REPORT OF OVERSIGHT COMMITTEE IN COMPLIANCE OF ORDER OF HON'BLE NATIONAL GREEN TRIBUNAL PASSED IN O.A. 384/2019 IN RE: MRS. SUNITA PANDEY & ANR. VERSUS UNION OF INDIA & ORS

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Introduction

1. The Hon'ble NGT dealing with the matter of O.A. No. 384/2019 vide order dated 28.01.2020 considered the issue of contamination of groundwater due to Arsenic and availability of clean drinking water in Bahraich, Ballia, Balrampur, Bareilly, Basti, Bijnor, Chandauli, Ghazipur, Gonda, Gorakhpur, Lakhimpur Kheri, Meerut, Mirzapur, Moradabad, Rai Bareilly, Sant Kabir Nagar, Shajahanpur, Siddharthnagar, Sant Ravidas Nagar and Unnao and certain other districts in Uttar Pradesh and other similarly affected areas in the country including in Assam, Bihar, Jharkhand, Karnataka, Punjab and West Bengal.
2. In India, for the very first time, the Arsenic contamination in groundwater was reported in December 1983 in West Bengal.
3. As per the report of the State Water Resources Agency, in Uttar Pradesh, a total of 28 districts have a problem of Arsenic contamination in groundwater.
4. According to the Uttar Pradesh Jal Nigam, in 310 village hamlets situated in 179 revenue villages of district Ballia and 165 village hamlets situated in 49 revenue villages in district Lakhimpur Kheri the shallow groundwater was found contaminated with a high concentration of Arsenic. The concentration of Arsenic in these habitations were found higher than the permissible limit of 0.05 mg/L, prescribed for potable water by Bureau of Indian Standards (BIS:10500).
5. As per the report of NITI Aayog published in June 2018 on 'Water Management Index', India is ranked 120th among 122 countries in the 'water quality index'. In India, 70% of the water is contaminated. About 600 million peoples are facing an acute water crisis andabout two lakh people die every year due to inadequate access to safe water.

6. Inorganic Arsenic compounds are toxic, while organic arsenicals (organic compounds of arsenic) are almost non-toxic in nature. International Agency for Research on Cancer (IARC) has categorized inorganic Arsenic compounds in Group 1 of proven carcinogens. It has also been recognized as one of the greatest environmental hazards.

NGT orders:

1. The issue of Arsenic contamination in groundwater is in focus since 2015. Hon'ble NGT noted the gravity of the situation arising due to high Arsenic content in groundwater resulting in serious Arsenic poisoning, cancer and environmental damage in the Arsenic affected areas.
2. The matter was also highlighted in a news item published in Hindustan Times dated 26.11.2015 under the heading "Arsenic contamination on the rise: 1 Lakh dead, 3 lakh suffering". As per the news item, in the report of Committee of Secretaries, it was reported that 7.04 crore people have been affected by Arsenic related diseases in 12 States and 1 lakh persons have already died.
3. In a joint inspection report filed by CPCB, MoEF&CC, CWGA and UPPCB before Hon'ble NGT, it was reported that Arsenic Removal Units (ARUs) were not functioning properly. The Hon'ble NGT directed to dismantle the hand pumps in areas where the concentration of Arsenic was beyond the permissible limits.
4. The Inter-Ministerial Group (IMG) of the Government of India had prepared a report suggesting the action plan to mitigate Arsenic contamination and made a comprehensive recommendation on the whole gamut.
5. "Accordingly, the Hon'ble NGT issued directions for remedial action including a direction to the Secretary, Ministry of Drinking Water and Water Resources to file a report compiling information from the States in terms of the order of the Tribunal".
6. The Ministry of Drinking Water & Sanitation and Ministry of Water Resources, River Development and Ganga Rejuvenation have jointly filed an affidavit before Hon'ble NGT on 30.03.2019. The affidavit highlights that groundwater in seven States including Uttar Pradesh is highly contaminated with arsenic affecting a population of 1.3 crores. In the affidavit, it was mentioned that though water supply is responsibility of the State Government, yet the Central Government is providing

financial and technical assistance. National Rural Drinking Water Programme (NRDWP) is a centrally sponsored scheme under which the State Governments can take up this remediation work. Further, a Programme *viz.* National Water Quality Sub Mission (NWQSM) was also launched to provide safe drinking water. Considering the graveness of the situation the Tribunal felt that the efforts made so far were inadequate.

7. In another affidavit filed by Jal Shakti before Hon'ble NGT on 22.08.2019, it was reiterated that drinking water is a State subject and Central Government is providing technical and financial assistance through schemes like NRDWP and NWQSM. It was also mentioned that under NRDWP, 27,544 Arsenic/Fluoride affected rural habitation have been taken up out of which 262 habitations were from Uttar Pradesh.
8. The Department of Drinking Water and Sanitation in its affidavit dated 13.12.2019 submitted to Hon'ble NGT, presented the status of the Arsenic affected habitation. The details are as follows:

State	**As on 25.03.2019**		**As on 25.06.2019**		**As on 09.12.2019**		**As on 26.01.2020**	
	No. of Arsenic affected habitations	**Population**	**No. of Arsenic affected habitations**	**Population**	**No. of Arsenic affected habitations**	**Population**	**No. of Arsenic affected habitations**	**Population**
Assam	4,301	16,07,660	4,293	1605148	3343	12,53,702	3309	12,42,151
Bihar	807	12,05,934	804	12,01,715	336	5,15,474	335	5,14,396
Jharkhand	19	13,336	19	13,336	03	6,714	3	6,714
Karnataka	3	2,590	2	1,706	0	0	0	0
Panjab	652	8,28,073	660	8,36,625	646	8,22,381	644	8,20,192
Uttar Pradesh	707	5,32,507	650	4,57,893	607	4,09,918	606	4,09,180
West Bengal	9,126	93,19,930	7,544	69,93,938	6,207	55,24,893	5,304	44,50,889
Total	15,615	1,35,10,030	13,972	1,11,10,361	11,142	85,33,082	10,201	74,43,522

9. The Tribunal noted that the progress of work in Uttar Pradesh was inadequate. Thus the accountability on erring officers need to be fixed.

10. Keeping in view the serious health consequences of arsenic contamination, Hon'ble NGT in the latest order dated 28.01.2020 has preponed the timeline from 31.03.2021 to 31.12.2020 for completion of total remedial work.

Sources of Arsenic contamination in groundwater and soil:

1. Beside irresponsible human activities, many natural phenomena can render groundwater unfit for human consumption. Such natural and anthropogenic causes can be identified and the people and policymakers can be advised to initiate and follow remedial measures.
2. Several studies have emphasized the fact that over-extraction of groundwater hastens the process of leaching of Arsenic into the groundwater. This is favoured by the water-rock interactions, physical and geochemical conditions of aquifers.

Sources of human exposure to Arsenic:

1. People can be exposed to Arsenic through ingestion of water and food, through respiration of smoke particles and absorption from dermal contact with soil and bathing with arsenic-contaminated water. The most important route of exposure to humans is through the ingestion of food and drinking water contaminated with Arsenic.
2. Arsenic gets entry into the food chain through the use of water contaminated with arsenic for irrigation. The repeated use of water contaminated with arsenic for irrigation results in contamination of the top-soil of the area. The vegetables and food crops growing in the soil contaminated with arsenic take up arsenic from the soil along with other minerals. The rural populations primarily depend on foods produced locally. Thus, the exposure to Arsenic in rural population of the Arsenic affected areas is much higher. However, the urban population remains less affected as they receive their food supplies from different places.

Situation of Arsenic poisoning:

1. According to WHO, excessive and long-term (5–10 years) intake of toxic inorganic Arsenic may cause arsenicosis, a common term used for Arsenic related health

effects including skin problems, skin cancers, internal cancers (bladder, kidney, lung), diseases of the blood vessels of the legs and feet, and possibly diabetes, high blood pressure and reproductive disorders.

2. Arsenicosis has direct consequences for the livelihood, family life and earning capability when individuals fall victim. In a wider perspective excessive Arsenic contamination of a region may lead to societal stress, with severe poverty due to many disabled individuals and to lower-income as potentially contaminated agricultural produce may be shunned by the market.
3. The following features were commonly noted in the arsenic endemic areas of India:
    - *Skin itching to sun rays, burning and watering of eyes, weight loss, loss of appetite, weakness, lethargy and easily fatigued limited the physical activities and working capacities,*
    - *Chronic respiratory complaints were also common. Chronic cough with or without expectoration was evident in more than 50%,*
    - *Gastrointestinal symptoms of anorexia, nausea, dyspepsia, altered taste, pain in abdomen, enlarged liver and spleen, and ascites (collection of fluid in abdomen),*
    - *Moderate to severe anemia was evident in some cases,*
    - *Conjunctival congestion, Leg edema were less common.*
4. Over the last few decades, many studies have highlighted the non-occupational chronic Arsenic exposure through consumption of drinking water and food. Studies have reported that rice and vegetables have a high tendency to accumulate more Arsenic from contaminated soil and water. The Hon'ble NGT in its order O.A. No. 384/2019 dated 11.09.2019 also stated that the cultivation of Boro rice, dwarf variety of rice and leafy vegetables should be discouraged in arsenic affected areas.
5. A news article published in The Times of India dated 14 July 2014 titled '30 UP districts in grip of arsenic poisoning' stated that Arsenic contamination is a problem in groundwater of 31 districts of the state where arsenic concentration exceeds the Bureau of Indian Standards permissible limits of 0.01mg/l. The sample testing was done by the Indian Institute of Toxicology Research.

- In the results of the tests, 20 districts were identified as severely toxic zones with an arsenic concentration beyond 0.05mg/l namely Ballia, Lakhimpur Kheri, Bahraich, Ghazipur, Gorakhpur, Bareilly, Siddharthnagar, Basti, Chandauli, Unnao, Moradabad, Sant Kabir Nagar, Sant Ravidas Nagar, Gonda, Binor, Mirzapur, Shahjahanpur, Balrampur, Meerut and Rae Bareli.
- Three districts in highly toxic zones with arsenic concentrations ranging from 0.04 mg/l to 0.05mg/l were Faizabad, Kanpur Nagar and Sitapur.
- Five districts marked as dangerously toxic zones with arsenic concentrations ranging from 0.01mg/l to 0.04mg/l were Ambedkar Nagar, Baghpat, Badaun, Lucknow and Pilibhit.
- Ballia and Lakhimpur Kheri are worst affected districts with arsenic in groundwater. Reoti, Belhari and Dubhand blocks in Ballia and Nighasan, Isanagar, Palia and Ramia Behar blocks in Lakhimpur are the most critically contaminated areas. The new item is provided as **Annexure 1**
- Among the Ganga River basin, the Ghaghara Basin areas are most severely affected by arsenic contamination.
- In 2005, with the support of UNICEF, UP Jal Nigam has screened the public water sources (i.e hand pumps) in all the 17 blocks of Ballia and 15 blocks of Lakhimpur Kheri in Phase-I.

6. The UP Jal Nigam has also issued the maps of Arsenic affected areas in the state of Uttar Pradesh. The maps are annexed as **Annexure 2.**
7. As per report of Jal Shakti the arsenic affected areas of UP are as follows:

Districts Having Arsenic (between 0.01 to 0.05 mg/ litre) in Ground Water	**Districts Having Arsenic (>0.05mg/litre) in Ground Water**
Azamgarh, Badaun, Bahraich, Basti, Deoria, Gorakhpur, Jhansi, Kausambi, Kushinagar, Maunath Bhanjan, Pilibhit, Shahjahanpur	Bahraich, Deoria, Lakhimpur, Azamgarh, Maunath Bhanjan

In the above mentioned 17 districts, the Arsenic concentration at the sampled locations are as follows:

SL.NO	DISTRICT	BLOCK	LOCATION	ARSENIC (As), 0.01 To 0.05 mg/l
		UTTAR PRADESH		
1	AZAMGARH	PALHANA	PALHANA	0.03
2	AZAMGARH	PHOOLPUR	PHOOLPUR	0.01
3	AZAMGARH	RANI KI SARAI	RANI KI SARAI	0.04
4	BADAUN	USAWAN	USAWAN	0.03
5	BAHRAICH	JARWAL	JARWAL	0.01
6	BASTI	BAHADURPUR	BAHADURPUR	0.02
7	BASTI	BANKATI	BANKATI	0.01
8	DEORIA	BANKATA	BANKATA	0.02
9	DEORIA	BARHAJ	BARHAJ	0.02
10	DEORIA	BHALUANI	BHALUANI	0.03
11	DEORIA	BHATPAR RANI	BHATPAR RANI	0.01
12	DEORIA	RUDRAPUR	RUDRAPUR	0.02
13	DEORIA	SALEMPUR	SALEMPUR	0.02
14	DEORIA	TARKULWA	TARKULWA	0.01
15	GORAKHPUR	BELGHAT	BELGHAT	0.02
16	GORAKHPUR	BRAMHPUR	BRAMHPUR	0.03
17	GORAKHPUR	CHARGAON	CHARGAON	0.03
18	GORAKHPUR	COMPIERGANJ	COMPIERGANJ	0.03
19	GORAKHPUR	GAGAHA	GAGAHA	0.01
20	GORAKHPUR	GORAKHPUR(HQ)	GORAKHPUR(HQ)	0.04
21	GORAKHPUR	JUNGLE KAURIA	JUNGLE KAURIA	0.02
22	GORAKHPUR	KAURI RAM	KAURI RAM	0.02
23	GORAKHPUR	KHAJNI	KHAJNI	0.01
24	GORAKHPUR	KHORABAR	KHORABAR	0.03
25	GORAKHPUR	PIPRAICH	PIPRAICH	0.02
26	GORAKHPUR	PIPRAULI	PIPRAULI	0.01
27	GORAKHPUR	SAHJANWA	SAHJANWA	0.04
28	GORAKHPUR	SARDAR NAGAR	SARDAR NAGAR	0.02
29	GORAKHPUR	URWA BAZAR	URWA BAZAR	0.02
30	JHANSI	BAMAUR	BAMAUR	0.02
31	KAUSAMBI	NEWADA	NEWADA	0.02
32	KUSHINAGAR	BISHNUPURA	BISHNUPURA	0.01
33	KUSHINAGAR	CAPTANGANJ	CAPTANGANJ	0.01
34	KUSHINAGAR	FAZIL NAGAR	FAZIL NAGAR	0.02
35	KUSHINAGAR	KHADDA	KHADDA	0.02
36	KUSHINAGAR	NEBUA NAURANGIA	NEBUA NAURANGIA	0.02
37	KUSHINAGAR	PADRAUNA	PADRAUNA	0.02
38	KUSHINAGAR	SEORAHI	SEORAHI	0.03
39	KUSHINAGAR	TAMKUHI RAJ	TAMKUHI RAJ	0.01
40	MAUNATH BHANJAN	GHOSI	GHOSI	0.05
41	PILIBHIT	BILSANDA	BILSANDA	0.01
42	PILIBHIT	MARAURI	MARAURI	0.01
43	SHAHJAHANPUR	JALALABAD	JALALABAD	0.02
44	SHAHJAHANPUR	KANTH	KANTH	0.01
45	SHAHJAHANPUR	BANDA	BANDA	0.02

SI.NO.	DISTRICT	BLOCK	LOCATION	ARSENIC (As) >0.05 mg/l
		UTTAR PRADESH		
1	AZAMGARH	AZMATGARH	AZMATGARH	0.067
2	MAUNATH BHANJAN	BADRAO	BADRAO	0.082
3	MAUNATH BHANJAN	DOHRIGHAT	DOHRIGHAT	0.069
4	MAUNATH BHANJAN	FATEHPURMADAON	FATEHPURMADAON	0.071
5	MAUNATH BHANJAN	KOPAGANJ	KOPAGANJ	0.063
6	MAUNATH BHANJAN	MOHAMMADABAD	MOHAMMADABAD	0.061
7	AZAMGARH	PALHANI	PALHANI	0.216
8	AZAMGARH	PAWAI	PAWAI	0.054
9	AZAMGARH	SATHIAON	SATHIAON	0.811
10	AZAMGARH	TAHABARPUR	TAHABARPUR	0.136
11	AZAMGARH	TARWA	TARWA	0.073
12	AZAMGARH	THEKMA	THEKMA	0.101
13	DEORIA	RUDRAPUR	ADHARANGI	0.053
14	BAHRAICH	MAHIPURWA	ALLAD.BANK GUDH	0.055
15	DEORIA	RUDRAPUR	BAIDA	0.053
16	DEORIA	RUDRAPUR	BLOCK OFFICE ROODRAPUR	0.083
17	LAKHIMPUR	PATRA	DUDHWA RANGE COLONY	0.059
18	LAKHIMPUR	PATRA	DURGA PURWA	0.063
19	LAKHIMPUR	PATRA	FATEHSINGH ACADEMY	0.054
20	LAKHIMPUR	PATRA	GOVIND DHANIRAM PURWA	0.062
21	DEORIA	RUDRAPUR	HADAHA	0.051
22	LAKHIMPUR	DHAURAHRA	KAILASHNAYAPURWA RAMLOK	0.065
23	LAKHIMPUR	PATRA	MAJAR MAJHGAI	0.062
24	DEORIA	RUDRAPUR	MANIHARPUR	0.055
25	DEORIA	RUDRAPUR	NAGWA KHAS	0.069
26	BAHRAICH	MAHIPURWA	NAINWA SABJI MANDI	0.054
27	DEORIA	RUDRAPUR	NARAYANPUR	0.079
28	LAKHIMPUR	PATRA	NAUGARA	0.063
29	LAKHIMPUR	PATRA	ON DHANGADI ROAD	0.052
30	LAKHIMPUR	DHAURAHRA	SAJAI PURWA	0.052
31	DEORIA	RUDRAPUR	SARAON KHURD	0.086
32	DEORIA	RUDRAPUR	SHEETAL MANJHA	0.051
33	LAKHIMPUR	DHAURAHRA	SISAIYA	0.058

8. A study was conducted by Sad Ahamed et al., in 2006 published in a Journal i.e. Science of the Total Environment entitled “Arsenic groundwater contamination and

its health effects in the state of Uttar Pradesh (UP) in upper and middle Ganga plain, India: A severe danger". The study was conducted on groundwater arsenic contamination in three districts Ballia, Varanasi and Gazipur of Uttar Pradesh (UP) in the upper and middle Ganga plain, India. In the study, analyses of 4780 tubewell water samples revealed that arsenic concentration was higher than 10 µg/L in 46.5% samples. In 26.7% water samples the arsenic concentration was 50 µg/L and in 10% water samples the concentration of Arsenic was 300 µg/L. Arsenic concentration up to 3192 µg/L was observed. The age of tubewells ranged from less than a year to 32 years, with an average of 6.5 years. The study showed that older tubewells had a greater chance of contamination. The depth of tubewells varied from 6 to 60.5m with a mean of 25.75m. A detailed study in three administrative units within Ballia district, i.e. Block, Gram Panchayat, and village was carried out to assess the magnitude of the contamination. Before this survey, the affected villagers were not aware that they were suffering from arsenical toxicity through contaminated drinking water. A preliminary clinical examination in 11 affected villages (10 from Ballia and 1 from Gazipur district) revealed typical arsenical skin lesions ranging from melanosis, keratosis to Bowens (suspected). Out of 989 villagers (691 adults, and 298 children) screened, 137 (19.8%) of the adults and 17 (5.7%) of the children were diagnosed to have typical arsenical skin lesions. Arsenical neuropathy and adverse obstetric outcome were also observed, indicating the severity of exposure. The range of arsenic concentrations in hair, nail and urine was 137–10,900, 764–19,700 µg/kg, and 23–4030 µg/L, respectively. The urine, hair and nail concentrations of arsenic correlated significantly (r=0.76, 0.61, and 0.55, respectively) with drinking water arsenic concentrations.

- Pictures of the inhabitants studied during the research are presented below:

These three patients (A) with severe arsenical skin lesions on palm and sole, (B) arsenical skin lesions along with multiple Bowens (suspected), (C) arsenical skin lesions along with Bowens (suspected), and cancer suspected) respectively.

