പതിനാലാം കേരള നിയമസഭ

ഏഴാം സമ്മേളനം

നക്ഷത്രചിഹ്നമിടാത്ത ചോദ്യം നമ്പർ: 914 — 09/8/2017 -ലെ മറുപടി

കുടിവെള്ളത്തിൽ ഫ്ലൂറൈഡ്, ആർസെനിക് എന്നിവയുടെ സാന്നിധ്യം

ചോദ്യം

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മറുപടി

മാത്യു ടി.തോമസ്
(ജലവിഭവ വകുപ്പുമന്ത്രി)

(എ) കേരളത്തിലെ ഏതൊക്കെ ജില്ലയിലെ ഏതൊക്കെ ഗ്രാമങ്ങളിൽ കുടിവെള്ളത്തിൽ ഫ്ലൂറൈഡ്, ആർസെനിക് എന്നിവയുടെ അംശം കണ്ടെത്തുകയുണ്ടായെന്ന് അറിയിക്കാമോ;

(എ) നിലവിൽ സംസ്ഥാനത്ത് പാലക്കാട് ജില്ലയിൽ 33 വാർഡുകളും ഇടുക്കിയിൽ ഒരു വാർഡും ആണ് ഫ്ലൂറൈഡ് ബാധിത വാർഡായി കേന്ദ്രസർക്കാർ രേഖപ്പെടുത്തിയിട്ടുള്ളത്. പ്രസ്തുത വാർഡുകളുടെ പട്ടിക അനുബന്ധം-1 ആയി ചേർത്തിരിക്കുന്നു.

കൂടാതെ ജലനിധി ഒന്നാംഘട്ടത്തിൽ നടപ്പിലാക്കിയതും, രണ്ടാംഘട്ടത്തിൽ നടപ്പിലാക്കിപ്പോരുന്നതുമായ പദ്ധതി ജില്ലകളിലെ സ്കീമുകളുടെ സോഴ്സിൽ നടത്തിയ വാട്ടർ ക്വാളിറ്റി ടെസ്റ്റുകളുടെ അടിസ്ഥാനത്തിൽ ഫ്ലൂറൈഡിന്റെ അംശം കണ്ടെത്തിയ ഗ്രാമങ്ങളുടെ ലിസ്റ്റ് അനുബന്ധം-2 ആയി ചേർക്കുന്നു. കേരളത്തിൽ കുടിവെള്ളത്തിൽ ആർസെനിക്കിന്റെ അംശം കണ്ടെത്തിയിട്ടില്ല.

(ബി) ഇതു സംബന്ധിച്ച് ഏതെങ്കിലും ഏജൻസികൾ പഠനം നടത്തിയിട്ടുണ്ടോ; എങ്കിൽ പ്രസ്തുത പഠന വിവരങ്ങൾ ലഭ്യമാക്കാമോ;

(ബി) കേരള വാട്ടർ അതോറിറ്റി എല്ലാ ജില്ലകളിലും കുടിവെള്ളത്തിന്റെ പരിശോധന നടത്തി വിവിധ ഘടകങ്ങളുടെ അളവ് തിട്ടപ്പെടുത്തി കേന്ദ്രസർക്കാരിന്റെ വെബ് സൈറ്റിൽ (IMIS) പ്രസിദ്ധീകരിക്കാറുണ്ട്. കൂടാതെ, മലിനീകരണ നിയന്ത്രണ ബോർഡ്, CWRDM, ഭൂജലവകുപ്പ് തുടങ്ങിയവയും പരിശോധന നടത്താറുണ്ട്. ജല അതോറിറ്റി ക്വാളിറ്റി കൺട്രോൾ വിഭാഗം കേന്ദ്രസർക്കാരിന്റെ വെബ്സൈറ്റിൽ പ്രസിദ്ധീകരിച്ച ജലഗുണനിലവാര പരിശോധനാ റിപ്പോർട്ടിന്റെ മാതൃക അനുബന്ധം-3 ആയി ചേർത്തിരിക്കുന്നു.

(സി) ഇങ്ങനെ കണ്ടെത്തിയ ഗ്രാമങ്ങൾക്കു വേണ്ടി കേന്ദ്ര പദ്ധതികൾ ഏതെങ്കിലും ഉള്ളതായി അറിയാമോ; അതിന്റെ വിശദാംശങ്ങൾ ലഭ്യമാക്കാമോ;

