Mizoram and Sikkim and UT of Lakshadweep do not have Monitoring wells.

ANNEXURE – V

SALIENT FEATURES OF DRAFT NATIONAL WATER FRAMEWORK BILL

(1) The draft National Water Framework Bill proposes to establish an umbrella statement of general principles governing the exercise of legislative and/or executive (or devolved) powers by the Centre, the States and the local governing bodies, which should lead the way for essential legislation on water governance in every State of the Union and devolution of necessary authority to the lower tiers of government to deal with the local water situation.

(2) It proposes eighteen Basic Principles for Water Management to bring different State legal interventions within a framework of governing principles and alignment of existing legislations both at the Central as well as State level to conform to the principles and provisions of this Bill.

(3) It proposes that every individual should have a right to a minimum quantity of potable water (not less than 25 litres per capita per day) for essential health and hygiene and within easy reach of the household, which may be provided free of cost to eligible households, being part of pre-emptive need.

(4) It proposes establishment of an independent statutory Water Regulatory Authority by every State for ensuring equitable access to water for all and its fair pricing on volumetric basis, for drinking and other uses such as sanitation, agricultural and industrial.

(5) It proposes that all water resources projects conform to the River Basin Master Plan to be prepared, applicable efficiency benchmarks and take into account all social and environmental aspects in addition to techno-economic considerations.

(6) It proposes that the groundwater be protected, conserved and regulated through appropriate laws and by adequate and efficient measures using precautionary approach, with active participation of Community Based Institutions.

(7) It proposes conformance to the Service Level Benchmarks for water supply, sanitation, solid waste management and storm water drainage, as may be prescribed.

(8) It proposes that Industries either withdraw only the make up water or have an obligation to return treated effluent to a specified standard back to the hydrologic system and to file annual 'Water returns'.

(9) It proposes that the appropriate Government take all possible measures to synergise and integrate different development schemes including schemes for water conservation, sanitation and improvement of water quality at Panchayat or Municipality level, as the case may be, and further at sub basin and basin level.

(10) It proposes that a High Powered Committee be set up at the Centre and in each State for coordination and policy support mechanism between different agencies dealing with water etc.

ANNEXURE – VI

SALIENT FEATURES OF DRAFT RIVER BASIN MANAGEMENT BILL

(1) The Draft River Basin Management Bill proposes establishment of separate River Basin Authorities for regulation and development of waters for twelve major inter-State river basins in the country.

(2) It proposes principles of participation, cooperation, equitable and sustainable management, conjunctive use, integrated management, public trust doctrine and demand management for governing river basin development, management and regulation.

(3) It proposes a two-tier structure for a River Basin Authority, consisting of a Governing Council comprising, inter-alia, of Chief Ministers of riparian States and an Executive Board comprising, inter-alia, of Secretaries of riparian States, charged with the technical and implementation powers for the Governing Council decisions.

(4) It proposes each River Basin Authority should prepare a River Basin Master Plan for the inter-State river basin under its jurisdiction on the principles of Integrated Water Resources Management.

(5) It proposes that the Governing Council follow persuasion, conciliation and mediation as means to resolve disputes, whenever any dispute or difference arises between two or more State Governments with respect to any recommendation given by the River Basin Authority or the refusal or neglect of any State Government to undertake any measures in pursuance of the River Basin Master Plan or Schemes.

(6) It provides for referral of dispute(s) for resolution under the Inter State River Water Disputes Act, 1956, when the Governing Council fails to determine the issue(s) or resolve the water dispute(s) or where the State Governments disagree with the decision tendered by such Governing Council.

(7) It proposes that the River Basin Authority be empowered to have its own funds and requires them to prepare Annual Report to be laid before both Houses of Parliament.

(8) It proposes that the Central Government may give directions and make Rules for effective implementation of the provisions of the Bill. It also proposes that every River Basin Authority be empowered to make regulations for discharging its powers and functions etc.

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ANNEXURE-VII

MINUTES OF THE THIRD SITTING OF THE STANDING COMMITTEE ON WATER RESOURCES (2016-17) HELD ON WEDNESDAY, 23 NOVEMBER 2016

The Committee sat from 1500 hours to 1510 hours in Committee Room 'C', Ground Floor, Parliament House Annexe, New Delhi.

PRESENT

Shri Hukum Singh – Chairperson

MEMBERS

LOK SABHA

32. Shri Radheshyam iswas
33. Shri Sudhir Gupta
34. Shri Abhijit Mukherjee
35. Shri Vijaysinh Mohite Patil
36. Shri Vishnu Dayal Ram
37. Shri Ram Prasad Sarmah
38. Smt. V. Sathyabama

RAJYA SABHA

39. Shri Harshvardhan Singh Dungarpur
40. Dr. Bhushan Lal Jangde
41. Shri Hishey Lachungpa
42. Shri Ananda Bhaskar Rapolu
43. Shri Sanjay Seth
44. Shri A.V. Swamy
45. Shri Pradeep Tamta

SECRETARIAT

1.	Shri Shiv Kumar	-	Joint Secretary
2.	Smt. Rita Jailkhani	-	Director
3.	Shri Kushal Sarkar	-	Additional Director

2. At the outset, the Chairperson welcomed the Members to the sitting of the Committee. Thereafter, the Committee took up for consideration and adoption (a) Draft Report on Action Taken by Government on the Observations / Recommendations contained in the Fifth Report (16th Lok Sabha) on the subject "Review of Ground Water Scenario, need for a comprehensive policy and measures to address problems in the country - with particular reference to (i) Dark Blocks; and (ii) Contamination of underground water by certain industries"; and (b) Draft Report on Action Taken by the Government on the Observations / Recommendations contained in the Ninth Report (16th Lok Sabha) on Demands for Grants (2016-17) of the Ministry of Water Resources, River Development & Ganga Rejuvenation. After some deliberations, the Committee adopted the aforesaid two draft Reports without any modification.

3. The Committee also authorized the Chairperson to present these two Reports to both the Houses of Parliament in the current Winter Session.

The Committee then adjourned

ANNEXURE – VIII

[Vide Para 4 of the Introduction]

ANALYSIS OF ACTION TAKEN BY THE GOVERNMENT ON THE OBSERVATIONS/ RECOMMENDATIONS CONTAINED IN THE FIFTH REPORT (SIXTEENTH LOK SABHA) OF THE COMMITTEE

(i) Total number of Observations/ Recommendations 27

(ii) Observations/ Recommendations which have been accepted by the Government

Para Nos. 1, 3, 4, 5, 6, 7, 9, 11, 13, 15, 17, 18, 20, 21, 23 and 27

Total : 16
Percentage : 59.25%

(iii) Observations/ Recommendations which the Committee do not desire to pursue in view of the Government's replies

Para Nos. 12, 14 and 25

Total : 03
Percentage : 11.11 %

(iv) Observations/ Recommendations in respect of which replies of the Government have not been accepted by the Committee

Para Nos. 2, 8, 10, 16 and 24

Total : 05
Percentage : 18.51 %

(v) Observations/ Recommendations in respect of which final reply of the Government are still awaited

Para Nos. 19, 22 and 26

Total : 03
Percentage : 11.11%