A child patient having arsenical skin lesions

Mitigation measures:

1. DST has funded many projects to provide low-cost affordable treatment techniques to address the issue of Arsenic contamination:

Project titles	Name and Institution Address	Achievements
AMRIT- Arsenic and Metal Removal by Indian Technology	Prof T. Pradeep, Professor, DST Unit of Nanoscience and Thematic Unitof Excellence on Clean Water, Department of Chemistry Indian Institute of technology Madras, Chennai 600 036	• Affordable, compact, gravity-fed water purification unit for providing clean drinking water in arsenic affected areas in which Arsenic and Iron-containing water are passed through a composite filter unit to obtain water, conforming to international standards. • Implemented at various levels - homes, small communities and large scale water supply programs. • 200 household units demonstrated in Yadgiri District of Karnataka and Murshidabad district of West Bengal • 160 units of community filter demonstrated in Villages spread across the districts of Murshidabad and Nadia, (West Bengal) • The design is inspired by a coconut thus making the innovation scientifically unique, green and sustainable. • All materials and technologies are patented. Over 35 Indian/PCT patents have been filed.

		• Arsenic Task Force of West Bengal government certified and approved the purifier
Development of low-cost household filter for arsenic and other pollutant-free drinking water using modified laterite. Field trial of low-cost laterite based Arsenic filter: Domestic and community scale	Prof. Sirshendu De, Professor, Department of Chemical Engineering, Indian Institute of Technology, Kharagpur-721302	• Development of efficient modified laterite adsorbent • Design and installation of arsenic filter for domestic (120 L/day) and community (500 L/day) scale integrated with alum dosing to remove iron and bacterio-static carbon to remove coliform. • Evaluation of 10 domestic filters and 1 community filter revealed successful performance.
Implementation of Cost Effective Household Arsenic Remediation Technology in West Bengal. Demonstration of Cost-Effective and Indigenous Domestic Arsenic Remediation Technology for Arsenic Mitigation in Arsenic affected areas of India	Dr. Pahari Basu, PI, Save the Environment, Kailash Ghosh Road, Kolkatta- 700 008	• Technology sourced from Naval Materials Research Laboratory (NMRL) Ambernath (DRDO). • Design is cost effective, requires no power, environment friendly, easy to maintain & operate. • The utilisation of locally available processed waste of Steel • The industry for co-precipitation of Arsenic with Iron. • Demonstrated in 24 Paraganas (North) of West Bengal. • 250 Arsenic removal filters were installed in the village Lalmath situated in Nadia district, benefitting 1250 villagers.
Laboratory-based	Dr. Nalini	• Development of Iron oxide

studies on the evaluationof cost-effective adsorbents for Arsenic filter units	Sankararamakrishnan, Facility forEcological and Analytical testing, Indian Institute of Technology, Kanpur-208 016	coated/Iron doped chitosan adsorbent • Design of domestic filter • Field studies on Arsenic contaminated groundwater, • Analysis of the sludge and leaching test for usedadsorbent
Development of Arsenic adsorbing polymeric beads and their performance study in packed bed columns Development of prototype systems to produce Arsenic-free safe drinking water	Prof. Priyabrata Sarkar, Department of Polymer Science and Technology, University of Calcutta, 92 A.P.C. Road, Kolkata	• High capacity Arsenic adsorbing beads (17.5 mg/g of Arsenic V) based on synthesized nano-alumina disperse in chitosan grafted poly-acrylamide. • Development of ceramic filter candle containing adsorbents immobilized/microencapsulated in a polymer matrix for removal of Arsenic from drinking water • Interference and optimization studies required to assess suitability for field use.
Field Application and Management ofcommunity-based Arsenic Removal units in Rural Areas of West Bengal	Dr. Asis Mazumdar, School of water resource engineering, Jadavpur University 188 Raja S.C. Mulik Road, West Bengal-700032	• Field model (800-1000 lt / hr) based on co-precipitation, adsorption and filtration mechanism developed for Arsenic removal. • Hand pumps attached units demonstrated at 3 locations, each benefiting around 50 families. • The unit does not require to be operated under pressure.

		• Possibility of upscaling for higher capacity
Continuous Arsenic Removal Using ZerovalentIron Filter (ARUZIF) from Drinking Water Development of continuous mode arsenic removal technology for drinking water based on indigenous Zero Valent Iron	Dr. Sanjeev Chaudhari, Professor, Center for Environmental, Science and Engineering, Indian Institute of Technology, Bombay, Mumbai- 400 076	• Development of a simple process that uses indigenous Zero Valent Iron (ZVI) and a specially designed unit (which ensures good oxygen transfer, separation of Hydrous Ferric Oxide (HFO) flocs and uses locally available low-cost granular media) for arsenic removal from drinking water. • Two of these units are operating at a flow rate of 600 liters per hour in villages of West Bengal from February 2008. • 46 more such units have been installed in various parts of Uttar Pradesh, Bihar, West Bengal and Assam.
Development of clay-based biosorbents for purification of water contaminated with arsenic, iron and fluoride	Dr. Krishna Gopal Bhattacharya, Professor, Department of Chemistry, Gauhati University, Guwahati 781014	• Development of novel material for low-cost removal of various contaminants including Arsenic. • Feasibility of biosorbents for adsorption being studied.
Development of ceramic membrane-based contactor for enhanced arsenic and ironoxidation	Mr. Swachchha Majumdar, Central Glass & Ceramic Research Institute, 196, Raja	• An improved method for faster conversion of Arsenic III to Arsenic V using ceramic membrane-based contactor.

for potential application inarsenic and iron removal plants	S.C Mullick Road, Jadavpur, Kolkata – 32	
Development of plant prototype for removal of ammonia, arsenic and odorous compounds from water/wastewater byozone micro-bubbles	Dr. Pallab Ghosh, Associate Professor, Indian Institute of Guwahati, Guwahati – 781 039,	• Development and characterization of Zirconium based adsorbents • Development of a new process using ozone microbubbles for Ammonia and Arsenic removal from wastewater.
Design consideration and field performance validation of high arsenic removal waterfilter packed with lab-bench developed materials: A lab-to-field technology transferprogram	Dr. S. Chakrabarti, Presidency University, Kolkata.	• Synthesis of cost-effective non-hazardous Manganese incorporated Ferric oxide (MnFO) • Arsenic removal using synthesized nanoparticles of MnFO • Efficiency in removal of high Arsenic, Nitrate, Chloride, Phosphate contaminated water established. • Sludge analysis indicates non-hazardous nature of adsorbent
Ion-specific resins and membrane-based systems/processes to bring the level of Arsenic to WHO	Dr. K.M. Popat, CSMCRI, Bhavnagar, Gujarat	• Pre-treatment of Arsenic contaminated water and removal of Arsenic by Reverse Osmosis (RO) process. • Utilization of sludge as bricks and ensuring no Arsenic leached out

limits in drinking water		from these bricks • Mercuric Bromide coated test strips developed for sensitivity upto 25 ppb. • Use of indigenously developed Arsenic specific resin for final polishing of water.
Low-cost technology for purification of Arsenic and microbes contaminated waterusing nanotechnology	Dr. (Mrs) VijayaAgarwala, IITRoorkee and National Institute of Hyderabad, Roorkee.	• Use of magnetite and silver zinc oxide nanocomposites in the pores of charcoal for removal of Arsenic • Project underway
Removal of Arsenic from drinking water using liquid membrane-based separation technique	Dr. Prabir Kumar Saha, Professor, Indian Institute of Guwahati, Guwahati	• Identification of low cost, easily available and environmentally benign solvent (vegetable oil,etc) to extract Arsenic (solute) • Study of separation process in continuous mode employing hollow fiber membrane and flat sheet membrane
Integrated technology for the removal of Arsenic from groundwater Field-scale trials of the ARI, Pune technology for the removal of arsenic from drinking water	Dr. K.M. Paknikar, Scientist, Agarkar Research Institute, Pune	• *Microbacterium lacticum* can oxidize arsenite (As^{3+}) in groundwater rapidly to arsenate (As^{5+}). • Developed a unique 'integrated microbial oxidation alumina adsorption process for the removal of arsenic from groundwater rendering it

in Rajnandgaon District of Chhattisgarh.		completely safe. • Feasibility on applicability of flat sheet liquid membrane-based separation process for removal of Arsenic from groundwater.
Removal of Arsenic from drinking water using polymeric membranes. Development of a low-cost adsorbent (Hydrogen Ferric Oxide) and household model for removal of Arsenic from underground water.	Dr. U.K. Kharul and Dr. G.P. Aggarwal, NCL, Pune &IIT Delhi, HauzKhas,Delhi	• Development of low-pressure ultrafiltration (UF) membrane process for effective and selective removal of Arsenic (As-V). • Applicability of polyacrylonitrate (PAN) based negatively charged UF membrane for effective Arsenic removal. • Membranes did not foul, worked for long and rejected 100% arsenic. However, efficacy reduced in the presence of Phosphate, Sulphate, Carbonate, etc.
Development of multichannel ceramic membranes with optimum channel configuration for upscaling the technology for purification of Arsenic contamination groundwater	Dr. S. Bandyopadhyay, Scientist, Central Glass & Ceramic Research Institute, 196 Raja S.C. Mullick Road, Jadavpur, Kolkata 32	• Hybrid process using suspended adsorption media and cross-flow micro-filtration for decontamination of Arsenic. • Optimum Channel Configuration (Circular and Star) for minimizing fouling of membrane surface.

Integrated Arsenic and Iron removal from contaminated groundwater	Dr. Robin Kumar Dutta, Department of Chemical Sciences, Tezpur University, Napaam, Tezpur, Assam.	• Development of a method based on oxidation-coagulation at optimum pH. • Removes Aesenic as well as Iron from contaminated groundwater to below the WHO guideline levels of 10 ppb and 0.3 ppm, respectively. • The technique uses three common chemicals, viz., baking soda (NaHCO3) for pH conditioning, KMnO4 for oxidizing As(III) to As(V) and Fe(II) to Fe(III), and $FeCl_3$ for coagulation and adsorption of Arsenic. • The cost of material is less than 1 paise per liter of water. It is also user-friendly and works without electricity

2. Other Arsenic removal devices applied for the removal of arsenic from contaminated groundwater are as follows:

Name of the device	Operation principle	Filter media	System	Performance
RPM/ Alcan AAFS -50 media by RPM Marketing Pvt. Ltd., Kolkata	Adsorption	Activated Alumina + AAFS-50.	The purification system consists of two containers; one to remove mud and suspended particles and other one consists of AAFS-50 media to remove arsenic and heavy metal.	Although the design and model are user friendly but has mixed feelings on performance. Media replacement had showed lesser efficiency than the original.
Bucket of Resins (BOR) of Water Systems International , USA by Harmonite Impex (Pvt.) Ltd., Kolkata.	Ion Exchange	Bucket of Resins	The unit 'BOR' is a rectangular container of 40 inches long, 26 inches wide, and 40 inches height attached to a tube well hand pump. The container consists of 3 cylinders to process various phases of oxidation and absorption. The system has provision of backwashing depending on content of arsenic and iron.	Field performance of the system was below satisfactory level and inconsistent.
Granular Ferric Hydroxide (GFH) of Pal Trockner (P) Ltd., Kolkata – a German Technology	Adsorption	Granular Ferric Hydroxide (GFH)	The system is based on GFH and user friendly. It does not require complicated dosing of chemicals and claimed to be non-toxic and non-hazardous.	Satisfactory performance, and less cost on operation and maintenance.

Arsenic Removal Plant by Oxide India (Catalysts) Pvt. Ltd, Durgapur	Adsorption	Activated Alumina , AS-37	The system is made of stainless steel, AISI-304. It has a back wash system and removal process is based on adsorption with special grade of Activated Alumina. It also removes heavy metal, Fluoride, Nitrate, Grease and Oils.	Satisfactory performance in all installed places. Company guarantees 2 years O & M, training including performance.
ADHIACON : AFDWS 2000 – Arsenic Removal Plant	Catalytic precipitation / Electron Exchange	AFDWS - 2000	The unit is fitted with lifted head of hand pump. It has basically three chambers - primary, secondary and Micro-filtration chambers. The water is pumped through 3 way valve to primary chamber where raw water first passes through a coarse stainless steel strainer and then comes in contact with filter media in which catalytic precipitation takes place. The purified water from the primary chamber goes to secondary chamber for downward filtration. From secondary chambers water passes through micro-filtration chamber and then purified water goes through three way valve at the outlet.	Field performance of the system was below satisfactory level.
Hand pump Attached Arsenic Removal Plant by AIIH&PH, Kolkata	Oxidation + Coagulation + Flocculation / Precipitation and filtration	Chlorinating agent (BP) + Ferric Alum	The system is comprised of a non-mechanical clari-flocculator and up-flow gravel filter and it has three chambers. Bleaching powder and alum are the two chemicals used for removal of arsenic. In the first chamber bleaching powder solution is added in appropriate dosage with pumped water where they are thoroughly mixed in presence of baffles. The chemical mixed water is thereafter passed through second chamber for precipitation of the flocs. The clean water is collected in the launder chamber. From launder water is taken to the filter (third) chamber, from where water is allowed to flow in upward direction through graded gravel media. The arsenic safe filtered water is finally collected through a tap provided in the filtered chamber.	Periodic daily dosing of chemical reagents are necessary. The system requires constant vigilance and close monitoring and chemical dosing.
IONOCHEM, Kolkata	Ion exchange	Ferric Hydroxide	The system is comprised of one Iron Removal Filter and one Arsenic Filter and the system is fitted with Hand Pump The principal media is bonded compound of $Fe(OH)_3$ and βFeOOH. When Hand Pump is operated, the pressurized raw water	Regular backwashing of iron filter is essential, which caused problem of operation and maintenance. Otherwise, the performance remained satisfactory.

			is passed initially through iron removal filter filled with catalytic filtering media and reacts with sodium arsenates and $Fe(OH)_2$. Due to chemisorption AS is bonded with the material and Arsenic is removed.	
Apyron Arsenic Treatment Units by Apyron Technologies (P) Ltd. Representing of Apyron Technologies Inc., USA	Adsorption	Aqua Bind (Activated Alumina +)	The system is comprised of an assembly of Handpump with its outlet connected to the filtering media. When the Hand Pump is operated, the raw water passes through the filter media where arsenic is removed and finally treated water is collected through an outlet pipe from the filter media. The filter media is comprised of manganese oxide and activated alumina. Manganese oxide converts As^{3+} to As^{5+}, which is adsorbed on the alumina media. The unit also removes iron.	Showed satisfactory performance, treating arsenic levels as high as 3500 ppb to a safe level of less than 50 ppb. After use, filter media can be disposed safely as ordinary sanitary waste.
Public Health Engineering Department, Govt. of West Bengal	Adsorption	Red Hematite (Fe_2O_3) lumps + quartz + sand activated alumina	Removal of arsenic is accomplished in 4 chambers. Groundwater is abstracted by Hand Pump and spray into droplets over a bed containing packed hematite lumps (Fe_2O_3) before sending to first chamber for sedimentation. Sediment free water is conveyed through chambers placed in series containing red hematite lumps, quartz and dual media (Sand-Activated Alumina), respectively.	Reported as one of the finest performing devises and capable to remove arsenic from very high level of contamination. However, the weakness is its inability to produce sufficient quantity of filtered water. Towards O & M, it had poor performance.
Simple Arsenic and Iron Removal System by School of Fundamental Research (SFR), Kolkata	Adsorption	Aluminum Silicate + Ferric Hydroxide	The system is fitted to Hand Pump, which connected through the check valve with a vertical PVC cylinder filled with silicate matrix with additional oxidizing element for removal of iron before water enters into As-removal system.	Performance of the system is yet to be established through field testing.

3. The schemes adopted as remedial options in different parts of the nation can broadly be grouped as under:

(i) ***Uses of surface water sources:*** Surface waters such as ponds, lakes and rivers are generally low in Arsenic concentration or Arsenic free and could be used as an alternative water source.

(ii) ***Exploring and harnessing alternate arsenic-free aquifer:*** Several studies showed that Arsenic rich water occurs mainly in shallow groundwater, whereas groundwater from deeper aquifers is mostly free from Arsenic or having low Arsenic content. Thus, water supply based on manually operated deep tube wells (DTW) could be an alternative water source. But the supply of water should be done after the examination of the level of Arsenic content in groundwater.

(iii) ***Removal of arsenic from groundwater using arsenic treatment plants/filters:*** The details are presented above in para 1 and 2.

(iv) ***Adopting rainwater harvesting/ watershed management practices*****:** Rainwater harvesting is a good source of Arsenic-free water in arsenic affected areas and also can be a substitute for the groundwater extraction. Watershed management practices present a holistic view of total available water in the system in the form of surface water as well as groundwater.

4. Consumption of Arsenic through agricultural produce can be reduced by changing the irrigation and soil management practices and by introducing new crops that have low Arsenic accumulation potential. Under irrigation and soil management the possible mitigation options are:
    - Substitution of Arsenic contaminated irrigation water with Arsenic free irrigation water.
    - Periodic removal of high Arsenic containing top-soil.
    - Fixation of Arsenic in more unavailable (that cannot be absorbed by plant) form and addition of ions like phosphate and silicates in soil.
5. A study was conducted by Anitha K. Sharma, Jens Chr. Tjell, Jens J. Sloth, Peter E. Holm in 2014 published in Journal of Applied Geology entitled "Review of arsenic contamination, exposure through water and food and low-cost mitigation options for rural areas". The study highlighted that 'the main mitigation strategies were focussed on drinking water based on exploration of Arsenic-free water and Arsenic removal from extracted water, whereas mitigation strategies on cooking water and reducing exposure through food are quite often overlooked. The experiences of adopting low-cost methods for lowering the human intake of Arsenic in rural areas are critically evaluated in terms of public acceptance, sustainability and impact on arsenicosis'. This study puts forward the possible mitigation options for reducing Arsenic consumption directly through food. These possible mitigation options can be categorized as follows:
    - **The mitigation options for Arsenic consumption through food Changes in agricultural practices:** It can be done through Irrigation and soil management practices. The collection of arsenic-free water for irrigation can be done through rainwater harvesting, surface water sources, switching the wells, or removing the Arsenic from the water.

- **Crop substitution and breeding:** It can be done by switching to the cropping of dryland crops like wheat or maize in place of wetland crops like rice. Also, few plants are hyper-accumulators of Arsenic and growing such plants will lower down the concentration of Arsenic in the top-soil.
- **Changes in food processing:** The methods for cooking of rice have been identified to reduce the Arsenic accumulation:
    - ✓ Washing the raw rice 5–6 times until the washed water becomes clear and boil the rice in 5–6 times excess water and discarding the excess water;
    - ✓ Arsenic content in the raw rice was in the range of 0.2–0.54 mg/kg. The results showed that washing raw rice with low Arsenic water removed 23% of Arsenic, while cooking with 5–6 times excess water with low Arsenic removed additionally 31% with the discarded water.

6. A study was conducted by Yasunori Yano et al in 2012, published in Journal of Environmental Protection entitled "Arsenic Polluted Groundwater and its counter measures in the Middle Basin of the Ganges, Uttar Pradesh State, India". In this study the findings are as follows:
    - The government tubewells (depth: 30 m) are almost contaminated with arsenic and the private tubewells (depth: 10 m) are overall not affected with arsenic.
    - The arsenic-contaminated tubewells are under reduced condition and the non-arsenic tubewells are under the oxidized condition, meaning that arsenic is leached out into groundwater under reduced condition.
    - Arsenic concentration has a roughly linear correlation with those of iron and ammonia in the groundwater.
    - The ground is composed of sand until 80 m with high arsenic content at around 25 m depth, where similar release mechanism as Bangladesh might be considered, although there is a difference in soil profile: abundant clay layer in Bangladesh and no clay in the project area, UP State.

- 750 out of 3000 villagers had drunk arsenic-contaminated water, and 64 arsenicosis patients have been identified.