(സി) ഫ്ലൂറൈഡ് ബാധിത വാർഡുകളിലേക്ക് 8 മുതൽ 10 ലിറ്റർ വരെ പ്രതിശീർഷ ശുദ്ധ ജലലഭ്യത താൽക്കാലിക അടിസ്ഥാനത്തിൽ ഉറപ്പാക്കുവാൻ വേണ്ടി നീതി ആയോഗ് 19.73 കോടി രൂപ കേരളത്തിനായി നൽകിയിട്ടുണ്ട്. ഈ ഫണ്ട് ഉപയോഗിച്ച് സാമൂഹ്യ ജലശുദ്ധീകരണ സംവിധാനങ്ങൾ സ്ഥാപിക്കാവുന്നതാണ്. ഇതിന്റെ അടിസ്ഥാനത്തിൽ തിരുവനന്തപുരം, ആലപ്പുഴ, പാലക്കാട് ജില്ലകളിലെ ഫ്ലൂറൈഡ് ബാധിത വാർഡുകളിലേക്ക് പൈപ്പ് ലൈനുകൾ ദീർഘിപ്പിച്ചും റിവേർസ് ഒസ്മോസിസ് പ്ലാന്റുകൾ സ്ഥാപിച്ചും ശുദ്ധ ജലം ലഭ്യമാക്കുവാൻ 16.29 കോടി രൂപയുടെ പ്രൊപ്പോസലുകൾ അംഗീകരിച്ചിട്ടുണ്ട്. കൂടാതെ ഫ്ലൂറൈഡ് ബാധിത വാർഡുകളിൽ 2020-ഓടു കൂടി പുതിയ കുടിവെള്ള പദ്ധതികൾ നടപ്പിലാക്കി ശുദ്ധ ജലം ലഭ്യമാക്കുവാൻ പ്രത്യേക ദേശീയ ജല ഗ്രണനിലവാര ഉപപദ്ധതിയും പ്രഖ്യാപിച്ചിട്ടുണ്ട്.

(ഡി) അങ്ങനെയുള്ള ഗ്രാമങ്ങളിൽ കുടിവെള്ളം എത്തിക്കുവാനായി പ്രത്യേക ദേശീയ ജല ഗ്രണനിലവാര ഉപപദ്ധതിയിൽ ഉൾപ്പെടുത്തി എന്തെങ്കിലും പദ്ധതികൾ തയ്യാറാക്കി സമർപ്പിക്കുകയുണ്ടായോ; ഈ പദ്ധതി സംബന്ധിച്ച കൂടുതൽ വിവരങ്ങൾ നൽകാമോ; ഇതിനായി എന്തെങ്കിലും നിർദേശങ്ങൾ കേന്ദ്രസർക്കാരിൽ നിന്ന് ലഭ്യമായിട്ടുണ്ടോ; ഉണ്ടെങ്കിൽ അതിന്റെ കോപ്പി ലഭ്യമാക്കാമോ?

(ഡി) ഫ്ലൂറൈഡ് ബാധിത വാർഡിലേക്ക് കുടിവെള്ളം എത്തിക്കുവാൻ ആവശ്യമായ ചിലവിന്റെ അൻപത് ശതമാനം മാത്രമേ കേന്ദ്ര സർക്കാർ വഹിക്കുകയുള്ളൂ . ബാക്കി അൻപത് ശതമാനവും കൂടാതെ പദ്ധതിയിൽ ഉൾപ്പെട്ട ഫ്ലൂറൈഡ് ബാധിതമല്ലാത്ത വാർഡുകളിലേക്ക് കുടിവെള്ളം എത്തിക്കുന്നതിന്റെ മുഴുവൻ ചെലവും സംസ്ഥാന സർക്കാർ വഹിക്കേണ്ടതാണ്. ഫ്ലൂറൈഡ് ബാധിത വാർഡുകൾക്കു മാത്രമായി ശുദ്ധ ജലം എത്തിയ്ക്കുന്നതിന് പദ്ധതി തയ്യാറാക്കാൻ കഴിയില്ല. ഇത്തരത്തിൽ 19 പഞ്ചായത്തുകളിലായി വ്യാപിച്ചുകിടക്കുന്ന 34 വാർഡുകളിൽ സമഗ്രപദ്ധതികൾ നടപ്പാക്കാനായി കോടി കണക്കിന് രൂപയുടെ ബാധ്യത സംസ്ഥാന സർക്കാർ വഹിക്കേണ്ടിവരും. ഈ പദ്ധതിയുടെ മാർഗരേഖ അനുബന്ധം-4 ആയി ചേർത്തിരിക്കുന്നു.

സെക്ഷൻ ഓഫീസർ

അനുബന്ധം നം. 1

List of flouride affected habitations as on 31 07 2017 as per the status on GoI website

