

NATIONAL DRINKING WATER AND SANITATION COUNCIL

2nd Meeting – 21st February 2012

AGENDA NOTES

1. **Opening Remarks by Hon'ble Minister of RD & DWS**
2. **Consultation, coordination and convergence between various Departments/ Ministries dealing with water and water quality.** Discussion on convergence of action between the Ministry of Drinking Water & Sanitation and related Ministries/ Departments on the issues mentioned:

Ministry of Agriculture

1) Withdrawal of groundwater for irrigation especially in over-exploited blocks and other water stress areas

There is need to create awareness about the finite nature of ground and surface water resources. As has been shown in the Andhra Pradesh Farmer Managed Ground Water Systems programme if farmers are given the necessary awareness and skills to measure and monitor their water resources, community monitoring and self-regulation of water resources, both ground and surface water, becomes a reality. This is needed to ensure sustainability of drinking water supply. This has to be done by investing in awareness generation and capacity building of the Panchayats and communities. **The lessons of the APFMGS may be considered for up scaling in all over-exploited blocks through the schemes of Ministry of Water Resources and Ministry of Agriculture.**

2) Promotion of drip and sprinkler irrigation systems in water stressed areas

Programmes for promotion of micro-irrigation by the Ministry of Agriculture and by State Departments may not have sufficient funds to saturate all eligible land holdings in all blocks in the country. **It may therefore be considered for targeting these programmes on water stressed States, districts and blocks based on groundwater development in those areas.** For instance they could be targeted at the 839 over-exploited, 226 critical and 550 semi-critical blocks in the country.

3) Control of pollution of Pesticides

Repeated exposure even to extremely miniscule amounts of pesticides in drinking water can result in chronic effects like cancer, liver and kidney damage, disorders of the nervous system, damage to the immune system and birth defects. The Government of India has taken steps to ensure the safe use of pesticides. The Insecticide Act, promulgated in 1968 and enforced on 1st August, 1971 envisages regulating the import, manufacture, sale, transport, distribution, and use of insecticides, with a view to prevent risks to human beings or animals, and for matters connected therewith. Currently, there are 165 pesticides registered for use in India. There is a sequential rise in the production and consumption of pesticides in the India during the last three decades.

There is a need to jointly **undertake studies on pesticides in drinking water sources, take measures to educate farmers and regulate use of pesticides so as to protect drinking water sources. Mapping of pesticide pollution hotspots is also needed for enhanced water quality monitoring of drinking water sources.**

Ministry of Water Resources

1) Ensuring surface water allocation for drinking water supply schemes - CWC

As per National Water policy, 2002, drinking water has been given the highest priority from any water body. The States may be requested that their Policies should include comprehensive surface and ground water unitary management approach. The States may also be requested to update the requirements of water use in various sectors bi-annually so as to ensure drinking water security, both in terms of quantity and quality.

States may be advised to review existing water resource allocations for irrigation, drinking water etc. in cases of new demands for improved or augmented drinking water supply in rural and urban areas. Water policy should also provide for reallocation of water resources among competing user groups giving primacy to drinking water supply.

CWC may provide information on water availability and committed use of all major surface water bodies to the State Departments dealing with rural water supply for planning projects

2) Notifying over-exploited blocks in the country by CGWA

As per survey of 2004, out of 5,725 blocks in the country, 839 blocks are over-exploited (15%), 226 blocks are critical (4%) and another 550 blocks fall in semi-critical stage (10%). These figures may further increase with the data surveyed in 2009. It is suggested that the Central Ground Water Authority notify all over exploited Blocks, so as to regulate ground water abstraction in such blocks, other than for public water supply. The overuse of ground water resources is critically affecting the availability of drinking water in such blocks. **The Ministry of DW&S has already written a letter to Chairman, CGWB requesting him to notify withdrawal of groundwater in over-exploited blocks in the country by CGWA. Urgent action is solicited.**

3) Assessment of groundwater development, village-wise instead of block-wise

CGWB maintains records on groundwater development in block, district and state-wise with over all groundwater development in the country. In a State/district/block not all villages will have the same groundwater development. **Therefore CGWB may consider conducting groundwater development assessment in collaboration with State Ground Water Boards on watershed basis and village wise as has been done in Andhra Pradesh.**

4) Sharing of water quality testing laboratories for testing drinking water quality