Government of India's schemes to provide potable water

The Department of Drinking water and sanitation headed by the Ministry of Jal Shakti through Jal Jeevan Mission is providing water to Individual households with PWS Connections. The details of Individual household connected in 2019-2020 are provided in **Annexure 3** and details of Individual household connected in 2020-2021 are provided in **Annexure 4.**

The list of surface and groundwater based schemes is provided in **Annexure 5.**

Physical and financial progress

As per the details available on the website of Jal Jeevan Mission physical and financial progress as on 23/07/2020 in U.P. is as follows:

Physical Progress				**Financial Performance (Rs in Cr)**				
				Central Share				Reported State expenditure
Annual Plan	Functional Household Tap Connection (FHTC) provided	% of Achievement	FHTC provided on previous day	Opening Balance	Release	Total available fund	Expenditure	
3500000	100593	2.9	0	932.16	00	932.16	231.87	57.91

Meetings of Oversight Committee, NGT, UP:

The case was taken up by the Oversight Committee on 13.05.2020 and 08.07.2020. During the meeting held on 08.07.2020:

- The Committee reviewed the progress of the steps taken by the State Government in the light of Hon'ble NGT order dated 28.01.2020. The Committee directed the CGWB, CPCB and UPPCB to check the water quality in areas where Jal Nigam has completed the work of water supply.

- Health Department was also directed to conduct a health survey in arsenic affected habitations to find out the impact of arsenic poisoning.
- The minutes of the meetings dated 13.05.2020 and 08.07.2020 are enclosed as **Annexure 6 and 7**, respectively.
- On 25.03.2019, Chief General Manager, Jal Nigam mentioned that there were 707 arsenic affected habitations in the State. During the meeting held on 08.07.2020, Chief General Manager, UP Jal Nigam has informed that the supply of water in 262 habitations has been covered under National Water Quality Sub Mission (NWQSM) and remaining 445 habitations have been covered under JalJeewan Mission, a centrally sponsored program. The compliance of UP, Jal Nigam is provided as **Annexure 8**.
- As per Jal Nigam, details of progress in piped water supply work in the arsenic affected areas are as follows:

Date	No. of Arsenic affected habitations	Population
As on 25.03.2019	707	532507
As on 25.06.2019	650	457893
As on 31.03.2020	344	293441
As on 30.06.2020	164	233647

- The coverage plan for remaining Arsenic affected habitations is as follows:

Date	By pipe water supply (PWS)	By Community Water Purification Plant (CWPP)
Sep-2020	20	50
Dec-2020	24	70
March-2021	45	-
Total	89	120

- Presently 164 habitats are there which are not covered by piped water supply. Out of which 44 habitations would be completed by December 2020 and 45 habitations would be completed by March 2021 through on-going pipe water supply scheme.

Further, 120 habitations are proposed to be covered by the Community Water Purification Plant (CWPP).

- During the meeting held on 08.07.2020, the Chief General Manager, Jal Nigam informed that the State Government has proposed to establish ARU in 120 habitations. The tender process for installation of 120 ARU has been completed and installation work would be completed by December 2020. This committee is of the view that any delay in the completion of work beyond Dec 2020 would not be acceptable.
- **In light of the compliance submitted and the recent order of the Hon'ble NGT, it is apparent that timeline for completing the remedial work has been preponed from** 31.03.2021 to 31.12.2020. Thus, Jal Nigam has to complete the remedial work before 31.12.2020 for 45 habitations through on-going pipe water supply scheme, which was scheduled to be completed by March 2021.

Challenges and issues:

1. Arsenic also gets absorbed through dermal contact, through vegetables and crops grown in arsenic affected areas.
2. Also, malnutrition is a major culprit in exacerbating arsenic poisoning in low-income groups.
3. Several studies have been done to identify the relation of healthy nutritious foods in suppressing the adverse impacts of uptake of arsenic up to an extent
4. Arsenic does not stay in our body for many days. However, in state of poor nutrition, it starts to interfere with metabolism.
5. Some proteins like Seliloproteins can be effective in preventing arsenic poisoning.

Compliance status of UP

S. No	Directions	Current Status	Compliance Status
1.	Status of supply of potable water	• There are 707 arsenic affected habitations in the State. As per Jal Nigam, details of progress in piped water supply works in the arsenic affected	Partially complied

<table>
<tr>
<td></td>
<td>in Arsenic affected areas</td>
<td>areas is as follows:
<table><tr><th>Date</th><th>No. of Arsenic affected habitations</th><th>Population</th></tr><tr><td>As on 25.03.2019</td><td>707</td><td>532507</td></tr><tr><td>As on 25.06.2019</td><td>650</td><td>457893</td></tr><tr><td>As on 31.03.2020</td><td>344</td><td>293441</td></tr><tr><td>As on 30.06.2020</td><td>164</td><td>233647</td></tr></table>
• Presently 164 habitats are there which are not covered by piped water supply. Out of which 44 habitations would be completed by December 2020 and 45 habitations would be completed by March 2021 through on-going pipe water supply schemes. Further, 120 habitations are proposed to be covered by the Community Water Purification Plant (CWPP).</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Dismantling of hand pumps having Arsenic concentration beyond BIS permissible limits</td>
<td>• Identification and marking (marked red) of hand pumps having Arsenic concentration beyond the BIS permissible limit has been done.</td>
<td>Partially complied</td>
</tr>
</table>

Strategy to address the problem:

To address the problem of Arsenic contamination a three-step framework should be applied:

1. **R & D activities to ensure sustainable solutions**: There is a need to derive methods for in-situ remediation for decontaminating aquifers from arsenic; to devise cost-effective, eco-friendly and socially acceptable arsenic removal devices; to explore feasibility of alternate sustainable water management (SW & GW) strategies to meet demand of water in the arsenic affected and vulnerable areas, to assess impact of arsenic in food chain and related health hazards and to ascertain health impact of arsenic contaminated groundwater.
2. **Ensuring supply of Arsenic-free water:** In order to provide arsenic-free potable water to the populace in the arsenic affected areas, the following alternate measures as a stopgap arrangement can be initiated:
   (i) In areas where population density is relatively more and the area is under the grip of arsenic effect and there is limited scope for alternate freshwater supply; arsenic removal devices, with community participation in operation and maintenance, would be a suitable scheme to adopt,
   (ii) In areas where freshwater aquifers can be tapped using hand pump with no risk of arsenic contamination; installation of new hand pumps can provide a reasonable solution,
   (iii) The areas where deeper aquifers can be tapped with no future risk of contamination from the overlain aquifer; supply of potable groundwater by exploration of deeper aquifers can provide a sound solution, and
   (iv) The places where surface water supply can be ensured as an alternate source of groundwater; fitting piped surface water supply scheme (although expensive) can be a reasonable proposition to adopt.
3. **Capacity Building and Social Empowerment**: Most of the arsenic removal technologies, rolled over to the field, have failed because of ignorance in O & M, and inadequate awareness in the society. The general notion of the society with regard to water and about water-related schemes are:

(i) Water is in plenty and god gifted, and it has no threat from any unforeseen hazards rather it is clean from all pollutants; and

(ii) Society has no responsibility, control and accountability for the provisions/schemes created by the government. While the effectiveness and benefits of a facility do not come merely by its creation rather it comes by nurturing the created facility from time to time to derive its long term benefits. Water-related schemes give direct benefit to the society. They bother the society on their non-functioning or non-existence; The involvement of society in their O & M and making it socially responsible and knowledgeable can solve many problems associated with water scarcity issues in arsenic affected areas. .

4. The major sources of the heavy metal contaminations like Arsenic, Fluoride, Chromium etc. in groundwater is through geogenic source as well as up to certain extent anthropogenic sources are also there. The over-extraction of groundwater accelerates the mixing of these heavy metals from the walls of the aquifers into the groundwater reserves. First and foremost capping should be done on the over-extraction of groundwater.
5. Alternative potable water sources should be explored such as from the inland water bodies. Proper estimation of the current inland water storage capacity in the form of lakes, ponds, baoli, etc. should be estimated and extra capacity should be created to conserve rainwater and use it for drinking and other domestic purposes.
6. In areas where there is a problem of Arsenic contamination or any heavy metal contamination, the cultivation of food crops (especially having high metal accumulation potential) should be discouraged to prevent the entry of heavy metals into the food chain of humans. Rather, the cultivation of cash crops should be promoted. Cash crops that require less amount of water should be given priorities.
7. State government should be directed to remove encroachment areas from wetlands and rivers. As these rivers and wetlands play an important role in groundwater recharge as well as should be conserved as a source of Arsenic-free potable water.
8. Awareness in Arsenic affected areas should be increased regarding issues like not growing crops like rice which requires a large amount of water and growing such crops which require little water.

Recommendations:

In view of above we recommend as follows:

1. Jal Nigam has indicated that the remaining 164 habitations would be covered :
    a) By laying down piped water supply in 44 habitations by December 2020
    b) By laying down piped water supply in 45 habitations by March 2021
    c) By installing 120 ARUs by December 2020.

    Since NGT has directed preponing the time lines from March 2012 to December 2020, Jal Nigam may be directed to expedite the work in the above mentioned 45 habitations so as to prepone the completion by 3 months.
2. The work of dismantling the hand pumps in Arsenic polluted habitations has not been done. It should be completed in the next 3 month and responsibility for negligence be fixed by Chief Secretary.
3. Health Department may conduct a health survey in the affected areas in next 3 months and present a micro plan indicating the health hazards and their mitigation strategy to NGT in 6 months time.
4. The Agriculture Department may conduct a study to assess the impact of Arsenic on the food chain. They may prepare the impact assessment plan in 6 months time alongwith mitigation strategy like change in cropping pattern, modification in agricultural practices etc.
5. The Panchayati Raj Development may work out a plan for ensuring involvement of Panchayats in operation and maintenance of these projects. The funds for operation/maintenance may be permitted from the devolution grants given to Panchayats.
6. Water Harvesting Schemes for harvesting rain water may be aggresively pursued in these villages. The State Government may make extra budgetary provisions/extra allocation in MGNREGA for Water Harvesting Schemes in these villages.
7. Jal Nigam may be directed to conduct an annual survey every year of the quality of drinking water in this area and the adjoining areas to assess the impact of the mitigation measures on a continuous basis.

The Member Secretary, UPPCB is directed to send this report to the Registrar General, National Green Tribunal, Principal Bench, New Delhi for placing the same before the Hon'ble Tribunal with a copy to the Chief Secretary, Government of UP for necessary action. The report also be uploaded on the website of the committee.

27-07-2020

X Anup Chandra Pandey

Dr. Anup Chandra Pandey
Member, Oversight Committee, U.P
Signed by: ANUP CHANDRA PANDEY

27-07-2020

X S.V.S. Rathore

Justice S.V.S. Rathore
Chairman, Oversight Committee, U.P.
Signed by: SURENDRA VIKRAM SINGH RATHORE

27/July/2020

ANNEXURE-1

Printed from
THE TIMES OF INDIA

30 UP districts in grip of arsenic poisoning

TNN | Jul 14, 2014, 01.52 AM IST

'Arsenic toxicity in ground water of Uttar Pradesh', harmful concentration of arsenic in ground water, exceedi... Read More

LUCKNOW: Arsenic contamination, considered so far endemic to eastern part of Uttar Pradesh bordering Bihar, has now taken into its fold a large part of the state. With nearly 30 districts of the state in the grip of arsenic contamination, the situation has only worsened for masses exposed to this slow and consistent toxin.

According to a technical report, 'arsenic toxicity in ground water of Uttar Pradesh', harmful concentration of arsenic in ground water, exceeding the Bureau of Indian Standards permissible limit (of 0.01 mg/litre), is spread across 31 districts of the state. The BIS standards are also in sync with the guidelines laid down by the World Health Organisation vis-à-vis arsenic contamination. Testing of water samples from all over UP was done at the Indian Institute of Toxicology Research.

The 20 districts which figure in the severely toxic zones (above 0.05mg/litre), where arsenic presence has been found to be more than five times of allowed limit, are Ballia, Lakhimpur-Kheri, Bahraich, Ghazipur, Gorakhpur, Bareilly, Siddharthanagar, Basti, Chandauli, Unnao, Moradabad, Sant Kabir Nagar, Sant Ravidas Nagar, Gonda, Bijnor, Mirzapur, Shahjahanpur, Balrampur, Meerut, and Rae Bareli.

Three districts which fall in highly toxic (arsenic presence from 0.04mg/litre to 0.05mg/litre) category are Faizabad, Kanpur Nagar and Sitapur.

The five districts, which make the dangerously toxic (from 0.01mg/litre to 0.04mg/litre) list, are Ambedkarnagar, Baghpat, Budaun, Lucknow and Pilibhit. Three districts where arsenic level was detected around 0.01mg/litre are Kaushambi, Saharanpur and Sultanpur.

The report adds "Ballia and Lakhimpur-Kheri are the worst affected districts with arsenic in groundwater. Reoti, Belhari & Dubhand blocks in Ballia district and Nighasan, Isanagar, Palia & Ramia Behar blocks in Lakhimpur are the 'most critically contaminated areas'." Among the river basins, the Ghaghra basin is most severely arsenic affected region of the state.

As far as occurrence of arsenic is concerned, it is a general belief that rocks with arsenic eroded from the Himalayas, got deposited as sediments in the alluvial deposits of the Gangetic plain over thousands of years. Sedimentary rocks are supposed to contain higher concentrations of arsenic as compared to igneous & volcanic.

Expressing concern over the current state of affairs, Magasaysay awardee and 'waterman of India', Rajendra Singh said "problem of arsenic contamination is prevalent in areas where extraction of groundwater has been rampant and where there is no provision for recharge." He added that due to no recharging of groundwater, concentration of arsenic (which is existing naturally) goes up and causes a number of diseases and ailments.

Findings of UNICEF supported study by UP Jal Nigam:
After the initial study reports of the Jadhavpur University on the occurrence of Arsenic in groundwater of Ballia came into light, the UP government took the matter seriously. Accordingly, the UP Jal Nigam, in 2005, with the support of UNICEF initiated the Arsenic screening of public water sources (i.e hand pumps) in all the 17 blocks of Ballia and also in 15 blocks of Lakhimpur Kheri under the Phase-I.

It was found that 475 habitations in both these districts were having Arsenic concentration 5 times greater than the permissible limit of 0.01 mg/l (i.e. 0.05 mg/l or more). The number of such affected hand pumps stood at 1631.

Based on the results of Arsenic testing of groundwater in district Ballia & Lakhimpur Kheri, situated in Ghaghra & Ganga basins and also taking into consideration the various previous researches and their observations & findings, it was inferred that the other areas falling in Ganga river basin might also possess Arsenic in groundwater. Hence, on the basis of this inference, 49 districts along the Ganga flood plains were selected as priority areas for the UNICEF support study undertaken by UPJN under the Arsenic Phase-II project.

Total of 74,896 groundwater samples from public hand pumps (India Mark-II), located in 273 blocks of these 49 districts were tested for finding the Arsenic.

21% (15739) sources were found affected with Arsenic.

In 136 blocks of 29 districts, Arsenic was detected in groundwater with varying concentrations (in the range upto permissible limit of 0.01 mg/l and beyond that).

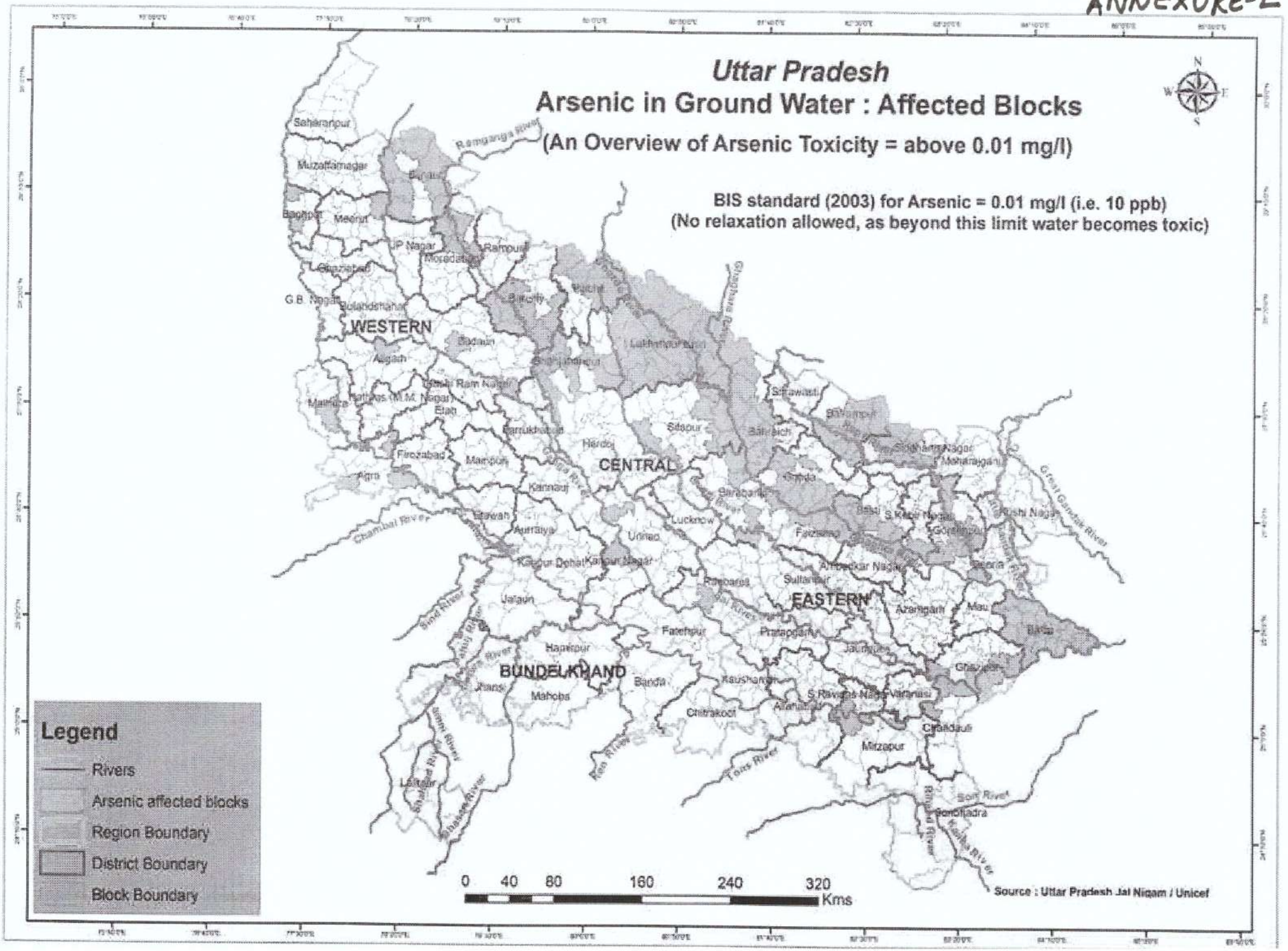
10,084 sources were found having Arsenic concentration in the range upto 0.01 mg/litre.