S no	District	Block	Panchayat	Village	Habitation
1	PALAKKAD	ALATHUR	KIZHAKKENCHERRY	KIZHAKKENCHERI-II	KALAVAPPADAM
2	PALAKKAD	ALATHUR	KIZHAKKENCHERRY	KIZHAKKENCHERI-II	ODAMTHODU
3	PALAKKAD	ALATHUR	KIZHAKKENCHERRY	KIZHAKKENCHERI-II	THEKKUKALLA
4	PALAKKAD	ALATHUR	VADAKKENCHERRY	VADAKKANCHERI-II	MALAPURAM
5	PALAKKAD	ATTAPPADY	AGALY	AGALI	AGALY
6	PALAKKAD	ATTAPPADY	AGALY	AGALI	KAVUNDIKAL
7	PALAKKAD	ATTAPPADY	AGALY	AGALI	NARASIMUKKU
8	PALAKKAD	ATTAPPADY	AGALY	AGALI	THAVALAM
9	PALAKKAD	ATTAPPADY	AGALY	AGALI	VADAKOTTUTHARA
10	PALAKKAD	ATTAPPADY	AGALY	KALLAMALA	KALLAMALA
11	PALAKKAD	ATTAPPADY	PUDUR	PADAVAYAL	PALOOR
12	PALAKKAD	KOLLAMKODE	PERUVEMBA	PERUVEMBA	KUNNAKKAD
13	PALAKKAD	KOLLAMKODE	PERUVEMBA	PERUVEMBA	PANAMKUTTY
14	PALAKKAD	KUZHALMANNAM	THENKURUSSI	THENKURISSI-II	EDAPPARAMBU
15	PALAKKAD	MALAMPUZHA	ELAPPULLY	ELAPPULLY-I	ADUPPUKULAM
16	PALAKKAD	MALAMPUZHA	ELAPPULLY	ELAPPULLY-I	POZHIYAMVAKU(P)
17	PALAKKAD	MALAMPUZHA	ELAPPULLY	ELAPPULLY-II	KOVILPALAYAM
18	PALAKKAD	MALAMPUZHA	ELAPPULLY	ELAPPULLY-II	KUTTIYAMVAKU(P)
19	PALAKKAD	MALAMPUZHA	ELAPPULLY	ELAPPULLY-II	OKAPPALLAM(P)
20	PALAKKAD	MALAMPUZHA	MALAMPUZHA	MALAMPUZHA-II	KUNUPPULLY
21	PALAKKAD	MANNARKKAD	KARIMBA	KARIMBA -I	EDAKURUSSY
22	PALAKKAD	NENMARA	ELEVANCHERY	ELAVANCHERRY	PERUMBUKAZHA
23	PALAKKAD	NENMARA	MELARCODE	MELARCODE	KATHAMPOTTA
24	PALAKKAD	NENMARA	PALLASSENA	PALLASSANA	MARIKULAMBU
25	PALAKKAD	NENMARA	PALLASSENA	PALLASSANA	VADAKKETHARA
26	PALAKKAD	PALAKKAD	KERALASSERI	KERALASSERY	VADASSERY
27	PALAKKAD	PALAKKAD	MUNDUR	MUNDUR-II	EZHAKKADU
28	PALAKKAD	PALAKKAD	MUNDUR	MUNDUR-II	KANJIKULAM
29	PALAKKAD	PALAKKAD	PARALI	PARLI-II	ODANUR
30	PALAKKAD	PATTAMBI	KOPPAM	KOPPAM	ERAYOOR
31	PALAKKAD	SREEKRISHNAPURAM	TRIKKADERERY	THRIKKADEERI -II	KIZHUR
32	PALAKKAD	SREEKRISHNAPURAM	TRIKKADERERY	THRIKKADEERI-I	MANGOD
33	PALAKKAD	THRITHALA	CHALISSERY	CHALISSERY	KAVUKKOD
34	IDUKKI	KATTAPPANA	UPPUTHARA	UPPUTHARA	WARD14-KAITHAPPATHAL

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അനുബന്ധം 2

District	Name of GP where presence of fluoride was found
Phase – I Jalanidhi (Tested using field test kits)	
Kozhikode	Karassery
	Kavilumpara
	Koduvally
	Madavoor
	Puthuppadi
	Changroth
	chengottukavu
	Kadalundi
	Kayakkody
	Kizhakoth
	Koothaly
	Kunnumel
	Maruthamkara
	Narikkunni
	Nochad
	Omassery
	Panangad
	Puthuppadi
	Tuneri
	Madavoor
Malappuram	Pulpatta
	Chaliyar
	Cherukavu
	Chungathara
	Edakkara
	Edarikkode
	Edavanna
	Edayur
	Kalikavu
	Keezhparambu
	Kuruva
	Kuzhimanna
	Mangalam
	Moothedam
	Peruvallur
	Pothukal
	Pulikkal
	Pulpatta
	Tanalur
	Vallikunnu
	Vettom

Palakkad	Agali
	Ayilur
	Kollengode
	Kongad
	Muthalamada
	Nalleppilly
	Pattancherry
	Pirayiri
	Pudur
	Sholayur
	Tarur
Thrissur	Chelakkara
	Erumapetty
	Kadangode
	Mundathicode
	Pariyaram
	Punnayoorkulam
	Thiruvilwamala
Pathanamthitta	Kodumon
Phase-II Jalanidhi (Tested in KWA Labs)	
Palakkad	Elavancherry
	Pallassana
	Koduvayur
Malappuram	Urangattiri