CGWB has good laboratory facilities in every regional office. **These laboratories may be requested to conduct heavy metals and pesticides testing in drinking water sources and share the information with the State Department dealing with rural water supply.**

5) Sustainability Plans in Over-exploited blocks

States are being guided to prepare Sustainability Plans for all over-exploited blocks in the country for taking up groundwater recharge and water

harvesting structures by converging schemes of MNREGS, NRDWP etc. with technical guidance of CGWB and National Remote Sensing Centre (NRSC). The Plans are to be prepared on a watershed basis using Ground Water Prospects maps prepared for the MDWS by NRSC and other GIS tools and ground-truthing. **Technical assistance from CGWB in training of state and district level PHED engineers and hydrogeologists in preparing and implementing Sustainability Plans may be provided.**

6) Regulation of Groundwater Development

85% of the supply of drinking water is based on ground water sources. Availability of drinking water during lean periods becomes a major issue. One of the major causes is that groundwater is over-extracted for industry and agriculture leading to depletion of drinking water sources. For this regulation of ground and surface water extraction is necessary. It should also be effectively implemented. The States of Andhra Pradesh, Bihar, Goa, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Tamilnadu and West Bengal are among the States to have enacted Ground water Regulation legislation. The **Ministry of Water Resources may like to consider incentivising the other States for enacting Ground Water Development legislation and for its effective enforcement especially in over exploited blocks.**

Ministry of Environment & Forests

1) Primacy to drinking water assessment in activities of Water Quality Assessment Authority and discussion on need for separate Drinking Water Quality Assessment Authority

Under clause-2 of the provisions of the existing “Uniform Protocol on Water Quality Monitoring Order, 2005 notified by the Water Quality Assessment Authority (WQAA), the notification is applicable to all organizations and any other body monitoring surface and ground water quality. However, this Protocol **does not specifically focus on** drinking water quality monitoring. **Parameters** to be monitored, frequency of monitoring, instrumentation requirements, etc. in case of drinking water are **also** slightly different from the raw water monitoring of surface and ground water, subject to pollution.

Therefore, the existing Uniform Protocol on Water Quality Monitoring Order, 2005 may be amended to include monitoring of drinking water sources with respect to the following requirements:

- Specific laboratory requirements at State, district and sub-district drinking water testing laboratories
- Frequency of testing of drinking water sources
- Baseline testing for all parameters as listed in IS-10500 shall be carried out and only parameters of importance shall be monitored once a year for chemical analysis and twice in a year for bacteriological parameters.
- Suggestive list of instrumentation, glassware, equipments, chemicals

The State level Water Quality Review Committee constituted as per the notification of WQAA may also monitor the action taken by the SPCB/CPCB on abatement of pollution of drinking water sources. The action taken report may also be submitted to the State Water and Sanitation Mission periodically under intimation to the Ministry of Drinking Water & Sanitation, Government of India.

2) Protection of Drinking Water Quality

Bureau of Indian Standards has set specifications in its IS-10500 standards for drinking water. This standard has two limits i.e. desirable limits and 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, E-coli as measure of parasites and toxin producing organisms etc) or chemical contamination exceeds permissible limits (e.g. excess fluoride [$>1.5\text{mg/l}$], brackishness [$>2,000\text{mg/l}$], iron [$>1\text{mg/l}$], arsenic [$>0.05\text{mg/l}$], nitrates [$>45\text{mg/l}$] etc.). The IS 10500 drinking water quality standards are voluntary in nature. So far there is no notification to make drinking water quality parameters and standards legally enforceable both for urban and rural areas. The Water Quality Assessment Authority constituted under the EPA 1986 has been mandated to declare the quality parameters for drinking water as also for all water. **The Authority may be requested to initiate action to declare the minimum quality requirements for drinking water in a phased manner after consultation with the concerned Ministry of Drinking Water and Sanitation and the Ministry of Urban Development.**

3) Convergence in water quality monitoring and surveillance programme with CPCB and NRCB, MoEF and State Public Health Engineering Depts.

Specific information on water quality available with CPCB and SPCBs may be provided to Ministry of DW&S and State PHEDs so that drinking water sources can be further checked by the State PHEDs.