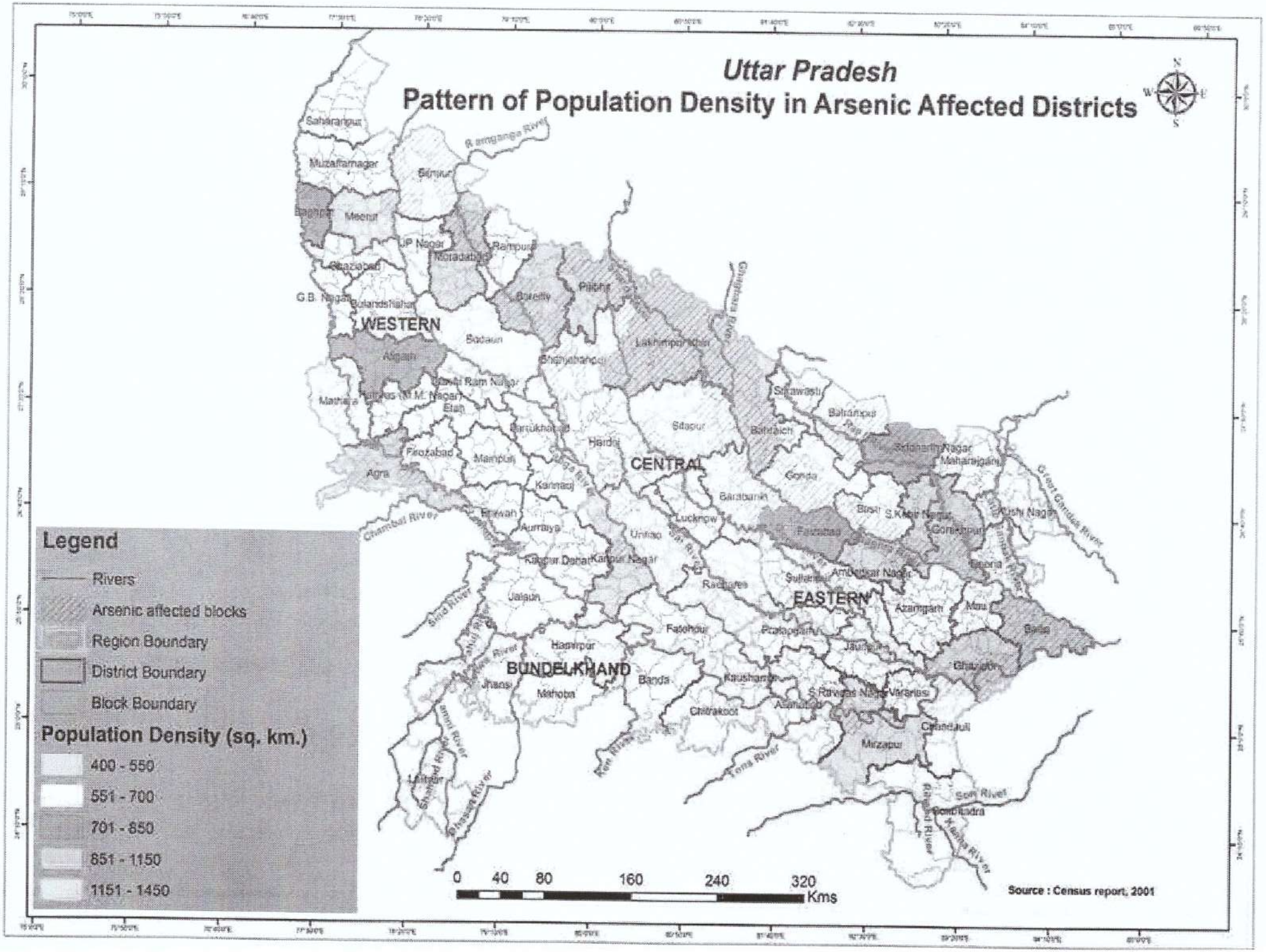
In 26 districts, Arsenic in high concentration beyond BIS limit of 0.01 mg/l was detected in 5655 sources from 112 blocks.

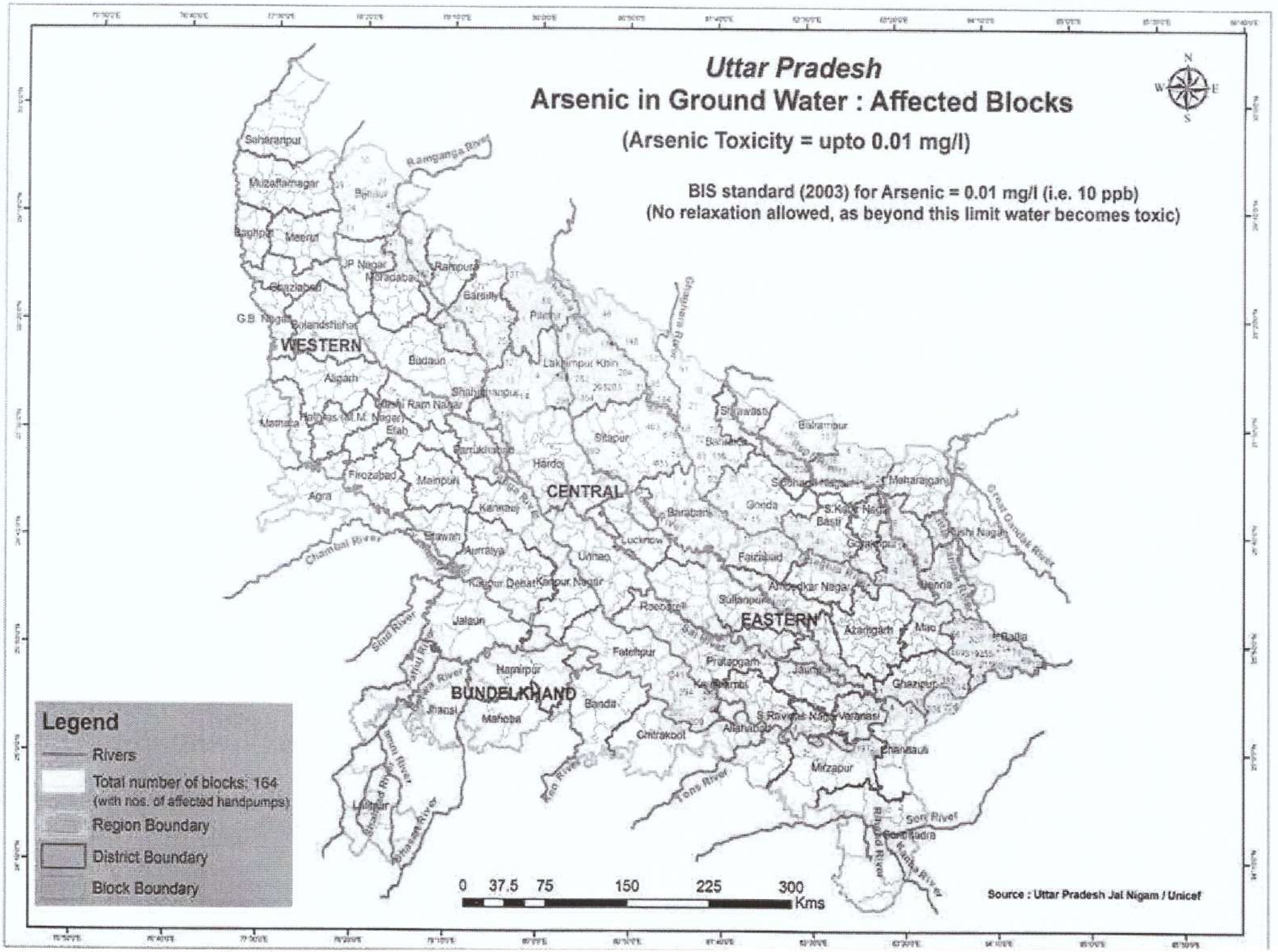
In 24 blocks, Arsenic detected within the BIS limit (upto 0.01 mg/litre)

In 1517 handpumps located in Kaushambi, Saharanpur & Sultanpur, though Arsenic was detected, but the concentration levels were below the permissible limit.

ANNEXURE-2


Uttar Pradesh
Arsenic in Ground Water : Affected Blocks
(An Overview of Arsenic Toxicity = above 0.01 mg/l)
BIS standard (2003) for Arsenic = 0.01 mg/l (i.e. 10 ppb)
(No relaxation allowed, as beyond this limit water becomes toxic)
WESTERN
CENTRAL
EASTERN
BUNDELKHAND
Legend
Rivers
Arsenic affected blocks
Region Boundary
District Boundary
Block Boundary
0 40 80 160 240 320
Kms
Source : Uttar Pradesh Jal Nigam / Unicef


Uttar Pradesh
Pattern of Population Density in Arsenic Affected Districts
N
W
E
S
WESTERN
CENTRAL
EASTERN
BUNDELKHAND
Saharanpur
Muzaffarnagar
Bijnor
Meerut
Ghaziabad
G.B. Nagar
Bulandshahar
Rampur
Moradabad
Bareilly
Pilibhit
Badaun
Shahjahanpur
Lakhimpur Kheri
Sitapur
Hardoi
Unnao
Lucknow
Raebareli
Kanpur Nagar
Kanpur Dehat
Farrukhabad
Mainpuri
Etah
Kasganj
Firozabad
Agra
Mathura
Aligarh
Hathras (M. Nagar)
Etawah
Auraiya
Jalaun
Hamirpur
Jhansi
Mahoba
Banda
Fatehpur
Pratapgarh
Kaushambi
Allahabad
Chitrakoot
Sultanpur
Ambedkar Nagar
Faizabad
Barabanki
Gonda
Balrampur
Shrawasti
Bahraich
Siddharth Nagar
Maharajganj
Basti
S.K.Nagar
Gorakhpur
Kushi Nagar
Deoria
Azamgarh
Mau
Ballia
Jaunpur
Ghazipur
Varanasi
Chandauli
Mirzapur
Sonbhadra
Lalitpur
Ramganga River
Gomti River
Ghaghara River
Sharda River
Yamuna River
Chambal River
Betwa River
Ken River
Tons River
Son River
Rihand River
Kanhar River
Legend
Rivers
Arsenic affected blocks
Region Boundary
District Boundary
Block Boundary
Population Density (sq. km.)
400 - 550
551 - 700
701 - 850
851 - 1150
1151 - 1450
0 40 80 160 240 320
Kms
Source : Census report, 2001


Uttar Pradesh
Arsenic in Ground Water : Affected Blocks
(Arsenic Toxicity = upto 0.01 mg/l)
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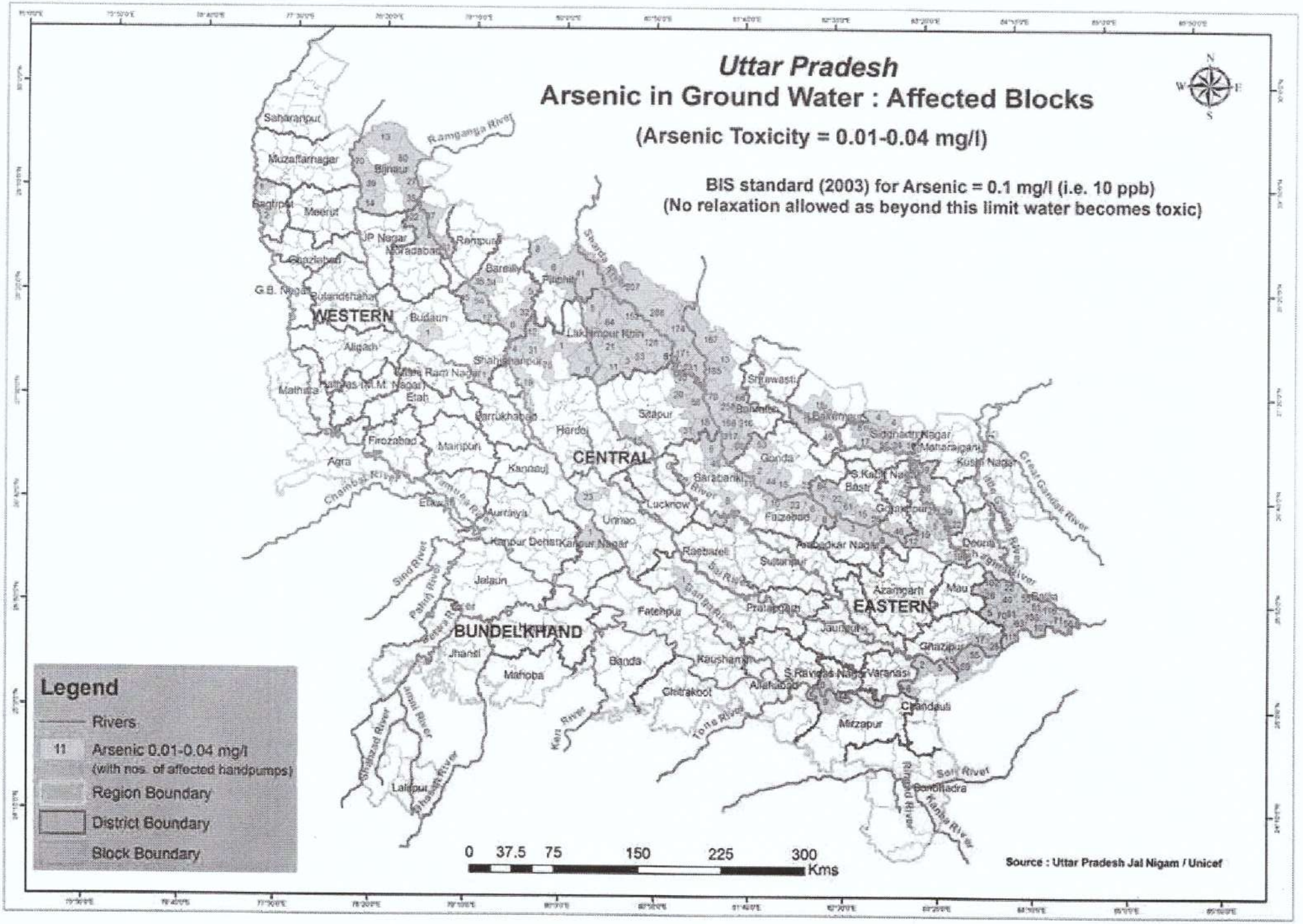
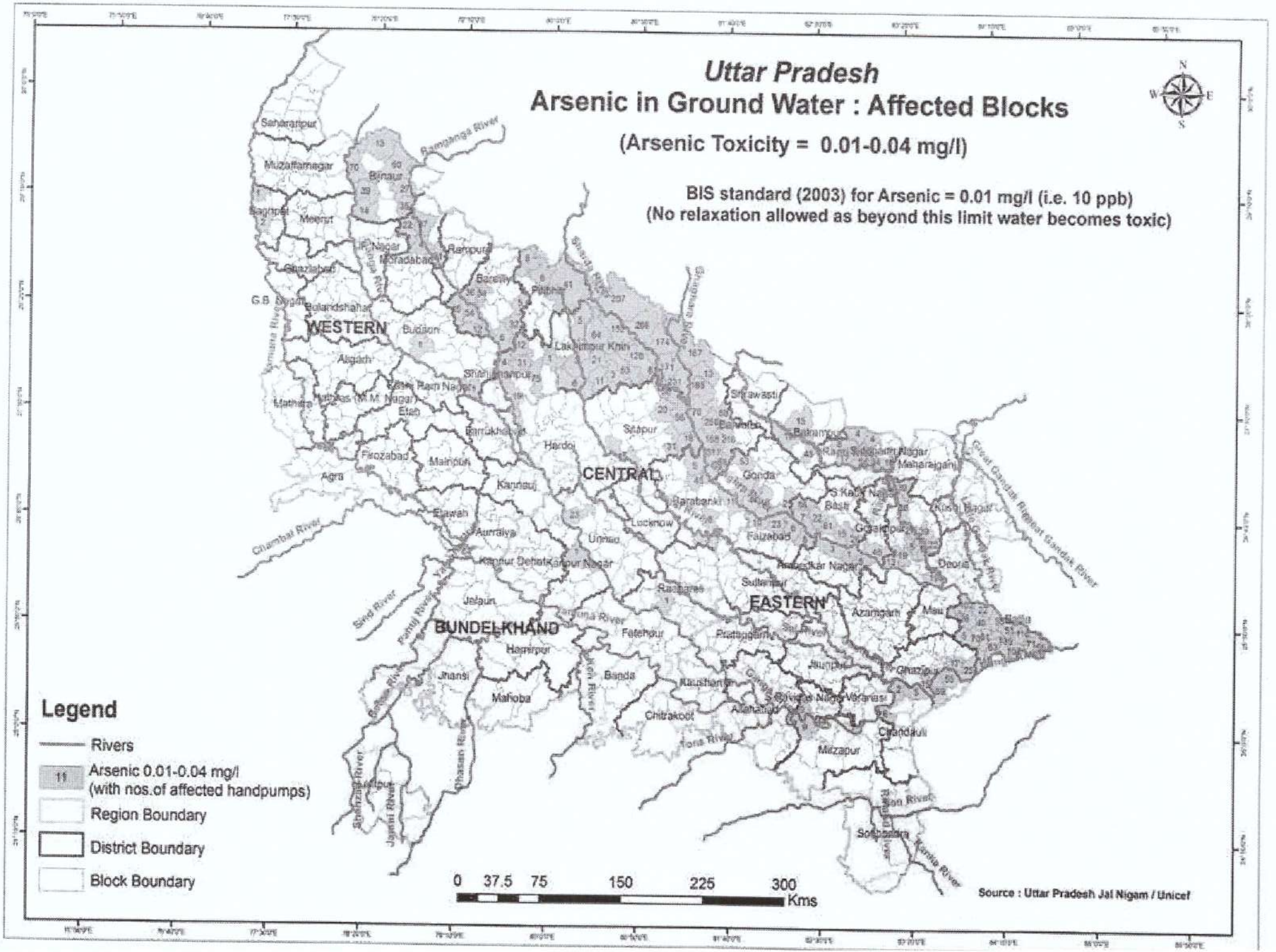
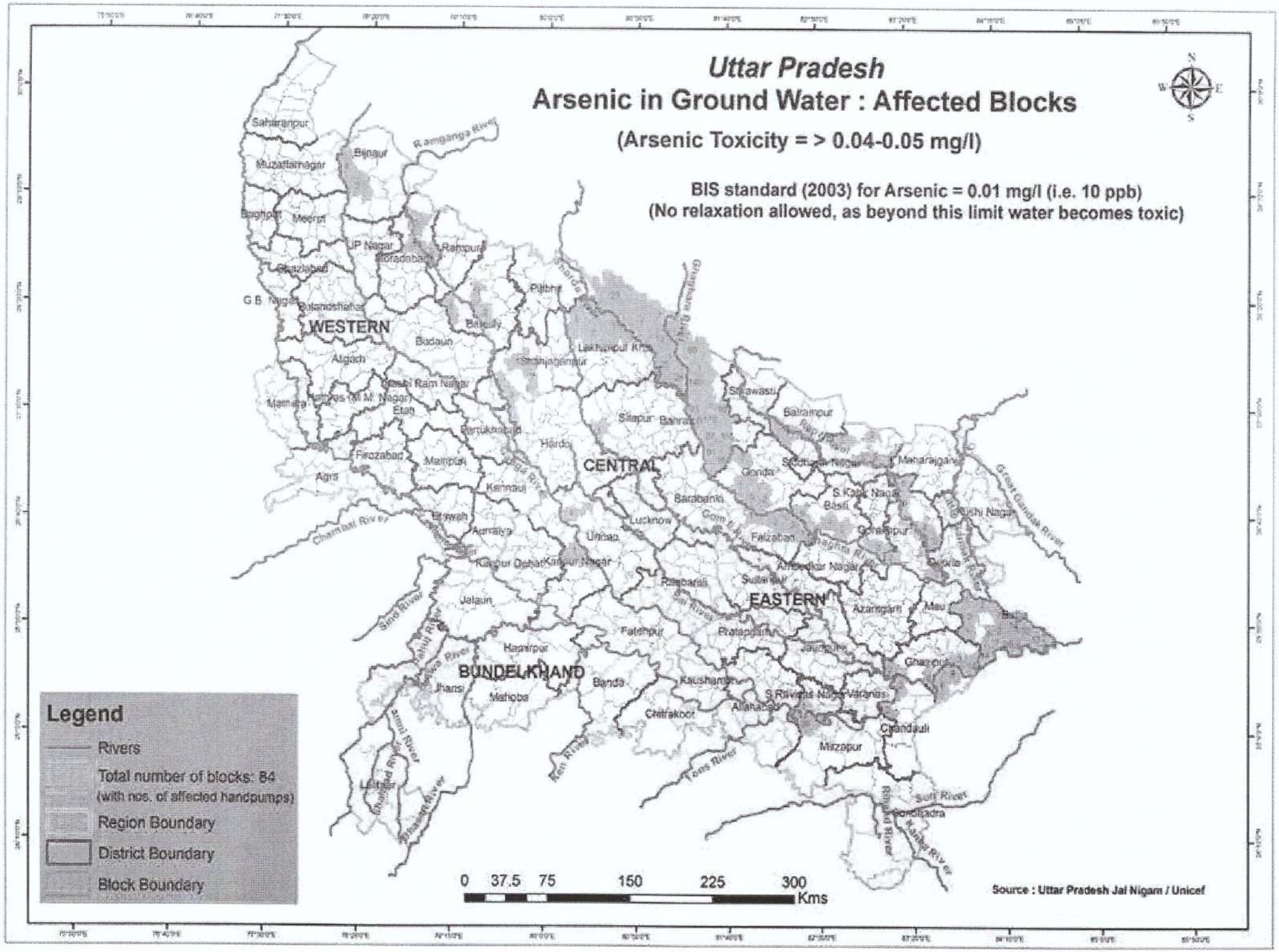
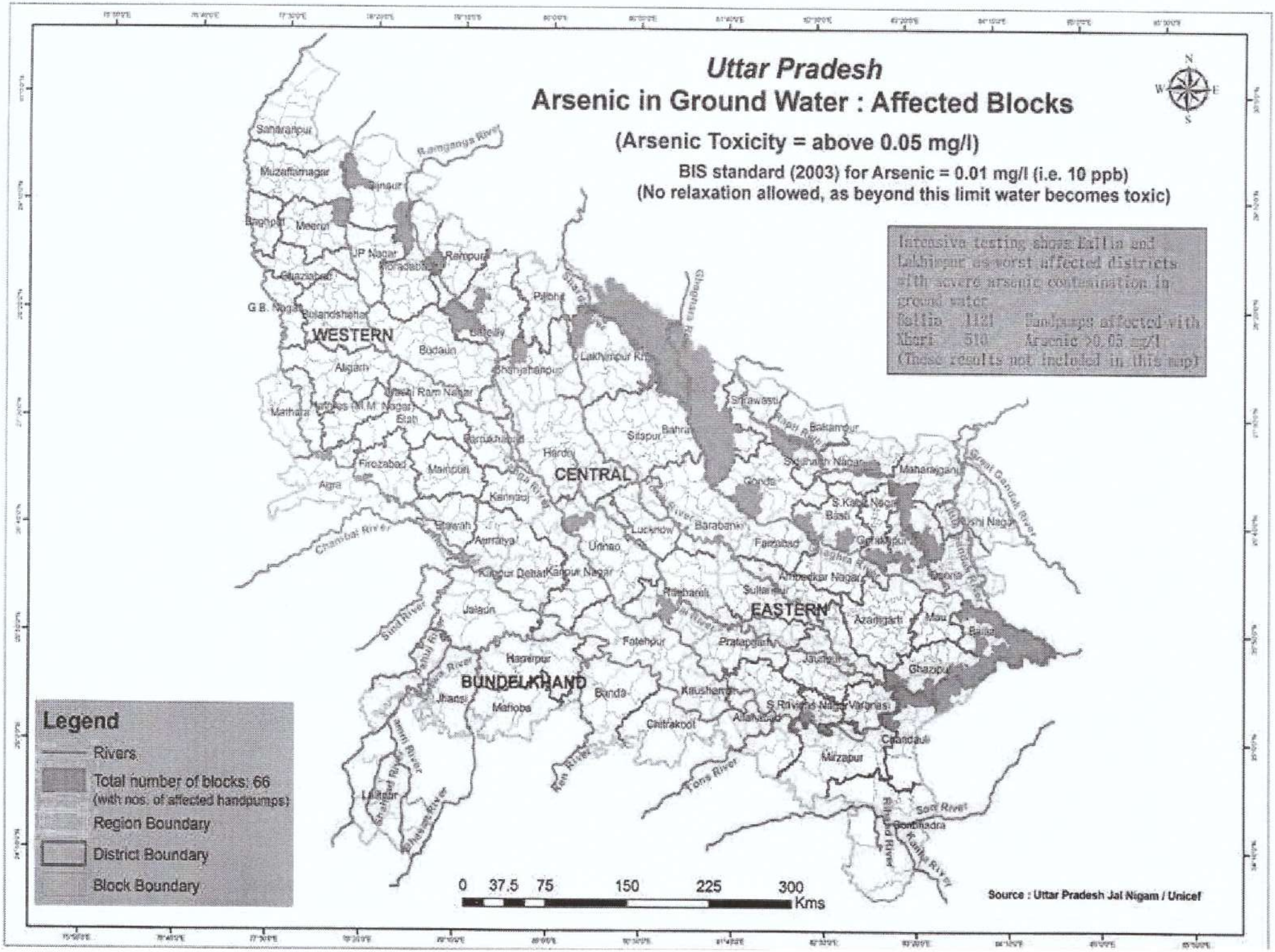
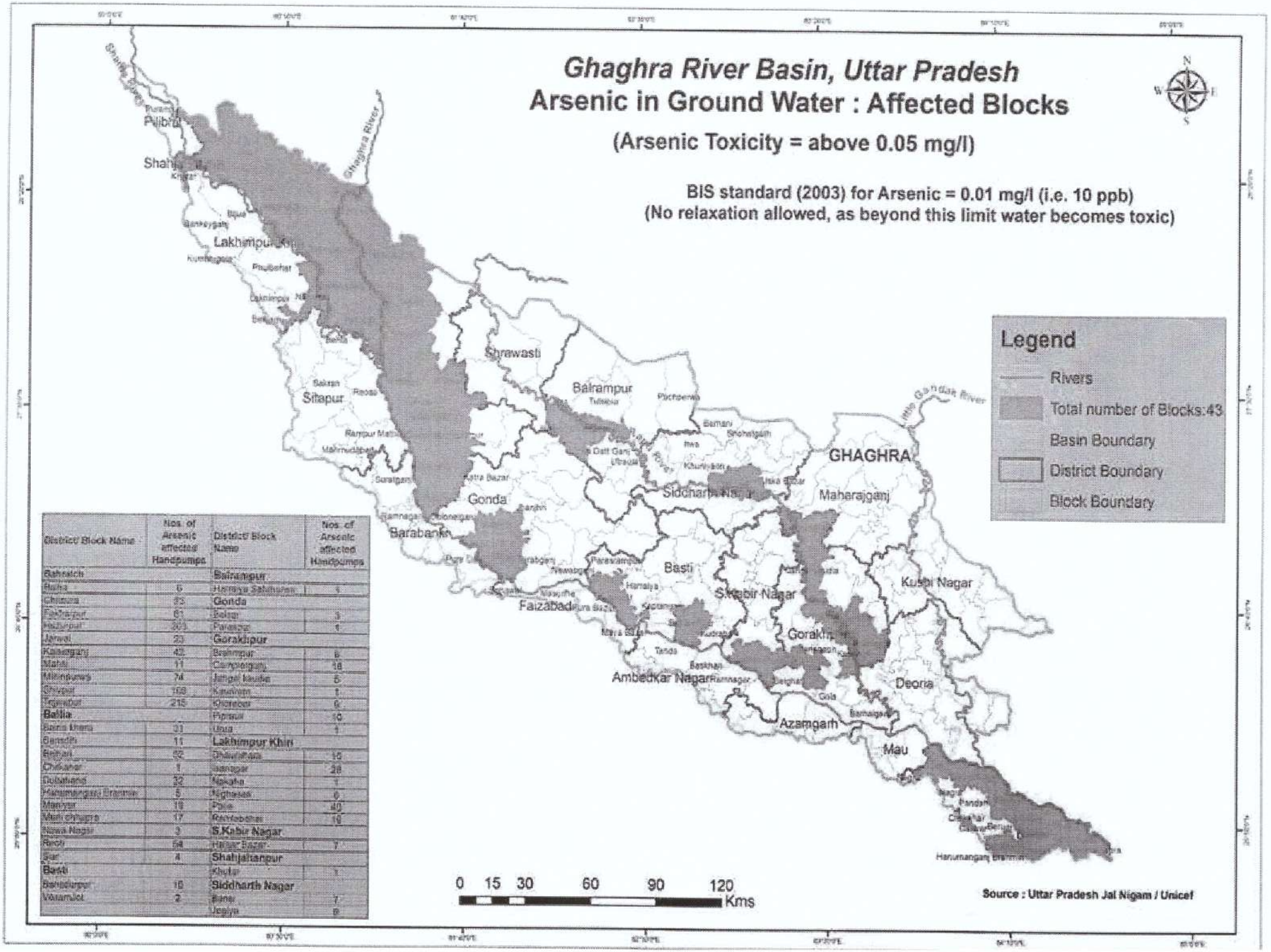
WESTERN
CENTRAL
EASTERN
BUNDELKHAND
Legend
Rivers
Total number of blocks: 164
(with nos. of affected handpumps)
Region Boundary
District Boundary
Block Boundary
0 37.5 75 150 225 300
Kms
Source : Uttar Pradesh Jal Nigam / Unicef