അനുബന്ധം. 3

Target Coverage Contamination wise - Google Chrome

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MINISTRY OF DRINKING WATER & SANITATION

National Rural Drinking Water Programme

Select Language

Format C15 - Fluoride Affected Habitations as on(01/04/2017)

S. no.	State	District	Divison	Block	Panchayat	Village	Habitation	HabitationId	Contamination
1	KERALA	PALAKKAD		ALATHUR	KIZHAKKENCHERRY	KIZHAKKENCHERI-II	[illegible]	0000421450	Fluoride (Level: 1.600 mg/l) Iron (Level: 1.100 mg/l)
2	KERALA	PALAKKAD		ALATHUR	KIZHAKKENCHERRY	KIZHAKKENCHERI-II	[illegible]	0000421448	Fluoride (Level: 1.600 mg/l) Iron (Level: 1.470 mg/l)
3	KERALA	PALAKKAD		ALATHUR	KIZHAKKENCHERRY	KIZHAKKENCHERI-II	[illegible]	0000421445	Fluoride (Level: 1.500 mg/l) Iron (Level: 1.470 mg/l)
4	KERALA	PALAKKAD		ALATHUR	VADAKKENCHERRY	VADAKKANCHERI-II	[illegible]	0000421352	Fluoride (Level: 2.670 mg/l)

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Annexure - 4

National Water Quality Sub-Mission Guidelines to provide safe drinking water in remaining Arsenic and Fluoride affected habitations in rural India on mission mode

A. Preamble:

About 76 percent of rural habitations in India have achieved a fully covered (FC) status, under the National Rural Drinking Water Program, with basic minimum service level of 40liters per capita daily(lpcd), but this coverage is primarily through hand-pumps and does not necessarily translate into sustainable and good quality service delivery. Around 70,000 habitations are suffering from problems of water quality and only 54 percent of the 170 million plus rural households have access to tap water. The major physio-chemical pollutants include Arsenic, Fluoride, Iron, Salinity and Nitrate, with critical being Arsenic and Fluoride since they pose immediate health hazard compared to the others. A state-wise list of habitations affected by Arsenic and Fluoride is given below:

Table 1: States affected by Fluoride and Arsenic contamination as per MIS of Ministry as on *18th August 2016*

S. No.	Name of the State	Arsenic (>0.01 mg/L)		Fluoride (>1.5 mg/L)	
		Habitations	Population	Habitations	Populations
1	ANDHRA PRADESH	-	-	419	2,92,899
2	ASSAM	3,226	12,94,077	147	67,272
3	BIHAR	1,049	16,61,190	994	12,50,976
4	CHATTISGARH	-	-	72	25,656
5	HARYANA	45	1,42,944	196	4,96,238
6	JHARKHAND	128	1,20,443	980	5,06,801
7	KARNATAKA	15	33,755	951	5,20,493
8	KERALA	-	-	35	84,320
9	MADHYA PRADESH	-	-	87	39,814
10	MAHARASHTRA	-	-	51	1,27,730
11	ODISHA	-	-	62	21,609
12	PUNJAB	492	5,96,632	285	3,39,117
13	RAJASTHAN	-	-	5,432	36,74,810
14	TELANGANA	-	-	972	13,32,480
15	UTTAR PRADESH	225	2,91,212	162	2,78,738
16	WEST BENGAL	6,765	93,40,063	860	5,40,961
	Total	11,945	134,80,316	11,705	95,99,914

*** However the Number of habitations shown above is subject to verification, if felt necessary.**

Arsenic is a carcinogenic element and is associated with skin, lung, bladder, kidney, and liver cancer. Dermatological, developmental, neurological, respiratory, cardiovascular, immunological, and endocrine effects are also evident.

Fluorosis, a public health problem, is caused by excess intake of fluorides through drinking water/food products/industrial pollutants, over a prolonged period. It causes

severe health related disorders such as dental fluorosis, skeletal fluorosis and non-skeletal fluorosis besides inducing ageing.

These harmful effects, being permanent and irreversible in nature, are detrimental to the health of an individual and the community, which in turn have an impact on growth, development, economy and human resource development of the country.

To address the issue of last mile coverage and eliminate problems of Arsenic and Fluoride in all the habitations, Ministry of Drinking Water and Sanitation proposes a program focused on Arsenic and Fluoride. This programme aims to take India one step closer towards international standards of Water Quality by the year 2020.

B. Defining standard drinking water quality:

Bureau of Indian Standards has set specifications in its IS-10500-2012 standards for drinking water. However, this standard is only voluntary in nature and not legally supported for enforcement. This standard has two limits.

- Desirable limits
- Maximum permissible or cause for rejection limits

If any parameter exceeds the cause for rejection limit, that water is considered as contaminated. Broadly speaking, water is defined as contaminated if it is biologically contaminated (presence of microscopic organisms such as algae, zoo-plankton, flagellates, E-coli etc) or chemical contamination exceeds permissible limits (e.g. excess fluoride [>1.5mg/l], salinity i.e., Total Dissolved Solids (TDS) [>2,000mg/l], dissolved iron [>0.3mg/l], arsenic [>0.01mg/l], nitrates [>45mg/l] etc.)