4) Revision in collection of Cess from Industries

Schedule-II of the Water (Prevention & Control) of Pollution Cess Act, amended in 2003 provides collection of cess from Industries with rates applicable for one KL of discharge. It may be seen that Cess collected for toxic and non-biodegradable wastes is only 30 paise per KL while treatment of this water (through RO) for drinking purposes will cost Rs 50-60 per KL, which is about 20,000 times costly. The Ministry of Environment and Forests **may like to consider increasing the rate of Cess imposed so as to act as a deterrent and to cover the treatment costs of polluted water.**

Department of Science and Technology

Use of S&T Institutions in R&D for water purification for drinking purposes and improving water use efficiency

- 1) The High Level Technical Committee (HLTC) constituted for the purpose of identifying suggestive technologies of standalone water purification systems may continue to be in place.
- 2) Useful technological interventions like impregnation of silver ions into the terafil filter cakes for 100% disinfection and similar technologies may be taken up by DST so that they could be piloted, evaluated and scaled up in the country so as to provide safe drinking water to rural people.
- 3) DST may be requested to entrust separate evaluations of available treatment technologies for each contaminant like arsenic, fluoride, salinity, iron, nitrates, bacteriological contamination and turbidity on various parameters like effectiveness of technology, capital cost, operational costs, ease of maintenance etc. to suitable agencies and publish the results for the guidance of Rural Water Supply departments of the States.

- 4) Specific R&D projects done by all CSIR laboratories and DST on purification of drinking water may be compiled in a compendium and provided to the Ministry for dissemination to the States
- 5) DST may facilitate Ministry of DW&S in conducting meetings with relevant CSIR laboratories and other agencies assisted by DST for development of technologies for improvement of quantity and quality of drinking water.

6) Use of GIS maps, their sharing and integration

All maps generated on GIS environment (with or without spatial data) may be shared with the Ministry especially regarding water pollution hotspots and areas of severe water stress

Department of Land Reforms

1) Use of Groundwater Prospect maps prepared for MDWS by DoLR

Ministry of DW&S are in possession of HGM maps on 1:50,000 scale which will be useful as a primary tool for location of water recharge and conservation structures. Further work is under way to delineate major and mini watersheds on these maps. DoLR may like to guide State Watershed Departments to use these maps in implementing the IWMP. DoLR may like to provide GIS information available with it to Ministry of DW&S and NRSC for further improvement of the HGM maps.

Convergence for overall water security is also required to be put in place by integration of NRDWP and IWMP schemes since sustainability component of NRDWP is being now implemented based on micro-watershed approach.

2) Recharge of groundwater based drinking water sources i.e handpumps, borewells, open wells in the project areas under watershed development should be included as a priority activity in the Watershed Development projects.

Ministry of Human Resource Development

The Ministry of DW&S has the goal of providing drinking water supply and toilets including separate toilets for girls in all Government rural schools in the country. These are being targeted in the Annual Action Plans drawn up with States.

1) Curriculum on use of safe drinking water and improved sanitation in schools

The initial symptoms of fluorosis are seen in children in the age group of 8-12 years through dental mottling, which is misunderstood as dental problems or problems arising out of eating habits. Diarrhoea and Dysentery are amongst the major killers of children in the country. Full blown Keratosis will lead to cancer due to consumption of excess arsenic in drinking water. **Therefore bringing awareness on water quality related diseases, handwashing and safe water handling habits, environmental and personal hygiene should be included in the curriculum of school children in primary and middle schools while water quality monitoring using simple field test kits, conducting sanitary surveys, etc. should be included in the curriculum of high school children.**

2) All schools are required to provide drinking water and toilet facilities including separate facilities for boys and girls in co-educational institutions. All schools constructed before the year 2007, are taken up as Project objectives of the Total Sanitation Campaign as per actual surveys conducted by the States. MHRD should make suitable provision under the Sarva Shiksha Abhiyan for all remaining school toilet units if any, for having sanitation facilities as per provisions promulgated in the RTE.

3) Since the Ministry provides training for teachers every year, a module on Drinking Water, Sanitation and Hygiene Education may be included to create awareness and knowledge among them so that they are effectively able to impart it to the students.

4) NCERT may be asked to consider inclusion in their curriculum of specific chapters on the benefits of safe drinking water and sanitation.

Ministry of Health and Family Welfare, CPCB

1) Co-ordination of water testing laboratories of Ministry of DW&S with NICD etc.