Uttar Pradesh
Arsenic in Ground Water : Affected Blocks
(Arsenic Toxicity = 0.01-0.04 mg/l)
BIS standard (2003) for Arsenic = 0.1 mg/l (i.e. 10 ppb)
(No relaxation allowed as beyond this limit water becomes toxic)
WESTERN
CENTRAL
EASTERN
BUNDELKHAND
Legend
Rivers
Arsenic 0.01-0.04 mg/l
(with nos. of affected handpumps)
Region Boundary
District Boundary
Block Boundary
0 37.5 75 150 225 300
Kms
Source : Uttar Pradesh Jal Nigam / Unicef

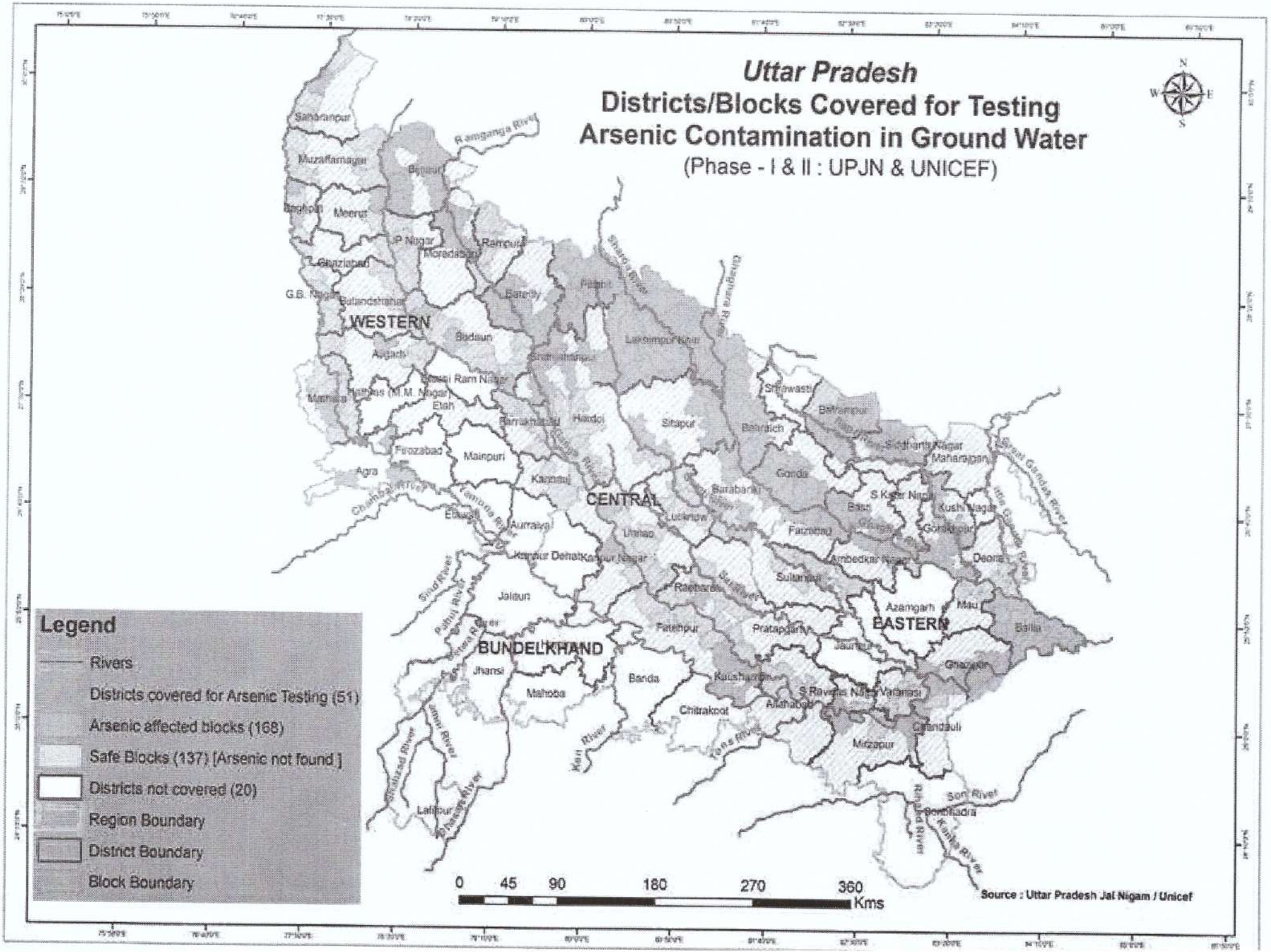

Uttar Pradesh
Arsenic in Ground Water : Affected Blocks
(Arsenic Toxicity = 0.01-0.04 mg/l)
BIS standard (2003) for Arsenic = 0.01 mg/l (i.e. 10 ppb)
(No relaxation allowed as beyond this limit water becomes toxic)
N
W
E
S
WESTERN
CENTRAL
EASTERN
BUNDELKHAND
Saharanpur
Muzaffarnagar
Bijnaur
Meerut
Ghaziabad
Rampur
Bareilly
Pilibhit
Budaun
Aligarh
Mathura
Etah
Farrukhabad
Hardoi
Shahjahanpur
Sitapur
Shrawasti
Gonda
Basti
Firozabad
Mainpuri
Agra
Kannauj
Etawah
Auraiya
Kanpur Dehat
Kanpur Nagar
Lucknow
Unnao
Faizabad
Gorakhpur
Deoria
Sultanpur
Azamgarh
Mau
Jalaun
Fatehpur
Pratapgarh
Jaunpur
Ghazipur
Hamirpur
Jhansi
Banda
Mahoba
Kaushambi
Varanasi
Allahabad
Chitrakoot
Chandauli
Mirzapur
Sonbhadra
Rivers
Arsenic 0.01-0.04 mg/l
(with nos.of affected handpumps)
Region Boundary
District Boundary
Block Boundary
0 37.5 75 150 225 300
Kms
Source : Uttar Pradesh Jal Nigam / Unicef

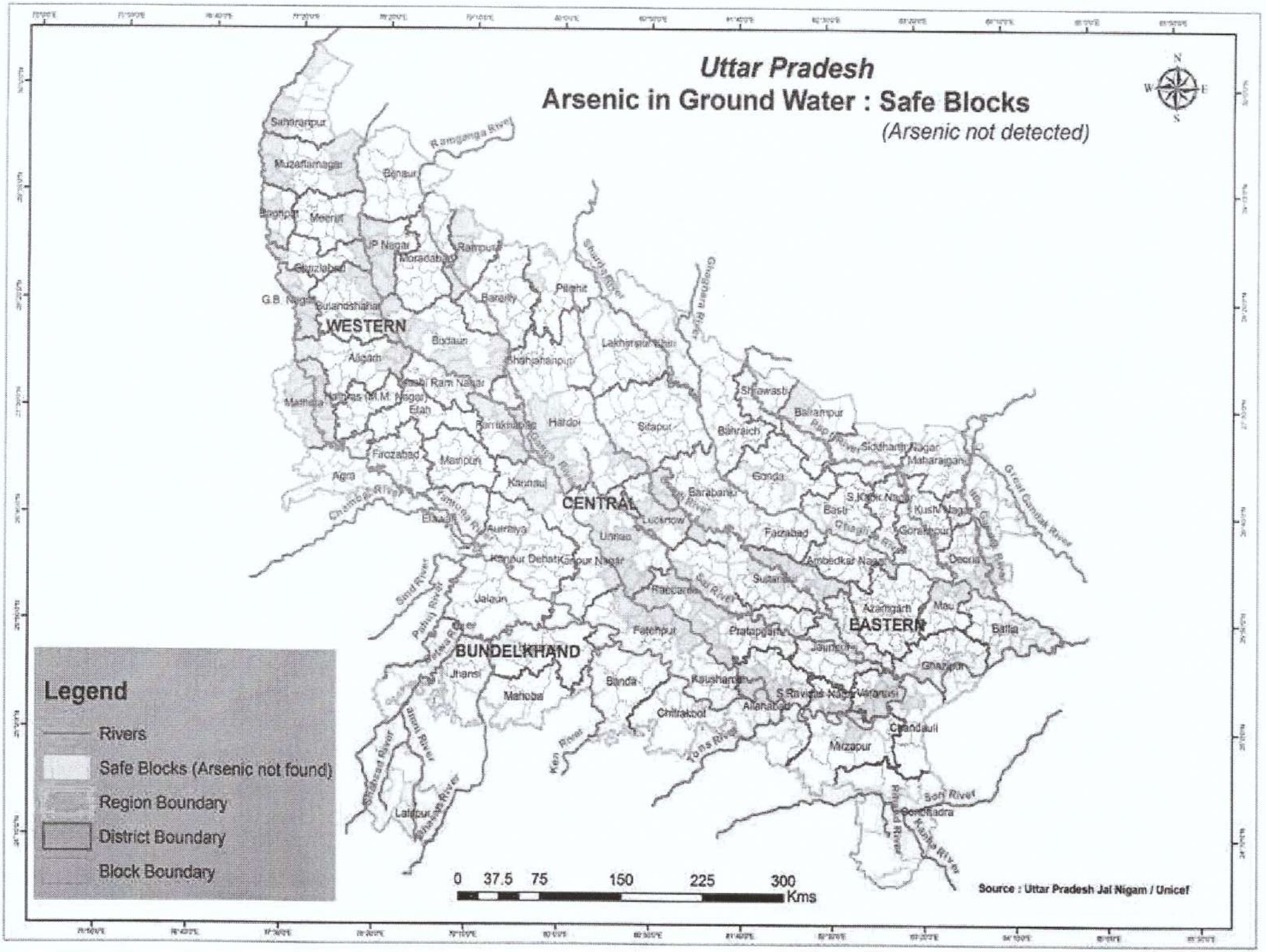

Uttar Pradesh
Arsenic in Ground Water : Affected Blocks
(Arsenic Toxicity = > 0.04-0.05 mg/l)
BIS standard (2003) for Arsenic = 0.01 mg/l (i.e. 10 ppb)
(No relaxation allowed, as beyond this limit water becomes toxic)
WESTERN
CENTRAL
EASTERN
BUNDELKHAND
Legend
Rivers
Total number of blocks: 84
(with nos. of affected handpumps)
Region Boundary
District Boundary
Block Boundary
0 37.5 75 150 225 300
Kms
Source : Uttar Pradesh Jal Nigam / Unicef


Uttar Pradesh
Arsenic in Ground Water : Affected Blocks
(Arsenic Toxicity = above 0.05 mg/l)
BIS standard (2003) for Arsenic = 0.01 mg/l (i.e. 10 ppb)
(No relaxation allowed, as beyond this limit water becomes toxic)
Intensive testing shows Ballia and Lakhimpur as worst affected districts with severe arsenic contamination in ground water
Ballia 1121 Handpumps affected with
Kheri 510 Arsenic >0.05 mg/l
(These results not included in this map)
WESTERN
CENTRAL
EASTERN
BUNDELKHAND
Legend
Rivers
Total number of blocks: 66
(with nos. of affected handpumps)
Region Boundary
District Boundary
Block Boundary
0 37.5 75 150 225 300
Kms
Source : Uttar Pradesh Jal Nigam / Unicef



District/ Block Name	Nos. of Arsenic affected Handpumps	District/ Block Name	Nos. of Arsenic affected Handpumps
Bahraich		Balrampur	
Bichia	5	Harraiya Sahdhuma	1
Chitaura	33	Gonda	
Fakhrpur	61	Belsar	3
Huzurpur	303	Paraspur	1
Jarwal	23	Gorakhpur	
Kaisergany	42	Brahmpur	6
Mahsi	11	Campierganj	18
Mihinpurwa	74	Jangal kauria	5
Shivpur	109	Kauriram	1
Tajwapur	215	Khorabar	9
Ballia		Pipraur	10
Bansa khera	31	Ujua	1
Bansdih	11	Lakhimpur Khiri	
Belhari	82	Dhaurahra	10
Chilkahar	1	Jamgar	28
Dubahend	32	Nighasa	1
Hanumangarh Brahman	5	Nighasan	6
Maniyar	18	Palia	40
Murli chhapra	17	Rampurbelhari	10
Rasra Nagar	3	S.Kabir Nagar	
Reoti	54	Bikapur Bazar	7
Sikar	4	Shahjahanpur	
Basti		Khutar	1
Bansdiarpur	10	Siddharth Nagar	
Vishunpur	2	Bansi	7
		Jogiya	6