In rural areas, more than 85% of drinking water sources are ground water based and in the short-term, chemical constituents in groundwater do not change much, therefore testing once in a year for chemical contaminants is adequate. Testing for bacteriological contamination is recommended 4 times a year, once in every season. However, every year it should be carried out at least twice i.e. during pre-monsoon and post-monsoon seasons.

C. Existing funding under NRDWP to tackle drinking water quality problems:

Up to 67% fund allocated to the States can be utilized for coverage of water quality affected habitations and for tackling water quality problems in rural areas of the country. Further, 5% of NRDWP funds are also earmarked and allocated to Japanese Encephalitis/Acute Encephalitis Syndrome (JE/AEs) affected high priority districts and chemical contamination. In addition to this, Government of India provides 3% NRDWP funds to States for water quality monitoring and surveillance, which inter alia include taking up works relating to setting up of new up-gradation of districts/sub district water quality testing laboratories, providing chemicals and consumables to laboratories, providing field test kits/refills to Gram Panchayats etc. Further, up to 10% of NRDWP funds allocated to States could be utilized for sustainability of drinking water sources through artificial recharge of ground water and other methods, which inter alia may also dilute the level of contamination in aquifers.

D. Steps taken so far / short term measures for tackling drinking water contamination:

1. The Ministry has prepared a Strategy Plan to provide safe drinking water to 90% of the rural population of the country preferably through surface water based piped water supply schemes by the year 2022 as a long-term sustainable solution, subject to availability of funds.

2. The Ministry has encouraged all the States to commission surface water based piped water supply schemes in all water quality affected habitations as a long term sustainable solution.

3. All States have been advised to install community water purification plants in reported arsenic and fluoride affected habitations by March 2017, as this is quicker compared to installation of piped water supply schemes. This is being done as a short term immediate measure for providing 8-10 lpcd (litre per capita per day) of safe water for drinking and cooking purpose only.

4. Since the allocation of the Ministry was reduced during 2015-16, NITI Aayog has released Rs 1000 crore as a one-time Central assistance for this purpose which also includes funds for last mile connectivity of piped water supply schemes in Rajasthan and West Bengal which are most affected by fluoride and arsenic contamination in drinking water respectively.

E. Why a National Water Quality Sub-Mission?

The proposed program warrants a National Water Quality Sub-Mission to be completed on mission mode before March 2020 due to:

1. Criticality and urgency of the matter
2. Requirement of significant increase in operational efficiency
3. Requirement of additional funds, robust monitoring and surveillance of those
4. Requirement of special technology, manpower and strategy to achieve the goal

F. Goal:

To cover all the arsenic & fluoride affected habitations with safe & potable drinking water.

(A) The water quality sub-mission will have three phases namely:

1. Diagnostic phase: To correctly determine the action plan based on most recent and authentic data
2. Implementation phase: Roll-out of area specific schemes as per guidelines
3. Sustain phase: To ensure that schemes are running successfully with adequate monitoring and surveillance

(B) Three types of schemes States can take up to provide safe and potable drinking water:

1. Surface water based piped water supply scheme
2. Safe ground water based piped water supply scheme and
3. Ground water with treatment technology based scheme / Community Water Purification Plants (CWPPs)

(C) Minimum Service Delivery must be ensured under National Water Quality Sub-Mission:

1. Surface water based piped water supply scheme : 40 LPCD
2. Safe ground water based piped water supply scheme : 40 LPCD and
3. Ground water with treatment technology based scheme / Community Water Purification Plants (CWPPs) : 8- 10 LPCD

G. Steps to roll out the project:

1. A clear action plan, not more than two pages, will be submitted by all states to Ministry of Drinking Water and Sanitation by 15th July, 2017. The action plan will contain unambiguous timelines, proposed schemes and corresponding village coverage, scheme wise funding requirements, potential sources of funding and tasks to be executed over the course of next four years to ensure safe and potable drinking water in around 28,000 Arsenic / Fluoride affected habitations.
2. **Identification of habitations:** As per the information provided by the States into IMIS of the Ministry (Freezed data as on 18th August, 2016 –IMIS Format F-10) habitations affected with arsenic / fluoride will be considered under this project. The habitations will be geo-tagged for all future uses. The geo-tagged location will be accessible on the 'Mobile Application', Integrated Management Information System (IMIS) for real time monitoring.

Priorities may be as below:-

(a) Habitations not covered by any other existing / ongoing long term programme of central or state government.
(b) Habitations having higher degree of contamination according to IMIS data

3. **Identification of Source:** State has to identify, geo-tag and select the source on the basis of following parameters

(a) Source / Aquifer must be sustainable in nature.
(b) Source (Surface / Sub Surface) must be the most economically feasible (least lifecycle cost) option which has the ability to provide clean drinking water in perpetuity.