Co-ordination and convergence issues between MoDWS, CGWB, CPCB, CWC have been described above. **NICD is expected to support the Ministry as National Referral Institute for monitoring and tackling bacteriological contamination of drinking water sources, reducing water and sanitation related disease burden and also suggest the State, district and sub-district water testing laboratories in maintaining minimum adequacy of testing facilities for bacteriological parameters. A protocol/guideline in this regard is to be prepared jointly.**

2) Drinking water and sanitation indicators were a regular part of the Ministry's National Health Survey and the DGFS that included Sanitation indicators. From the current financial year, the Ministry has shifted to conducting Annual Health Surveys in which drinking water and sanitation does not find a mention. Looking to the close relation between Health and Sanitation, it is suggested that drinking water and sanitation facilities should be included in the Annual Health Surveys to be conducted by the MHFW. Convergence of data collection on health indicators like Infant Mortality Rate (IMR), Maternal Mortality Rate (MMR), anemia among children and women, child morbidity and linkages to water and sanitation related illnesses.

3) Convergence of data collection on health indicators like Infant Mortality Rate (IMR), Maternal Mortality Rate (MMR), anemia among children and women, child morbidity and linkages to water and sanitation related illnesses may also be taken up.

4) ASHA Workers (the Accredited Social Health Activist in the community at the GP level) to be provided incentives for their role in Community mobilization on importance of sanitation facilities and health and hygiene education programmes particularly in School and Anganwadis.

5) The Ministry should regularly have the information of areas of water born disease to help priorities activity under NRDWP, TSC & State Rural Water Supply Departments.

Coordinated IEC campaign on use of safe drinking water and sanitation facilities and identification of water quality hotspots

- Instructions may be issued by Min of Health and MDWS to State Health and RWSS Depts to take up joint IEC campaigns at district level to highlight significant of safe drinking water and sanitation in high Polio risk Districts, and in JE/AES affected districts.
- Training should be imparted to Anganwadi workers, ASHA workers and other para-medical staff through modules on drinking water and sanitation.
- Training and IEC activities under TSC, NRDWP, NRHM and ICDS to be linked and coordinated at the district level by District Water and Sanitation Mission and issues of safe drinking water and sanitation, health and nutrition included in all messages.
- Training of Village Water and Sanitation Committee (VWSC) members on health and nutrition issues and their linkage with safe drinking water and sanitation is one of the key issues.

Ministry of Women and Child Development

INTEGRATED CHILD DEVELOPMENT SCHEME (ICDS)

- The Water and Sanitation Support Organisations (WSSOs) set up under NRDWP and TSC and training Centres set up under ICDS and regional Anganwadi workers training centers (RAWTCs) may undertake Joint Training Programmes for functionaries of the Ministry on water and sanitation supply related issues specially the health and hygiene aspects. Inputs on health and hygiene may also be included in the training curriculum for Anganwadi workers.
- Anganwadi worker could work as sanitation motivator under TSC to generate effective demand for sanitation and also earn incentive under TSC
- Inputs on health and hygiene may be included in the training curriculum for Anganwadi workers.
- Anganwadi workers may be asked to help in testing water quality samples using field test kits

Department of Rural Development

(A) MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE SCHEME

- There is need to create awareness for dissemination of information on instructions issued by the Ministry for convergence of TSC with **Mahatma Gandhi National Rural Guarantee Scheme** MNREGS with regard to Individual Household Latrines , School and Anganwadi Toilets and Community Sanitary Complexes. However, convergence between the two programmes should also be considered for Solid and Liquid Waste Management component of TSC
- Inclusion of Construction of Recharge pits and soak pits for borewells may be included as permissible activities under MNREGS

(B) INDIRA AWAAS YOJANA (IAY) :

- Households constructed under **Indira Awas Yojana (IAY)** should be essentially provided toilet under TSC for which instructions are included in the IAY Guidelines. The last installment to the beneficiaries may be released only after ensuring availability of sanitation facilities.

(C) NATIONAL RURAL LIVELIHOOD MISSION

Areas of convergence:

- Under **National Rural Livelihood Mission**, Sanitation may be taken up as a focused activity for Self Help Groups It may consider specific trainings for masonry with attention to construction of toilets in the training programmes.

3. General

Discussion and suggestions on New Policy Approach to Rural Drinking Water and Sanitation in 12th Five Year Plan period.

Any other subject with the permission of the Chair