Uttar Pradesh
Districts/Blocks Covered for Testing
Arsenic Contamination in Ground Water
(Phase - I & II : UPJN & UNICEF)
WESTERN
CENTRAL
EASTERN
BUNDELKHAND
Legend
Rivers
Districts covered for Arsenic Testing (51)
Arsenic affected blocks (168)
Safe Blocks (137) [Arsenic not found]
Districts not covered (20)
Region Boundary
District Boundary
Block Boundary
0 45 90 180 270 360
Kms
Source : Uttar Pradesh Jal Nigam / Unicef


Uttar Pradesh
Arsenic in Ground Water : Safe Blocks
(Arsenic not detected)
WESTERN
CENTRAL
EASTERN
BUNDELKHAND
Legend
Rivers
Safe Blocks (Arsenic not found)
Region Boundary
District Boundary
Block Boundary
0 37.5 75 150 225 300
Kms
Source : Uttar Pradesh Jal Nigam / Unicef

ANNEXURE-

Format C36 No. of Individual households with PWS Connections

State : UTTAR PRADESH, Financial Year : 2019-2020

S.No.	District	Total Rural household as on (01/04/2019)	Household Connections with PWS as on (01/04/2019)	House Connection Provided (2019-2020)													House Connection Provided by Other Department reported till (31/03/2020)	Total Household connections reported till (31/03/2020)	% of total household connections with PWS reported till (31/03/2020)
				Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Total			
1	Agra	393945	6410	0	0	0	0	0	0	1	54	0	2	1708	1270	3035	--	9445	2.40
2	Aligarh	417853	3103	0	0	0	0	0	0	0	0	0	0	558	3991	4549	--	7652	1.83
3	Ambedkar Nagar	331980	3968	0	0	0	0	0	0	16	0	0	0	71	812	899	--	4867	1.47
4	Amethi	307811	3055	0	0	0	0	0	0	0	0	0	0	12	530	542	--	3597	1.17
5	Amroha	236225	5273	0	0	0	0	0	0	0	0	938	2804	232	2170	6144	--	11417	4.83
6	Auraiya	208690	2097	0	0	0	0	0	0	0	0	0	0	166	15202	15368	--	17465	8.37
7	Ayodhya	365730	878	0	0	0	0	0	0	0	0	0	0	218	231	449	--	1327	0.36
8	Azamgarh	619281	4646	0	0	0	0	0	0	0	0	0	0	409	381	790	--	5436	0.88
9	Baghpat	164372	11908	0	0	0	0	0	0	0	0	0	0	4583	23490	28073	--	39981	24.32
10	Bahraich	561977	10984	0	0	0	0	0	0	0	0	0	0	1048	13460	14508	--	25492	4.54
11	Ballia	436926	24585	0	0	0	0	0	0	0	9	0	2	651	142	804	--	25389	5.81
12	Balrampur	300109	1866	0	0	0	0	0	0	0	0	0	0	460	1791	2251	--	4117	1.37
13	Banda	268142	3380	0	0	0	0	0	0	0	0	0	121	2	1289	1412	--	4792	1.79
14	Barabanki	520862	5885	0	0	0	0	0	0	0	0	0	1	1379	5163	6543	--	12428	2.39
15	Bareilly	494388	11357	0	0	0	0	0	0	0	0	0	0	312	2843	3155	--	14512	2.94
16	Basti	365103	3370	0	0	0	0	0	0	0	0	2	271	2	2473	2748	--	6118	1.68
17	Bijnor	491593	18237	0	0	0	0	0	0	0	0	0	528	1069	2594	4191	--	22428	4.56
18	Budaun	421830	20274	0	0	0	0	0	0	0	0	0	0	254	7563	7817	--	28091	6.66
19	Bulandshahr	446782	21314	0	0	0	0	0	0	2598	7	0	0	4640	7343	14588	--	35902	8.04
20	Chandauli	269855	484	0	0	0	0	0	0	2	0	0	0	281	678	961	--	1445	0.54
21	Chitrakoot	150200	609	0	0	0	0	0	0	0	0	161	682	474	3131	4448	--	5057	3.37
22	Deoria	422500	6255	0	0	0	0	0	0	2826	567	0	0	1633	14852	19878	--	26133	6.19
23	Etah	246986	3322	0	0	0	0	0	0	0	0	0	7	584	1415	2006	--	5328	2.16
24	Etawah	212649	8624	0	0	0	0	0	0	327	0	0	0	6670	1683	8680	--	17304	8.14
25	Farrukhabad	220701	1261	0	0	0	0	0	0	25	288	0	601	0	4490	5404	--	6665	3.02
26	Fatehpur	414525	2431	0	0	0	0	0	0	0	0	0	2	2775	11143	13920	--	16351	3.94
27	Firozabad	275178	344	0	0	0	0	0	0	0	0	0	0	936	656	1592	--	1936	0.70
28	Gautam Buddha	47059	1246	0	0	0	0	0	0	0	0	0	0	49	488	537	--	1783	3.79

	Nagar																		
29	Ghaziabad	109876	22334	0	0	0	0	0	0	0	0	0	0	36	307	343	--	22677	20.64
30	Ghazipur	505301	8512	0	0	0	0	0	0	0	0	0	1	416	4953	5370	--	13882	2.75
31	Gonda	503665	1983	0	0	0	0	0	0	0	0	0	0	410	9617	10027	--	12010	2.38
32	Gorakhpur	560633	42003	0	0	0	0	0	0	0	0	0	0	5995	10816	16811	--	58814	10.49
33	Hamirpur	185153	11752	0	0	0	0	0	0	0	0	0	0	105	417	522	--	12274	6.63
34	Hapur	146428	14393	0	0	0	0	0	0	0	0	0	0	955	273	1228	--	15621	10.67
35	Hardoi	676488	2316	0	0	0	0	0	0	0	0	0	339	312	4929	5580	--	7896	1.17
36	Hathras	208044	616	0	0	0	0	0	0	0	0	0	0	1265	1733	2998	--	3614	1.74
37	Jalaun	216487	1558	0	0	0	0	0	0	0	0	0	0	184	820	1004	--	2562	1.18
38	Jaunpur	613731	2580	0	0	0	0	0	0	0	0	0	0	210	1127	1337	--	3917	0.64
39	Jhansi	246249	1218	0	0	0	0	0	0	0	0	0	0	599	2444	3043	--	4261	1.73
40	Kannauj	247814	4404	0	0	0	0	0	0	0	0	0	1	1412	11205	12618	--	17022	6.87
41	Kanpur Dehat	298629	6122	0	0	0	0	0	0	18	0	42	11	120	1094	1285	--	7407	2.48
42	Kanpur Nagar	296204	11813	0	0	0	0	0	0	1	0	0	0	342	2972	3315	--	15128	5.11
43	Kasganj	192143	175	0	0	0	0	0	0	0	0	0	41	42	3424	3507	--	3682	1.92
44	Kaushambi	257169	6991	0	0	0	0	0	0	0	0	0	0	1413	2167	3580	--	10571	4.11
45	Kushi Nagar	533299	13943	0	0	0	0	0	0	0	0	0	5503	0	12236	17739	--	31682	5.94
46	Lakhimpur Kheri	675461	12186	0	0	0	0	0	0	0	0	0	0	952	11785	12737	--	24923	3.69
47	Lalitpur	190235	28669	0	0	0	0	0	0	0	0	0	0	300	1610	1910	--	30579	16.07
48	Lucknow	290109	3146	0	0	0	0	0	0	0	0	0	0	439	519	958	--	4104	1.41
49	Maharajganj	445816	1457	0	0	0	0	0	0	65	98	0	223	1741	3200	5327	--	6784	1.52
50	Mahoba	126214	1612	0	0	0	0	0	0	0	0	0	0	34	442	476	--	2088	1.65
51	Mainpuri	263858	2054	0	0	0	0	0	0	0	0	0	322	723	195	1240	--	3294	1.25
52	Mathura	300146	11715	0	0	0	0	0	0	0	0	0	48	553	655	1256	--	12971	4.32
53	Mau	271568	1273	0	0	0	0	0	0	0	0	0	482	869	1298	2649	--	3922	1.44
54	Meerut	311354	20130	0	0	0	0	0	0	0	0	0	102	1591	15975	17668	--	37798	12.14
55	Mirzapur	350889	2004	0	0	0	0	0	0	0	0	0	0	1730	4193	5923	--	7927	2.26
56	Moradabad	329136	3753	0	0	0	0	0	0	0	0	296	1019	1715	1254	4284	--	8037	2.44
57	Muzaffarnagar	366872	1727	0	0	0	0	0	0	1	0	0	73	1145	31509	32728	--	34455	9.39
58	Pilibhit	303282	8959	0	0	0	0	0	0	0	0	0	0	1937	9566	11503	--	20462	6.75
59	Pratapgarh	504069	565	0	0	0	0	0	0	0	0	0	0	2605	2153	4758	--	5323	1.06
60	Prayagraj	728174	3452	0	0	0	0	0	0	121	0	0	0	10068	867	11056	--	14508	1.99
61	Rae Bareli	481627	5370	0	0	0	0	0	0	0	0	0	0	532	4349	4881	--	10251	2.13
62	Rampur	292649	21551	0	0	0	0	0	0	0	1	1	2643	237	5458	8340	--	29891	10.21
63	Saharanpur	412474	4525	0	0	0	0	0	0	0	0	0	2	6103	1002	7107	--	11632	2.82
64	Sambhal	286013	3108	0	0	0	0	0	0	0	0	0	0	432	618	1050	--	4158	1.45
65	Sant Kabeer Nagar	246017	1243	0	0	0	0	0	0	0	0	0	1300	51	646	1997	--	3240	1.32
66	Sant Ravidas Nagar	190435	435	0	0	0	0	0	0	0	0	0	39	1121	400	1560	--	1995	1.05

67	Shahjahanpur	420044	0	0	0	0	0	0	0	67	0	70	0	0	1399	1536	--	1536	0.37
68	Shamli	143271	6129	0	0	0	0	0	0	0	1662	0	1442	2278	17992	23374	--	29503	20.59
69	Shravasti	184775	542	0	0	0	0	0	0	4	97	0	0	0	887	988	--	1530	0.83
70	Siddharth Nagar	414342	7089	0	0	0	0	0	0	921	0	0	0	5	6200	7126	--	14215	3.43
71	Sitapur	712185	1689	0	0	0	0	0	0	0	0	0	30	918	5556	6504	--	8193	1.15
72	Sonbhadra	291770	12126	0	0	0	0	0	0	0	0	0	0	4332	0	4332	--	16458	5.64
73	Sultanpur	372749	630	0	0	0	0	0	0	0	0	0	0	106	783	889	--	1519	0.41
74	Unnao	491362	6913	0	0	0	0	0	0	1	0	0	0	1255	799	2055	--	8968	1.83
75	Varanasi	327235	2290	0	0	0	0	0	0	0	0	0	0	222	15500	15722	--	18012	5.50
Total		**26134696**	**516221**	**0**	**0**	**0**	**0**	**0**	**0**	**6994**	**2783**	**1510**	**18642**	**88986**	**348618**	**467533**	**0**	**983754**	**3.76**

 # The data is under updation, it may changed.

ANNEXURE-4

Format C36 No. of Individual households with PWS Connections

State : UTTAR PRADESH, Financial Year : 2020-2021

S.No.	District	Total Rural household as on (01/04/2020)	Household Connections with PWS as on (01/04/2020)	House Connection Provided (2020-2021)													House Connection Provided by Other Department reported till (22/07/2020)	Number of tap connections from private/ own sources	Total Household connections reported till (22/07/2020)	% of total household connections with PWS reported till (22/07/2020)
				Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Total				
1	Agra	393945	9445	0	0	339	0	--	--	--	--	--	--	--	--	339	0	0	9784	2.48
2	Aligarh	475683	7652	0	2	745	0	--	--	--	--	--	--	--	--	747	0	0	8399	1.77
3	Ambedkar Nagar	326693	4867	0	0	679	11	--	--	--	--	--	--	--	--	690	0	0	5557	1.70
4	Amethi	310962	3597	0	0	253	0	--	--	--	--	--	--	--	--	253	0	0	3850	1.24
5	Amroha	236013	11417	0	0	635	85	--	--	--	--	--	--	--	--	720	0	0	12137	5.14
6	Auraiya	214125	17465	0	0	73	0	--	--	--	--	--	--	--	--	73	0	0	17538	8.19
7	Ayodhya	365949	1327	0	0	71	0	--	--	--	--	--	--	--	--	71	0	0	1398	0.38
8	Azamgarh	619282	5436	0	0	1204	0	--	--	--	--	--	--	--	--	1204	0	0	6640	1.07
9	Baghpat	169228	39798	0	0	12	0	--	--	--	--	--	--	--	--	12	0	0	39810	23.52
10	Bahraich	570753	25492	0	0	1056	0	--	--	--	--	--	--	--	--	1056	0	0	26548	4.65
11	Ballia	440120	25389	0	0	1521	13	--	--	--	--	--	--	--	--	1534	0	0	26923	6.12
12	Balrampur	299976	4117	0	0	691	104	--	--	--	--	--	--	--	--	795	0	0	4912	1.64
13	Banda	267486	4792	0	0	1020	168	--	--	--	--	--	--	--	--	1188	0	0	5980	2.24
14	Barabanki	520816	12428	0	0	1026	45	--	--	--	--	--	--	--	--	1071	0	0	13499	2.59
15	Bareilly	494388	14512	0	0	545	0	--	--	--	--	--	--	--	--	545	0	0	15057	3.05
16	Basti	365855	6118	0	31	744	105	--	--	--	--	--	--	--	--	880	0	0	6998	1.91
17	Bijnor	490967	22428	0	0	1436	326	--	--	--	--	--	--	--	--	1762	0	0	24190	4.93
18	Budaun	422035	28091	0	0	46	8	--	--	--	--	--	--	--	--	54	0	0	28145	6.67
19	Bulandshahr	450736	35902	0	0	823	0	--	--	--	--	--	--	--	--	823	0	0	36725	8.15
20	Chandauli	272735	1445	0	0	1911	488	--	--	--	--	--	--	--	--	2399	0	0	3844	1.41
21	Chitrakoot	152690	5057	0	84	4760	422	--	--	--	--	--	--	--	--	5266	0	0	10323	6.76
22	Deoria	430617	26133	0	0	3928	405	--	--	--	--	--	--	--	--	4333	0	0	30466	7.07
23	Etah	260029	5328	0	0	310	0	--	--	--	--	--	--	--	--	310	0	0	5638	2.17
24	Etawah	212649	17304	0	0	517	116	--	--	--	--	--	--	--	--	633	0	0	17937	8.44
25	Farrukhabad	224255	6665	0	0	108	1	--	--	--	--	--	--	--	--	109	0	0	6774	3.02
26	Fatehpur	415048	16351	0	0	6050	292	--	--	--	--	--	--	--	--	6342	0	0	22693	5.47
27	Firozabad	285748	1936	0	0	967	7	--	--	--	--	--	--	--	--	974	0	0	2910	1.02

28	Gautam Buddha Nagar	47540	1783	0	0	198	0	--	--	--	--	--	--	--	--	198	0	0	1981	4.17
29	Ghaziabad	111148	22677	0	0	103	0	--	--	--	--	--	--	--	--	103	0	0	22780	20.50
30	Ghazipur	512458	13882	408	68	3188	282	--	--	--	--	--	--	--	--	3946	0	0	17828	3.48
31	Gonda	508414	12010	0	0	117	0	--	--	--	--	--	--	--	--	117	0	0	12127	2.39
32	Gorakhpur	567072	58814	0	0	95	164	--	--	--	--	--	--	--	--	259	0	0	59073	10.42
33	Hamirpur	187806	12274	0	0	114	33	--	--	--	--	--	--	--	--	147	0	0	12421	6.61
34	Hapur	148024	15621	0	493	899	340	--	--	--	--	--	--	--	--	1732	0	0	17353	11.72
35	Hardoi	681882	7896	0	0	3257	590	--	--	--	--	--	--	--	--	3847	0	0	11743	1.72
36	Hathras	208044	3614	0	0	271	0	--	--	--	--	--	--	--	--	271	0	0	3885	1.87
37	Jalaun	214366	2562	0	0	524	17	--	--	--	--	--	--	--	--	541	0	0	3103	1.45
38	Jaunpur	614041	3917	0	0	1005	120	--	--	--	--	--	--	--	--	1125	0	0	5042	0.82
39	Jhansi	247955	4261	0	0	149	0	--	--	--	--	--	--	--	--	149	0	0	4410	1.78
40	Kannauj	251376	17022	0	0	186	0	--	--	--	--	--	--	--	--	186	0	0	17208	6.85
41	Kanpur Dehat	295936	7407	0	0	1951	304	--	--	--	--	--	--	--	--	2255	0	0	9662	3.26
42	Kanpur Nagar	298589	15128	19	0	237	73	--	--	--	--	--	--	--	--	329	0	0	15457	5.18
43	Kasganj	196583	3682	0	0	354	0	--	--	--	--	--	--	--	--	354	0	0	4036	2.05
44	Kaushambi	260633	10571	0	0	441	112	--	--	--	--	--	--	--	--	553	0	0	11124	4.27
45	Kushi Nagar	535335	31682	50	1626	5682	0	--	--	--	--	--	--	--	--	7358	0	0	39040	7.29
46	Lakhimpur Kheri	675916	24923	0	0	1239	21	--	--	--	--	--	--	--	--	1260	0	0	26183	3.87
47	Lalitpur	197730	30579	561	44	452	74	--	--	--	--	--	--	--	--	1131	0	0	31710	16.04
48	Lucknow	293259	4104	30	32	677	59	--	--	--	--	--	--	--	--	798	0	0	4902	1.67
49	Maharajganj	435277	6783	0	320	811	256	--	--	--	--	--	--	--	--	1387	0	0	8170	1.88
50	Mahoba	126214	2088	0	0	16	0	--	--	--	--	--	--	--	--	16	0	0	2104	1.67
51	Mainpuri	266482	3294	0	0	1455	107	--	--	--	--	--	--	--	--	1562	0	0	4856	1.82
52	Mathura	266163	12971	0	0	709	0	--	--	--	--	--	--	--	--	709	0	0	13680	5.14
53	Mau	274911	3822	0	0	1706	173	--	--	--	--	--	--	--	--	1879	0	0	5701	2.07
54	Meerut	309934	37798	0	0	420	0	--	--	--	--	--	--	--	--	420	0	0	38218	12.33
55	Mirzapur	355155	7927	0	0	1189	177	--	--	--	--	--	--	--	--	1366	0	0	9293	2.62
56	Moradabad	329159	8037	198	2	1498	713	--	--	--	--	--	--	--	--	2411	0	0	10448	3.17
57	Muzaffarnagar	372556	34455	0	0	1935	0	--	--	--	--	--	--	--	--	1935	0	0	36390	9.77
58	Pilibhit	303282	20462	0	0	836	0	--	--	--	--	--	--	--	--	836	0	0	21298	7.02
59	Pratapgarh	504056	5323	0	0	130	133	--	--	--	--	--	--	--	--	263	0	0	5586	1.11
60	Prayagraj	728174	14508	0	21	2908	144	--	--	--	--	--	--	--	--	3073	0	0	17581	2.41
61	Rae Bareli	486989	10251	0	0	1184	0	--	--	--	--	--	--	--	--	1184	0	0	11435	2.35
62	Rampur	292649	28503	0	0	0	0	--	--	--	--	--	--	--	--	0	0	0	28503	9.74
63	Saharanpur	428771	11632	0	0	6941	865	--	--	--	--	--	--	--	--	7806	0	0	19438	4.53
64	Sambhal	291547	4158	0	0	319	206	--	--	--	--	--	--	--	--	525	0	0	4683	1.61
65	Sant	246344	3240	0	0	161	15	--	--	--	--	--	--	--	--	1772	0	0	5012	2.03