4. **Quality testing of source:** States have to follow the Uniform Drinking Water Quality Monitoring Protocol published and widely distributed by the Ministry of Drinking Water and Sanitation.
5. **Preparation of Schemes / Process of implementation:** On the basis of identification of habitation and source, State has to prepare a proposal.

➢ **Mandatory Requirements:** All mega schemes, shall be commissioned within a span of 36 months from the date of award of work.

(A) Surface water based piped water supply scheme:

i. The State Level Scheme Sanctioning Committee (SLSSC) approval for the schemes proposed for funding.
ii. Detailed phase wise program along with timelines.
iii. All the mega water-supply schemes should have recycling / reuse of filter bed washed water in Water Treatment Plants (WTP).

iv. The schemes should have sufficient capacity / number of chlorination plants including online booster chlorination plants so that end user should get purified safe water.

v. All the mega water supply schemes shall have dedicated Three Phase power supply source supply.

vi. All Water Treatment Plants (WTP's) of mega water supply schemes shall necessarily have a basic level water quality testing laboratory.

vii. The schemes should have the provision for bulk water meter before storage tank at Gram Panchayat / Habitation.

viii. The State commitment for State matching share corresponding to release of Central share for Arsenic and Fluoride affected habitations and entire share corresponding to en-route non-arsenic/ non-fluoride affected habitations, towns/city and industries.

ix. Scheme wise details (Scheme wise details should be uploaded online in National Water Quality Sub-Mission portal, user id and password is same as IMIS).
   - Name of the Scheme:
   - Total No. of habitations as per IMIS :
   - No. of Arsenic affected habitations as per IMIS (F-18) :
   - No. of Fluoride affected habitations as per IMIS (F-18) :
   - Total Population as per IMIS :
   - Arsenic affected population as per IMIS (F-18):
   - Fluoride affected population as per IMIS (F-18).
   - Per capita cost of the project / Scheme :
   - service level (LPCD) :

x. Confirmation about arsenic / fluoride affected habitations as per IMIS (F-18 format as freezed on 18th August, 2016).

xi. Source Sustainability: Permission for water extraction from concerned authorities with the proposal.

(B) Safe ground water based piped water supply scheme :

i. The State Level Scheme Sanctioning Committee (SLSSC) approval for the schemes proposed for funding.

ii. Data led phase wise and time bound plan.

iii. The State commitment for State matching share corresponding to release of Central share for Arsenic and Fluoride affected habitations and entire share corresponding to en-route non-arsenic/ non-fluoride affected habitations, towns/city and industries.

iv. The State must take up water conservation measures in convergence with other programmes like MGNREGA, IWMP, RKVY, PMKSY and other state water conservation programmes etc in these habitations and ensure that ground water is sufficiently recharged. This will take care of sustainability of the scheme

v. Scheme wise details (Scheme wise should be uploaded online in National Water Quality Sub-Mission portal, user id and password is same as IMIS).
   - Name of the Scheme:
   - Total No. of habitations as per IMIS :
   - No. of Arsenic affected habitations as per IMIS (F-18) :
   - No. of Fluoride affected habitations as per IMIS (F-18) :
   - Total Population as per IMIS :
   - Arsenic affected population as per IMIS (F-18):

3. Fluoride affected population as per IMIS (F-13):
4. Per capita cost of the project / Scheme :
5. Service level (LPCD) :

vi. Confirmation about arsenic / fluoride affected habitations as per IMIS (F-13 format as freezed on 18th August, 2016).

vii. Ground Water Sources:

(a) Certification from State Remote Sensing Application Center / National Remote Sensing Centre (NRSC) regarding sustainable yield

(b) Test report on water quality from the district water quality testing laboratory.

(c) Large scale use of Hydro Geo Morphological Maps can be thought of

(C) Ground water with treatment technology based scheme/ Community Water Purification Plants (CWPPs):

i. The State Level Scheme Sanctioning Committee (SLSSC) approval for the schemes proposed for funding.

ii Detailed phase wise and time bound plan.

iii. The capacity of the plant should be such that it should provide atleast 8-10 lpcd (meant for drinking and cooking purpose) of safe drinking water to the habitation.

iv. The State shall tender out the project to private developer through a transparent process duly examining suitability of technology for removal / reduction of specific contamination and take up 10 years O&M responsibility by the private developer.

v. The technology options to treat specific contaminations are left to the States to decide. However, the technologies should necessarily be vetted by the reputed organization such as CSIR Laboratory like NEERI -Nagpur, CSMCRI-Bhavnagar, BARC-Mumbai, Bureau of Indian Standards, High Level Technical Committee constituted by Ministry of Drinking Water and Sanitation, IITs and other national level reputed institutions dealing with drinking water quality.

vi. The private developer will be allowed to charge 10 paise per litre for the year 1 to 3, 20 paise per litre for 4th to 6th year and 30 paise per litre for years 7-10 years to meet O&M costs (electricity charges, care taking, membrane replacement, etc.). He will retain these collections with himself in order to meet O&M costs.

vii. The States to ensure that, Gram Panchayats to own up the plants and willing to pay the water charges.

viii. Contractor deployed / selected shall take up O&M from day-1 of the date of commissioning including trial run period and will be continued for 10 years.

ix. Bank guarantee shall be given by the contractor for 100 % capital cost to be valid for 2 years period to ensure Contractor does not run away and that the plant functions satisfactorily for the designated 10 years O&M period including trail run period.

x. In over exploited blocks opinion about yield from State Ground Water Board / Agency must be obtained.

xi. The State must take up water conservation measures in convergence with other programmes like MGNREGA, IWMP, RKVY, PMKSY and other state water conservation programmes etc in these habitations and ensure that ground water is sufficiently recharged. This will take care of sustainability of the scheme.

vii. During 2016-17, Government of India has released Rs. 500 Crore for installation of Community Water Purification Plants (CWPPs) in arsenic and fluoride affected habitations. Hence there shall be no duplication of habitations while proposing CWPPs under National Water Quality Sub-Mission. If in any case, relaxation has to be provided for one more CWPPs, proper justification in that case shall be provided.

✓ Advisory :

a. It is advised to use renewable energy like Solar power / solar panels / solar light, wherever necessary and required to minimize the O&M cost and to the use of electricity.
b. It is advised to have Supervisory Control and Data Acquisition (SCADA) system for real time monitoring in all mega schemes may be exploded.
c. It is advised to have sufficient number of flow meters in the scheme.
d. It is advisable that, the schemes should be designed so that, it makes minimum energy consumption.
e. It is advised to have necessary provision for extension in future.
f. It is advised to have a suitable water tariff plan, if not existing already.

6. Submission of proposals to Ministry of Drinking Water and Sanitation:

(a) Scheme wise details should be uploaded online in National Water Quality Sub-Mission portal, user id and password is same as IMIS.
(b) The scheme proposals should be submitted with all required supporting documents as per 6-5 above.

E. Apex Committee:

States have to submit the proposals approved by State Level Scheme Sanction Committee (SLSSC) to the Ministry for appraisal of the project by the Apex Committee.

Details of Apex Committee member are as below:

S.No.	Committee	
1.	Secretary, Ministry of Drinking Water and Sanitation.	Chairperson
2.	Financial Adviser, Ministry of Drinking Water and Sanitation.	Member
3.	Joint Secretary (Water), Ministry of Drinking Water and Sanitation.	Member
4.	Representative from NITI Aayog.	Member
5.	Representative from Department of Expenditure	Member
6.	Representative from Ministry of Statistical and Programme Implementation.	Member
7.	Representative from Ministry of Health and Family Welfare.	Member
8.	Director (Water), Ministry of Drinking Water and Sanitation.	Member
9.	Deputy Adviser (WQ), Ministry of Drinking Water and Sanitation.	Convenor

1. Monitoring and Surveillance:

➢ Institutional Arrangement in States

For implementation of the program in mission mode, every state will appoint a 'State sub-mission coordinator' at the level of Chief Engineer, who will be accountable for the following:

- Planning, preparation and fund management of state level program
- Timely implementation of the program at state level
- Ensuring continuous monitoring, surveillance, timely data collection, updation on online system and analysis
- Ensuring technical, financial and overall sustainability of the program at the state level.

➢ Institutional Arrangement at Centre

For implementation of the program in mission mode at Centre, Ministry of Drinking Water and Sanitation will appoint the 'Deputy Advisor – Water Quality' as the 'National sub-mission coordinator / Project Director', who will be accountable for the following:

- Timely coordination with States
- Timely implementation of the program
- Continuous Monitoring, Surveillance, Data Collection and analysis of the program at Central level
- Ensuring technical, financial and overall sustainability of the program at the national level

1. Deputy Adviser (WQ) will head the National Programme Monitoring Unit (NPMU) assisted by two Assistant Adviser. Services of Additional Adviser and other technical consultants of the Ministry will be taken by NPMU for technical scrutiny / examination of Detailed Project Reports (DPRs). The NPMU will be headed by the National sub-mission coordinator / Project Director who will report to the Joint Secretary / Secretary of the MoDWS.
2. States have to report regularly on Integrated Management Information System (IMIS) of the Ministry about physical and financial progress.
3. States have to report the Global Positioning System (GPS) co-ordinates of source point and delivery point in IMIS of the Ministry.
4. States have to upload the photographs regularly on mRWS mobile app.
5. This Programme will be monitored by District Development Coordination and Monitoring Committee (DISHA) at district level recently constituted by Ministry of Rural Development under Chairmanship of Member of Parliament (M.P.).
6. All the schemes will have milestone linked funding.
7. All the schemes will have Geo-Tagging facility.

j. Modus Operandi of Implementation:

- Process flow:

1. All states should fill the project proposal into online format at National Water Quality Portal for funding under National Water Quality Sub Mission.