	Kabeer Nagar					9	3													
66	Sant Ravidas Nagar	190590	1995	0	0	322	0	--	--	--	--	--	--	--	--	322	0	0	2317	1.22
67	Shahjahanpur	423927	1536	0	0	129	0	--	--	--	--	--	--	--	--	129	0	0	1665	0.39
68	Shamli	151747	29503	0	0	762	365	--	--	--	--	--	--	--	--	1127	0	0	30630	20.18
69	Shravasti	184412	1530	0	0	137	31	--	--	--	--	--	--	--	--	168	0	0	1698	0.92
70	Siddharth Nagar	416914	14215	0	0	755	102	--	--	--	--	--	--	--	--	857	0	0	15072	3.62
71	Sitapur	712647	8193	0	1	1561	391	--	--	--	--	--	--	--	--	1953	0	0	10146	1.42
72	Sonbhadra	291770	16458	0	0	2527	8	--	--	--	--	--	--	--	--	2535	0	0	18993	6.51
73	Sultanpur	374834	1519	0	0	270	34	--	--	--	--	--	--	--	--	304	0	0	1823	0.49
74	Unnao	501171	8968	0	0	772	88	--	--	--	--	--	--	--	--	860	0	0	9828	1.96
75	Varanasi	330211	18012	0	0	4352	0	--	--	--	--	--	--	--	--	4352	0	0	22364	6.77
Total		**26338776**	**982082**	**1266**	**2724**	**87872**	**8731**	--	--	--	--	--	--	--	--	**100593**	**0**	**0**	**1082675**	**4.11**

 # The data is under updation, it may changed.

ANNEXURE 5

Format B26 - List Of Schemes

State:-UTTAR PRADESH

S.No.	District	Ground Water Based Schemes						Surface Water Based Schemes						Others **					
		PWS		H.P / Borewell / Tubewell & other spot sources		Other *		PWS		H.P / Borewell / Tubewell & other spot sources		Other *		PWS		H.P / Borewell / Tubewell & other spot sources		Other *	
		Number of Schemes	Number of Habs Covered	Number of Schemes	Number of Habs Covered	Number of Schemes	Number of Habs Covered	Number of Schemes	Number of Habs Covered	Number of Schemes	Number of Habs Covered	Number of Schemes	Number of Habs Covered	Number of Schemes	Number of Habs Covered	Number of Schemes	Number of Habs Covered	Number of Schemes	Number of Habs Covered
	Total	8347	25511	2266411	259001	1020	1980	42	213	987	396	2	1	0	0	5078	587	56	53
1	Agra	585	984	11700	2375	62	56	0	0	1	1	0	0	0	0	1	1	0	0
2	Aligarh	59	113	32987	2013	0	0	0	0	1	1	0	0	0	0	0	0	0	0
3	Prayagraj	185	435	84847	9901	79	66	0	0	0	0	0	0	0	0	9	6	0	0
4	Ambedkar Nagar	26	121	27881	5584	0	1	0	0	1	1	0	0	0	0	4	1	0	0
5	Amethi	77	217	44895	5150	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Auraiya	66	115	20846	1918	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Azamgarh	112	603	49298	11368	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Baghpat	86	84	18899	284	13	12	0	0	0	0	0	0	0	0	0	0	44	41
9	Bahraich	161	1025	46500	8719	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Ballia	368	1224	47989	5089	0	1	0	0	0	0	0	0	0	0	0	0	0	0
11	Balrampur	37	88	26740	4102	0	1	0	0	1	1	0	0	0	0	0	0	0	0
12	Banda	92	300	21073	2519	31	21	1	1	0	0	0	0	0	0	1	1	0	0
13	Barabanki	85	226	38279	5620	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Bareilly	57	75	34436	2287	0	0	0	0	1	1	0	0	0	0	1	1	0	0
15	Basti	147	677	37637	5338	0	1	0	0	2	2	0	0	0	0	0	0	0	0
16	Bijnor	208	196	31307	2276	2	3	0	0	1	1	0	0	0	0	0	0	0	0
17	Budaun	53	35	36191	2010	0	0	0	0	0	0	0	0	0	0	1	1	0	0
18	Bulandshahr	119	148	28861	1509	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Chandauli	62	146	29848	2533	3	2	0	0	1	1	0	0	0	0	0	0	0	0
20	Chitrakoot	25	119	12285	2127	66	54	1	1	1	1	0	0	0	0	1	1	0	0
21	Deoria	188	738	41546	4113	1	3	0	0	3	3	0	0	0	0	0	0	0	0
22	Etah	92	274	29781	1810	0	1	0	0	0	0	0	0	0	0	0	0	0	0
23	Etawah	106	382	28961	2381	0	0	0	0	2	2	0	0	0	0	0	0	0	0
24	Ayodhya	47	96	34808	6213	0	0	0	0	15	15	0	0	0	0	0	0	0	0
25	Farrukhabad	103	167	24394	1716	0	1	0	0	0	0	0	0	0	0	2	2	0	0

26	Fatehpur	141	221	36192	3060	35	28	0	0	0	0	0	0	0	0	0	0	0	0
27	Firozabad	165	239	25151	1940	0	1	0	0	0	0	0	0	0	0	1	1	0	0
28	Gautam Buddha Nagar	27	26	13510	407	20	21	0	0	0	0	0	0	0	0	0	0	0	0
29	Ghaziabad	61	54	11616	231	0	0	0	0	1	1	0	0	0	0	0	0	0	0
30	Ghazipur	157	435	34300	7923	0	0	0	0	18	13	0	0	0	0	0	0	0	0
31	Gonda	229	1166	39134	12215	0	1	0	0	0	0	0	0	0	0	0	0	0	0
32	Gorakhpur	193	1004	54334	6563	1	2	0	0	1	1	0	0	0	0	0	0	0	0
33	Hamirpur	82	101	9329	610	49	40	0	0	1	1	0	0	0	0	4882	493	0	0
34	Hapur	88	81	9585	331	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	Hardoi	55	153	36257	5266	0	1	0	0	3	3	0	0	0	0	0	0	0	0
36	Jalaun	68	65	26516	1044	30	23	0	0	0	0	0	0	0	0	0	0	0	0
37	Jaunpur	89	3063	68188	13513	0	0	0	0	1	1	0	0	0	0	0	0	0	0
38	Jhansi	159	177	19849	837	15	14	2	2	0	0	0	0	0	0	6	6	0	0
39	Amroha	43	45	15792	1076	0	0	0	0	0	0	0	0	0	0	0	0	12	12
40	Kannauj	155	488	25272	2121	0	1	0	0	0	0	0	0	0	0	0	0	0	0
41	Kanpur Dehat	88	224	29625	2131	5	3	0	0	0	0	0	0	0	0	0	0	0	0
42	Kanpur Nagar	95	143	24191	1900	15	13	0	0	0	0	0	0	0	0	164	68	0	0
43	Kasganj	14	73	9117	1384	0	0	20	83	0	0	0	0	0	0	0	0	0	0
44	Kaushambi	43	162	20480	1866	18	18	0	0	1	1	0	0	0	0	1	1	0	0
45	Lakhimpur Kheri	211	454	44701	4758	0	0	0	0	24	24	0	0	0	0	0	0	0	0
46	Kushi Nagar	155	1581	50907	6025	0	0	0	0	2	2	0	0	0	0	0	0	0	0
47	Lalitpur	65	111	19636	1114	27	19	12	97	3	2	0	0	0	0	0	0	0	0
48	Lucknow	157	332	25780	2157	20	19	0	0	0	0	0	0	0	0	0	0	0	0
49	Hathras	45	108	17533	1307	0	0	0	0	1	1	2	1	0	0	0	0	0	0
50	Maharajganj	227	738	32936	4094	0	1	0	0	0	0	0	0	0	0	0	0	0	0
51	Mahoba	82	78	14926	501	66	55	4	27	0	0	0	0	0	0	1	1	0	0
52	Mainpuri	36	62	37036	2700	3	8	0	0	0	0	0	0	0	0	1	1	0	0
53	Mathura	299	370	23777	1495	0	1	0	0	3	3	0	0	0	0	0	0	0	0
54	Mau	60	130	29805	4509	0	0	0	0	1	1	0	0	0	0	0	0	0	0
55	Meerut	151	136	32257	664	0	1	0	0	0	0	0	0	0	0	0	0	0	0
56	Mirzapur	141	378	37247	4195	31	20	0	0	6	5	0	0	0	0	1	1	0	0
57	Moradabad	30	28	25020	1156	0	1	0	0	2	1	0	0	0	0	0	0	0	0
58	Muzaffarnagar	100	95	25459	697	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	Pilibhit	29	70	20953	1371	0	0	0	0	1	1	0	0	0	0	0	0	0	0
60	Pratapgarh	155	525	47214	8425	0	0	0	0	1	1	0	0	0	0	0	0	0	0
61	Rae Bareli	166	625	40917	6502	5	34	0	0	0	0	0	0	0	0	0	0	0	0
62	Rampur	40	32	12833	1473	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	Saharanpur	103	111	23223	1480	0	0	0	0	0	0	0	0	0	0	1	1	0	0

64	Sambhal	22	29	20652	1035	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	Sant Kabeer Nagar	82	543	17399	2416	1	1	0	0	786	254	0	0	0	0	0	0	0	0
66	Sant Ravidas Nagar	12	24	25696	3526	0	1	0	0	0	0	0	0	0	0	0	0	0	0
67	Shahjahanpur	22	241	21770	2808	0	1	0	0	0	0	0	0	0	0	0	0	0	0
68	Shamli	34	49	15446	414	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	Shravasti	15	73	16972	2595	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	Siddharth Nagar	168	937	41460	3986	0	1	0	0	11	11	0	0	0	0	0	0	0	0
71	Sitapur	31	68	51338	7347	335	1388	0	0	85	34	0	0	0	0	0	0	0	0
72	Sonbhadra	246	268	26884	2314	86	38	2	2	4	4	0	0	0	0	0	0	0	0
73	Sultanpur	44	87	45702	5581	1	1	0	0	0	0	0	0	0	0	0	0	0	0
74	Unnao	197	537	39737	4329	0	1	0	0	0	0	0	0	0	0	0	0	0	0
75	Varanasi	124	183	30768	4654	0	0	0	0	1	1	0	0	0	0	0	0	0	0
	Total	**8347**	**25511**	**2266411**	**259001**	**1020**	**1980**	**42**	**213**	**987**	**396**	**2**	**1**	**0**	**0**	**5078**	**587**	**56**	**53**

Note : * Other than pws and spot source schemes. ** Other than ground water and surface water source schemes.

ANNEXURE-5

MINUTES OF MEETING OF NGT OVERSIGHT COMMITTEE, UP LUCKNOW NGT HELD ON 13.05.2020 AT 11-00 A.M (ORGANISED WITH THE HELP OF NIC) THROUGH VIDEO-CONFERENCING

***

Present: **Hon'ble Mr Justice SVS Rathore, Chairman, and**
Dr Anup Chandra Pandey, Member

Other dignitaries present:

1. ShriSurendraVikram, Special Secretary, Irrigation
2. Mrs V. HekaliZhimomi, Secretary, Health
3. ShriAshishTiwari, Member Secretary, UPPCB
4. Dr ShipraPandey, Nodal Officer, Health
5. Shri RK Singh, Regional Director, CPCB, Lucknow
6. ShriVikasGodalwal, MD, Jal Nigam
7. Shri SR Sachan, Representative of UPSIDA
8. ShriGC.Agarwal, Chief Engineer, Ram Ganga
9. ShriSandeepChadra, Chief Engineer, UPSIDA
10. Shri DP Mathuria, Executive Director (Technical), NMCG
11. Shri Kumar Vineet, Addl Director, MandiParishad

Meeting was held as scheduled.

Various issues as pointed out in the orders of Hon'ble National Green Tribunal in different OAs discussed and status of the action taken by the concerned authorities in compliance of the orders reviewed. Decisions taken thereon by the Committee in the matter are detailed hereinunder:

OA No. 200/2014alongwith OA 231/2014		
S. No.	Issues/points of discussion	Decision taken by the Committee
1	Hon'ble NGT directed lifting and remediation of Chromium dump at Rania, Kanpur Dehatby the TSDF operators	The Committee was informed that funds to the tune of Rs. 23.44 crore has been sanctioned. The executing agency was UPSIDA. Regarding the chromium dump site at Rania, Mr.Sandeep Chandra, Chief Engineer

		UPSIDAinforms that work of shifting of chromium dump has not yet started and the tenders are still waiting approval though the work was to be completed by 31.3.2020. It was informed on behalf of UPSIDA that as per directions of Hon'ble NGT, this order was to be complied with by 01.11.2019. In the last meeting, we had taken a very serious note of it and had directed the concerned authority to immediately start removal of chromium waste but unfortunately till date, not even a single truck load has been removed from the site. Explanation as usual was submitted is that it was another department's inaction; non-approval by the high power committee, etc, but keeping in view the seriousness of the matter and the culpable negligence shown by the concerned departments in complying with the orders of Hon NGT, we direct the Chief Secretary, UP to appoint an officer to conduct a preliminary enquiry in this matter to fix responsibility on the officers, who are responsible for such delay. Action Taken Report shall be furnished to this Committee within one month so that the same may be forwarded to Hon'ble NGT for passing appropriate orders and taking stern action in the matter. CPCB had to calculate EC for its realisation from the concerned departments. The committee directed the Health Deptt. to submit the report of health survey conducted in Rania with reference to O.A 200/2014. Further, considering O.A. 213/2014, the Health Deptt was required to provide details of patients in health camps organised in Baghpat, Saharanpur, Muzaffarnagar, Shamli etc. UPPCB was also directed to send a report in this matter. Regarding the tapping of drains, the Committee asked for the current status of work. Managing Director, UP Jal Nigam

		shared the data and figures and stated that he would submit the report regarding the same. The Committee expresses its dissatisfaction over the state of progressas stated by the UP Jal Nigam and directed CPCB to calculate the EC and process for its recovery be initiated. So far as demarcation of flood plain zones is concerned, Special Secretary, Irrigation informed that earlier a single tender was received by the department, hence it could not be finalised and now again tenders have been floated, which will be opened on 18.5.2020. The Committee directed the Irrigation Deptt to finalise the matter and issue notification in this regard. The representative from UPPCB told that with regard to Biodiversity Park, a project has been submitted to NMCG and its approval is awaited. The CPCB in this matter informed that guidelines for biodiversity parks have been formulated. Due to chromium dumps, soil and water are being contaminated. It is causing cancer to nearby inhabitants.Compensation of rupees 280croreswas imposed by Hon'ble NGT which has so far not been deposited.
2	Hon'ble NGT had directed the State to install ETPs/CETPs and ensure their proper function to prevent untreated discharge of industrial effluents in river Ganga and its tributary.	It is reported that in Jajmau, work for installation of 20 MLD CETP has started. In Banthar, 4.5 MLD CETP is at sanctioning stage by NMCG and CETP at Unnao is at project formulation stage. Managing Director, UP Jal Nigam is directed to submit the present status of the work done so far. So far as untapped drains are concerned, it was directed that bio-remediation and phyto-remediation be done until the installation and proper functioning of CETP/ETP is complete to prevent discharge of untreated water into river Ganga. Let the latest position of bio-remediation and

		phyto-remediation in writing be communicated by the Secretary, Urban Development to this Committee.
O.A. No. 231/2014		
	Water supply to 148 villages affected by chromium dump	With reference to O.A. 231/2014, the UP Jal Nigam is directed to provide a detailed report of status regarding Piped Water Supply in 148 villages. The committee directed to ensure PWS in the villages at a fast pace. Regarding the 3 STPs at Muzaffarnagar, Budhana and Saharanpur, the UP Jal Nigam informed that tenders have been finalised for Muzaffarnagar and Budhana and within 24 months they aim to complete the work. In case of Saharanpur, DPR has been submitted and approval from NMCG is awaited. The UP Jal Nigam is directed to take a note of this from Dept. of Urban Development and furnish a detailed report. The Committee directed that in case STP work is not complete, then work of bio-remediation and phyto-remediation be undertaken expeditiously. The committee directed UP Jal Nigam to send a detailed report with regard to work done so far. Process for recovery of EC was directed to be initiated as per orders of Hon'ble NGT.
O.A. No. -710/2017, 711/2017, 712/2017, 713/2017 (Bio-medical Waste Rules, 2016)		
	Management and handling of the COVID-19 waste generated from hospitals, quarantine centre in the State.	It was informed by Secretary, Health that the waste from the infectious disease (COVID-19) wards is being managed as per the protocol prescribed by CPCB . Health Department have also conducted trainings jointly with UPPCB and Urban development Department. The Health Department will submit to the Committee a copy of protocol and guidelines formed and being followed to segregate,

		manage and handle COVID-19 waste. The Health Department also mentioned that they have a separate team of people looking after COVID-19 waste; they are maintaining separate bins, separate collection vans and trained staff to handle the waste with complete care. Regional Director, CPCB mentioned that they have issued guidelines for management of COVID waste and the same have been circulated to all the SPCBs in the country. They have also updated this guideline and the updated version of the guidelines was used by the Health Department of the State for conducting the trainings. They further informed thata softwarehas been developed for waste tracking and it was made compulsory for all the stakeholders to register and update the information regarding COVID-19 waste regularly on it. Secretary, Health informed that they are already uploading all the information regarding the BMW waste and COVID-19 waste on the State portal. They were asked to incorporate the information available on the State portal in the CPCB's website. Regional Director, CPCB also mentioned that they are regularly receiving feedbacks from the UPPCB and other departments regarding COVID-19 waste. Member Secretary, UPPCB mentioned that UPPCB has directed all the concerned departments to manage COVID-19 waste as per the guidelines. He further mentioned that waste generated from the COVID-19 is mostly incinerable waste for which the capacity in State is adequate. Also, in future if COVID-19 cases increase, the State will use the hazardous waste incinerators for incineration of COVID-19 waste. COVID waste is managed and handled

		separately from other wastes. The waste from the isolation wards, quarantine centres is kept separate from the general waste from the quarantine homes which is first disinfected and then processed. It was also mentioned that they are conducting trainings on the waste tracking software. It is likely that in near future the COVID-19 cases may increase. The Committee directed that to copewith the situation, trainings and guidelines be provided to the other stakeholders such as private players (Hospitals, Pathologies etc.) so that they may also be able to manage COVID-19 waste in light of the guidelines issued. The Committee also called for the status of COVID-19 waste in the State in past 15 Days. The Committee has been informed about the quantity of covid-19 waste (Bio-medical waste) generated from the Hospitals, Isolation ward quarantine comps/Homes, sample collection centre between 25.04.2020 to 11.05.2020 as given blow :- (a) Covid-19 Waste (Bio medical waste) generated - 94.7 ton (b) Covid-19 Waste (Bio medical waste) incinerated by Common bio medical waste treatment facilities (18 no.) - 94.7 ton The Committee directed the Health Department to submit the updated compliance report within one week. The Committee also directed that COVID-19 waste be permitted to be disposed of by authorised units only.
	Status of Health survey report which has not been submitted yet.	Health survey has been done. The health department had submitted the report on 13th March 2020 and soft copy of the report will be submitted. Also the updated compliance

		status of orders passed in OA No.710/2017 will be submitted to the committee within one week.
O.A. No. 519/2019		
	Bulk waste generated by MandiParishad	Additional Director, MandiParishad informed that at 74 places, they are concentrating on disposal of bulk waste generated by incineration and accumulation in pits for composting. The Committee directed the MandiParishad to provide the status report of bulk waste generated and disposed of in their areas within a week.
OA No. 985/2019 with OA No. 986/2019 in Re: Water Pollution by Tanneries in Jajmau, Kanpur U.P., with Water Pollution at Rania, Kanpur Dehat and RakhiMandi, Kanpur Nagar		
	Steps taken for supply of potable water to the residents of the affected area of Rania, Kanpur Dehat and RakhiMandi, Kanpur Nagar around the area of Chromium dumps.	It was informed by MD UP Jal Nigam that water is being supplied directly through tankers. Regarding RakhiMandi, Kanpur Nagar, it was informed that water is already being supplied through pipe-line. In Rania, UP Jal Nigam has constructed 14.5 Km pipeline. At present, water is being supplied through tankers. It was further informed that work of overhead is also under progress. The water supply through pumping station which was to be started in the month of May 2020 is delayed due to COVID-19 lockdown. Supply of water directly through pipelines will start from 15 July 2020.
OA No. 384/2019 in Re: Mrs.SunitaPandey&Anr. vs. Union of India &Ors.		
1	States/UTs were advised to take up community water purification plant schemes in affected areas and also to plan long terms measures for supply of drinking water.	The status of community water purification plant in affected areas of the State has not been submitted yet. However, it is informed that in the arsenic affected 344 habitations, supply of water through pipelines is in process. They have also mentioned that the remaining work will be finalised in 3 months post lockdown period.