2. As per the guidelines and approval framework of the sub-mission, the soft and related information and supporting documents will be uploaded on the portal for review and appraisal.

- Project planning:

(A) Surface water based piped water supply scheme & Safe ground water based piped water supply scheme:

i. It is the Engineer in Chief / Chief Engineer of the State Government who will be solely responsible for preparing the most techno-economically feasible and cost effective Detailed Project Report (DPR) for both surface and safe ground water based schemes.

ii. While preparing the DPR's the Engineer in Chief / Chief Engineer shall ensure
- the ground level engineers with the help of district administration / Gram Panchayat to take in principle approval of all concerned.

iii. After preparation of DPR's they should be vetted technically by the State technical agency before the same is placed for approval of the State Level Scheme Sanction Committee (SLSSC).

iv. States have to submit the proposals approved by State Level Scheme Sanction Committee (SLSSC) to the Ministry for appraisal of the project by the Apex Committee.

(B) Ground water with treatment technology based scheme / Community Water Purification Plants (CWPPs):

i. It is the Engineer in Chief / Chief Engineer of the State Government who will be solely responsible for selecting the appropriate technology to treat the unsafe ground water.

ii. States have to submit the proposals approved by State Level Scheme Sanction Committee (SLSSC) to the Ministry for appraisal of the project by the Apex Committee.

K. Technical and Administrative Sanctions:

Technical sanction to be accorded by the competent authority in the State. Depending upon technical sanction, administrative sanction to be accorded by the SLSSC. And financial sanction to be accorded by the competent authority in the State and obtain appraisal of the proposal in Apex Committee.

L. Funding Pattern:

Central assistance to any state shall be maximum of Rs. 1500 Crore. Hon'ble state has to submit proposal conforming to mission guidelines by 15th Aug, 2017 to claim the funds available from the Ministry. Thereafter the funds shall be made available to the states on first come first serve basis.

As per the information provided by the States into IMIS of the Ministry (Frozen data as on 18th August, 2016 –IMIS Format F-18) 28,000 habitations affected with arsenic / fluoride will be considered under this project (ongoing as well as new schemes).

(A) Surface Water / Safe Ground Water based piped water supply schemes:-

Funds sharing between Center and State for North-Eastern /Himalayan States shall be 90:10 and for all other States 50:50. These funds will be provided only for arsenic and fluoride affected habitations and the States have to provide 100% matching share corresponding to release of Central Share for Arsenic and Fluoride affected habitations and entire share corresponding to non-NRDWP arsenic / fluoride affected habitations, towns/city and industries.

(B) Ground water with treatment technology based scheme / Community Water Purification Plants (CWPPs):

Funds sharing between Center and State for North-Eastern /Himalayan States shall be 90:10 and for all other States 50:50.

M. Proposed Release of Grants:

On the basis of Apex Committee approval, grants will be released to the States by the Ministry of Drinking Water & Sanitation. Number of installments will be decided by Apex Committee. Second and subsequent installments will based on the performance and submission of requisite physical and financial document to the Ministry.

Total eligible funding under National Water Quality Sub-Mission will be considered as per the formula -- current arsenic/ fluoride affected population as entered into IMIS x 1.3 x per capita cost decided by the Apex Committee. Funds sharing between Center and State for North-Eastern /Himalayan States shall be 90:10 and for all other States 50:50.

* The factor 1.3 is taken into consideration for increase in population over design period of 30 years.

In case of Community Water Purification Plants, every year there will be third party verification. Based on the report funds will be released.

H. Recurring Expenditure:

1. It is advisable that the State shall dovetail [illegible] finance commission grants for undertaking O&M within their jurisdiction.

2. It is the overall responsibility of the concerned State Government to bear the recurring expenditure.

3. It is the responsibility of Gram Panchayat to own-up and take-up operation and maintenance (O&M) within their jurisdiction, while O&M responsibility of all head works including Water Treatment Plants (WTP's) shall be with the State Department / undertaking rural water supply.

4. In case of Community Water Purification Plants, Contractor employed / selected shall take up O&M from day-1 of the date of commissioning including trial run period and will be continued for 10 years. After the O&M period, Gram Panchayat to own-up and take-up operation and maintenance (O&M) of the plants.

O. Information, Education and Communication (IEC) activities:

1. Extensive awareness programs and capacity building on Arsenic and Fluoride should be organized at Gram Panchayat level.

2. To explain the technology / training / methodology and provide hands on to the Scheme implementing Engineers, periodic Workshop should be organized at various reputed institutions.

The program strives to ensure sustainability of water availability in terms of potability, adequacy, convenience, affordability and equity, on a sustainable basis, while also adopting decentralised approach involving States and community organizations.