		Let a detailed report of the status be provided to the Committee.
OA No. 116/2014 with OA No. 437/2015 in Re: MeeraShukla Vs. Municipal Corporation, Gorakhpur &Ors. with Vishwa Vijay Singh Vs. U.P. Pollution Control Board &ors		
1	Status/ Reports on encroachment and demarcation of wetlands	It was mention by Irrigation Department that a Joint Committee headed by Principal Secretary has been constituted regarding the declaration of wetland. The report of the meeting will be submitted on 18th May 2020. Further, it was mentioned that the demarcation of wetland area has not been done yet. It was directed that Irrigation Department should submit the demarcation of wetland report within a week. The Hon'ble NGT vide order dated 24.09.2019 had directed that the Nodal Agency will be the Secretary, Irrigation for coordination, compliance & furnishing report to Hon'ble NGT.
	Status of CETP's in GIDA, Gorakhpur:	The Committee was informed that direction has been issued to Chief Executive Officer GIDA, Gorakhpur by the UPPCB under section-33A of Water (Prevention and Control of Pollution) Act, 1974 dated 12.04.2018 for installation of CETP. In this connection, it was also informed that Chief Executive Officer GIDA, Gorakhpur has prepared a DPR of Rs. 76.79 crore for the construction of CETP and sent to approval to IDC, UP Govt. As per information received it has been directed that Rs. 20 crore from industrial development fund and Rs. 17 crore from GIDA, Gorakhpur to be provided for the construction of CETP. The part of GIDA of Rs. 17 crore has been passed in 54th meeting of GIDA Board. The proposal of finance remaining part of Rs. 39.79 crore has been sent to SMCG on dated 20.11.2019. The land of 11.15 acre in village- Adilapar, GIDA has been purchase for CETP and the construction

		of the CETP shall be started after achieving the finance. The NMCG has visited site on 23.01.2020 and the discussion held with GIDA. During inspection samples of Sariya Drain has been collected at two points S_1 andS_2 (S_1- last industry outfall into the Sariya Drain, S_2 – Sariya Drain before meeting River Aami) and analyzed. According the analysis report the BOD level (60 mg/l to 460 mg/l) COD level (217 mg/l to 1492 mg/l) Lead level (4.021 mg/l to 4.453 mg/l) and Total coliform level (54.10^5 to 54.10^6 MPN/100 ml) and Fecol coliform level (24×10^5 to 35×10^6 MPN/100 ml) were found at points S_1 andS_2 which indicates discharge of effluent from industrial and residential sources located in GIDA. NMCG recommended that UPPCB and GIDA may identify the reason for the observation/finding of the analysis report of the sample collected during the visit. UPPCB has sent letter dated 20.03.2020 to CEO, GIDA to submit the report as per recommendation given by NMCG.
	Status of installation of STPs and CETPs.	Executive Engineer, UP Jal Nigam, SantKabir Nagar had sent a letter regarding approval & budget allotment to UP Government for STPs at following locations: 1. Khalilabad Nagar PalikaParishad – 8 MND/ Rs. 33.20 Crore 2. Magahar Nagar Panchayat – 3 MND/ Rs. 19.88 Crore Above estimate was sent to National Mission for Clean Ganga (NMCG) for approval & budget allocation by State Mission for Clean Ganga (SMCG) vide letter dated 13.08.2019. NMCG raised some query about such estimation of STPs, which is yet to be responded by SMCG. The proposal of land for STP has been given by the local body. It was assured that pending work of demarcation of land will be completed

		at the earliest. Let action taken report be submitted to the Committee at the earliest.
	Tapping of drains discharging their effluent in Ramgarh Lake directly.	The Irrigation department informed that 5 drains have been tapped. The Irrigation Department is directed to submit the status report of tapping of drains after the discussion with Jal Nigam. The Member Secretary, UPPCB has suggested that land in the flood plain zone area be earmarked so that it may be easy to get its vacant possession. Forest department be asked to take over the work of biodiversity park construction. **Current status of action taken against violation of Solid Waste Management and Medical Waste Management Rules, as submitted by the UPPCB is as under:** **Compliance of Solid Waste Management:** (a) 600MT per day municipal solid waste is generated from Nagar Nigam Gorakhpur. Environmental Clearance had been issued by state level environment assessment authority for solid waste management (sanitary landfill & composting) dated 22.01.2010. Nagar Nigam Gorakhpur has identified the land for landfill & composting. However, the site development progress of sanitary landfill & composting is Nil. Responsibility be fixed against officers responsible for negligence and action be taken against them. **Compliance of Bio-Medical Waste Management:** (b) UPPCB has imposed EC of Rs. 4.4115 Crore against BRD Medical College, Gorakhpur dtd 01.10.2019 for violation of biomedical waste management rule 2016. M/s BRD Medical College, Gorakhpur has not submitted

		the EC yet. Director General Medical Education has sought Report of the UPPCB on the subject of EC payable by M/s BRD Inter College & hospital (Nehru Chiktsalay), Gorakhpur, dtd 09.01.2020. UPPCB has sent the report to Principal, BRD Medical College, GorakhpurDtd 24.01.2020. **Status of recovery of Compensation against M/s Malvika Cement Pvt. Ltd. Raibareli.** A report in O.A. no. 116/2014 in Hon'ble NGT has been filed on dated 29.09.2019 to impose a Environmental Compensation of Rs. 4,40,000/- for violation by State Govt. **Action taken report against illegal electric connections which have been given without the consent to operate merely on consent to establish and why tubewells are being allowed to be dug without permission of CGWA:** UPPCB has requested Department of Environment, Forest &Climate Change, Govt. of UP vide letters dated 20.11.2019 & 28.04.2020 for directions from level of Chief Secretary, Uttar Pradesh to Department of Infrastructure & industrial development & department of energy for ensuring consent from UPPCB & NOC from CGWA prior to issuing electricity connection in favour of industrial unit. The matter is pending at Government Level. **Status of recovery of Compensation against K.M. Sugar Mills (Distillery Sugar Unit), Masaudha, Ayodhya:** Hon'ble NGT had given direction for

		joint Inspection vide order dated 24.09.2019. The joint inspection was conducted on 26.11.2019 and 04.02.2020 and it has been found that the industry is complying with the norms and the consent under Water (Prevention and Control of Pollution) Act, 1974 as amended was given to the industry for a period upto 31.12.2021. Environmental compensation of Rs. 26.80 Lacs has been imposed on the unit for the past violation. The industry has submitted representation for revising EC. The board has constituted a committee of the officers of central lab & UPPCB RO Lucknow, for joint inspection of the industry to decide the representation dtd 28.02.2020. Joint inspection report is awaited.

Status of Compensation imposed and recovery of other industry in the catchment area of Aami River as submitted by UPPCB is given below:

S. No.	Name of the Industry	EC Imposed	Recovery of EC Amount	Remark
1	M/s B. R. D. Medical College & Hospital (Nehru Chikitsalay), Gorakhpur	Rs. 4.4115 Crore	Nil	Director General Medical Education has sought Report of the UPPCB on the subject of EC payable by M/s BRD Inter College & hospital (Nehru Chiktsalay), Gorakhpur, dtd 09.01.2020. UPPCB has submitted the report to Principal, BRD Medical College, Gorakhpur Dtd 24.01.2020
2	M/s K. M. Sugar Mills Limited (Sugar Unit),	Rs. 32.40 Lacs	Rs. 32.40 Lacs	

	Masaudha, Ayodhya			
3	M/s K. M. Sugar Mills Limited (Distillery Unit), Masaudha, Ayodhya	Rs. 26.80 Lacs	Nil	The industry has submitted representation for revising EC. The board has constituted a committee of the officers of central lab & UPPCB RO Lucknow, for joint inspection of the industry to decide the representation dtd 28.02.2020. Joint inspection report is awaited.
4	M/s Bharti Research and Breeding Firm, FL-27, Sector 13, GIDA, Gorakhpur	Rs. 6.1125 Lacs	Nil	UPPCB has requested to District Magistrate Gorakhpur for recovery of the EC imposed on industry Dtd. 17.12.2019
5	M/s Mother Shree Dairy, D-1/3D, Sector 13, GIDA, Gorakhpur	Rs. 8.4 Lacs	Nil	UPPCB has requested to District Magistrate Gorakhpur for recovery of the EC imposed on industry Dtd. 17.12.2019
6	M/s Alkane Construction Pvt Ltd., FL-1, Sector 13, GIDA, Gorakhpur	Rs. 4.25 Lacs	Nil	UPPCB has requested to District Magistrate Gorakhpur for recovery of the EC imposed on industry Dtd. 17.12.2019
7	M/s Burnet Pharmaceutical Pvt. Ltd., FL-1, Sector 13, GIDA, Gorakhpur	Rs. 12.875 Lacs	Nil	UPPCB has requested to District Magistrate Gorakhpur for recovery of the EC imposed on industry Dtd. 17.12.2019
8	M/s Gorakhnath Agro Industries Pvt. Ltd., FL-20/27, Sector 13, GIDA, Gorakhpur	Rs. 10.1875 Lacs	Nil	UPPCB has requested to District Magistrate Gorakhpur for recovery of the EC

				imposed on industry Dtd. 17.12.2019
9	M/s Royale Savera Foods Pvt. Ltd., FL-28, Sector 13, GIDA, Gorakhpur	Rs. 6.1125 Lacs	Nil	UPPCB has requested to District Magistrate Gorakhpur for recovery of the EC imposed on industry Dtd. 17.12.2019
10	M/s Dr.Sandhu Hatchery, FL-28, Sector 13, GIDA, Gorakhpur	Rs. 6.1125 Lacs	Rs. 6.1125 Lacs	
11	M/s Bajaj Sugar Ltd (Dist.), Rudhauli, Basti	Rs. 1.4280 Crore	Rs. 50.0 Lacs	The industry has submitted affidavit for depositing balance EC in two instalments. The board has directed to industry for depositing the balance EC amount in two equal instalments in Month of May'2020 & August'2020.
12	M/s YashPakka Ltd. (Formerly name M/s Yash Papers), Darshan Nagar, Ayodhya	Rs. 40.80 Lacs	Nil	UPPCB has requested to District Magistrate Ayodhya for recovery of the EC imposed on industry Dated 18.11.2019. The industry has filed petition in Hon'ble High Court LucknowBench &Hon'ble High court ordered Stay for recovery of EC. UPPCB to file counter affidavit against Hon'ble High Court which is under process.

The Committee directs that all these matters be expedited and EC be realised from defaulting Units.

Sd/-	Sd/-
(Dr Anup Chandra Pandey)	**(Justice SVS Rathore)**
Member, Oversight Committee	**Chairman, Oversight Committee**

May 13, 2020

ANNEXURE - I

Meeting No. 37

MINUTES OF MEETING OF NGT OVERSIGHT COMMITTEE, UP LUCKNOW HELD ON 08.07.2020 AT 11-30 A.M (ORGANISED WITH THE HELP OF NIC) THROUGH VIDEO-CONFERENCING

***

Present: **Hon'ble Mr Justice SVS Rathore, Chairman, and**
Dr Anup Chandra Pandey, Member

Other dignitaries present:

1. Sri Anil Garg, Secretary, Irrigation
2. Sri P.K. Agarwal, CEO, UPPCB
3. Sri VK Upadhyay, Director, GWD, Lucknow
4. Dr D.K.Soni, CPCB, Lucknow
5. Sri P.K. Tripathi, Director, CGWB NR Lucknow
6. Sri G.P. Shukla, Chief General Manager, UP Jal Nigam, Lucknow
7. Dr (Ms) Shipra Pandey, Nodal Officer, Health Department

Meeting was held as scheduled.

The Committee reviewed the problem of contamination of ground water due to arsenic and availability of clean drinking water in districts Bahraich, Ballia, Balrampur, Bareilly, Basti, Binjor, Chandauli, Ghazipur, Gonda, Gorakhpur, Lakhimpur Kheri, Meerut , Mirzapur, Muradabad, Rai Bareilly, Sant Kabir Nagar, Shahjahanpur, Siddharthnagar, Sant Ravidas Nagar and Unnao of Uttar Pradesh in the light of directions of Hon'ble NGT vide their order dated 23.08.2019 in **O.A. No. 384 of 2019** in re: *Mrs. Sunita Pandey and anr vs. Union of India and others.*

This matter is going on since 2015. Hon'ble NGT noted the gravity of the situation shown by high arsenic contents in these districts resulting in serious diseases and environmental damage. The Ministry of Environment, Government of India found a number of deaths from diseases on account of this problem. The Ministry of Drinking Water and Sanitisation also took cognizance and identified mitigation measures. Ministry of Agriculture also identified steps to be taken. U.P. Jal

Nigam identified 310 hamlets in 179 revenue villages in district Ballia and 165 hamlets in 49 revenue villages in district Lakhimpur Kheri where arsenic content in ground water was in excess of the permissible limit of 0.05 mg/L.

Central Ground Water Board identified 28 districts in UP, where the underground water in wells had exceeded the Maximum Contaminant Level (10 ppb/WHO Standard).

Hindustan Times on 26.11.2015, under the heading "Arsenic contamination on the rise: 1 Lakh dead, 3 Lakh suffering', mentioned that 7.04 crore people were affected by Arsenic related diseases in 12 States and 1 lakh persons have died as per report of a Committee of Secretaries. A Joint Inspection Report of Central Pollution Control Board, MoEF&CC, CWGA and Uttar Pradesh Pollution Control Board was filed before Hon'ble NGT mentioning that Arsenic Removal Units were not functioning properly. Hon'ble NGT directed dismantling of hand pumps in areas where concentration of arsenic was beyond permissible limits. Niti Ayog in June 2018 mentioned that 70% water in India is contaminated and thus, acute water crises is being faced by 600 million people.

An affidavit was filed before Hon'ble NGT jointly by the Ministry of Drinking Water & Sanitisation and the Ministry of Water Resources on 30.03.2019 mentioning that 1.3 crore population in India was affected by this problem in seven States including Uttar Pradesh. The affidavit mentioned that though water supply was responsibility of the State Government, yet the Central Government was providing financial and technical assistance. National Rural Drinking Water Programme (NRDWP) is a centrally sponsored scheme under which the State Governments can take up this remediation. Further programme viz National Water Quality Sub Mission (NWQSM) was launched to provide safe drinking water. Hon'ble NGT felt that these efforts were inadequate. Hon'ble NGT expected that standards be laid and progress be monitored against those standards. Another affidavit was filed by Ministry of Jal Shakti before Hon'ble NGT on 22.08.2019, in which it was reiterated that drinking

water was a State subject and the Central Government was providing technical and financial assistance through schemes like NRDWP and NWQSM. 27544 arsenic/fluoride affected rural habitations including 260 habitations from Uttar Pradesh had been taken up under NWQSM. Still certain habitations were left out. They would be covered under NRDWP. Ministry of Jal Shakti informed that number of arsenic affected habitations in Uttar Pradesh were 707 in number on 25.03.2019. It was mentioned that Ministry of Housing does not provide any strategic funding for obtaining mitigation nor does it maintain any data. However, water quality problems including arsenic can be taken up under their Amrut Scheme. It was mentioned that Department of Science and Technology conducted some research in the field of arsenic mitigation. Ministry of Health has also issued certain guidelines for management of Arsenicosis. Hon'ble NGT while reviewing all these aspects on 23.08.2019 felt that existing plan of action needs to be relooked and timelines need to be reduced to enable immediate supply of drinking water so that the access to potable drinking water, which is part of 'Right to Life' under the Indian Constitution, is enforced.

The Oversight Committee reviewed the progress of the steps taken by the State Government in the light of Hon'ble NGT's order dated 23.08.2019.

Chief General Manager, UP Jal Nigam Shri GP Shukla mentioned that on 25.03.2019, there were 707 habitations in the State, which were affected by arsenic. Out of these 707 habitations, 313 habitations have been covered in the last financial year by pipe-water supply leaving a balance of 344 arsenic affected habitations on 31.03.2020. Till today, out of these 344 habitations, 180 habitations have been covered by pipe-water supply leaving a balance of 164 habitations. 44 habitations would be complete by December, 2020 through on-going pipe water supply scheme. In the balance 120 habitations the State Government has proposed to establish Arsenic Removal Units. Tender process is already complete and work would be

completed by December, 2020. All these habitations have been taken up under NWQSM scheme and Jal Jeewan Scheme of Government of India.

The Committee directed the Central Ground Water Authority, CPCB and UPPCB to draw samples in all these areas in next two months to verify quality of water in areas where Jal Nigam has completed the task. The UPPCB will coordinate with other agencies and provide a list of habitations to the Committee with allocation of each agency for checking water quality.

Health Department was directed to conduct health surveys in these areas to find out the impact of arsenic poisoning in the affected habitations. Nodal Officer, Health Department mentioned that because of COVID-19, all the teams are busy for survey and tackling of COVID-19. She informed that prior to the onset of Covid pandemic, health surveys were conducted. She submitted that Health Department would send a report regarding health camps and testings which took place before the onset of COVID-19 and also try to organize health camps in near future.

The Committee expressed dissatisfaction at the absence of the representatives of Namami Gange, Rural Development and Panchayati Raj departments and requests that their Principal Secretaries may join the meeting of Oversight Committee, NGT, UP Lucknow on 10.07.2020 at 11.00 a.m through video-conferencing for a discussion on this issue.

(Dr Anup Chandra Pandey)
Member, Oversight Committee

(Justice SVS Rathore)
Chairman, Oversight Committee

July 08, 2020

Please visit our website: ***oscngt.upsdc.gov.in*** for more information.

ANNEXURE- 8

Telegrame : Jal Nigam

Telephone : 0522—4016519

Mob : 9473943005

Uttar Pradesh Jal Nigam

Head Office, 6- Rana Pratap Marg, Lucknow — 226001

Letter No. 566/2042-NGT(OA 384/19)/20 Dated :- 06.07.2020

To

Shri L.N. Soni
PPS to Hon'ble Chairman
Oversight Committee
NGT, UP, Lucknow.

Sub:- OA No. 384/2019 (earlier OA no 156 of 2015) Vs Mrs Sunita Pandey and Anr V/s Union of India & Ors regarding problem of contamination of groundwater due to Arsenic and availability of Ground Water – regarding.

Sir,

Kindly refer to your letter no. E-mail for the meeting of oversight committee NGT, UP Lucknow scheduled on 08.07.2020. The status of coverage /progress for arsenic affected habitations is as under:-

1. As on 1st April, 2020 344 nos.arsenic affected habitations were remaining to be covered with pipe water supply. During April, 2020 to June, 2020, 180 nos. habitations have been benefitted with pipe water supply. Thus presently 164 nos. habitations remain to be covered with potable water supply.
2. For remaining 164 nos. habitations, 89 nos. habitations are included in ongoing PWS as long term measure. Further 120 habitations are proposed to be covered by CWPP as interim measure. The project for installation of CWPP has been approved and tender process is in progress. PWS are being planned for coverage of (164-89) 75 habitation as long term measure.
3. Potable water supply is being provided in Arsenic affected area under Jal Jeevan Mission, a centrally sponsored programme.
4. Presently 28.95 lakh Hand pumps are installed in rural area of the state. Thus community based HP are available for average population of 58 against the norm of 1 HP for every 150 person. Present no scheme is available for installation of Hand Pump.

Annexure- As above.

Yours Faithfully

(G.P. Shukla)
Chief Engineer (Rural)

Copy for information

1- Principal Secretary, Namami Gange and Rural Water Supply Department, Government of Uttar Pradesh.
2- Managing Director, UP Jal Nigam, Lucknow.

Chief Engineer (Rural)

Status arsenic affected habitations

Uttar Pradesh

As on 25.03.2019		As on 25.06.2019		As on 31.03.2020		As on 30.06.2020	
No. of Arsenic affected habitations	Population	No. of Arsenic affected habitations	Population	No. of Arsenic affected habitations	Population	No. of Arsenic affected habitations	Population
707	532507	650	457893	344	293441	164	233647

Coverage plan for remaining arsenic affected habitations

Arsenic	Sep-20	Dec-20	Mar-21	Total
By PWS	20	24	45	89
By CWPP	50	70		120

Chief Engineer (Ru
U.P. Jal Nigam
6, Rana Pratap Marg
Lucknow