

North Regional Consultation for Approach Paper to the 12th Five Year Plan

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Proceedings

Water sources		
Issues	Solutions	Recommendations
<p><i>Destruction of traditional water sources</i> <i>Catchment area degradation; Deforestation, Mining and tunneling for hydel projects</i> <i>Pollution and contamination of groundwater from multiple sources including sewage, industry,</i></p> <p><u>Other issues</u> Natural calamities have affected the availability of water and sources. Changing land use patterns e.g., creation of industrial zones and townships has caused shortages Population explosion has increased demand Virtual water trading through water intensive crops, and changing cropping patterns including the shift from traditional crops to water intensive crops Excessive use of fertilizers and pesticides causes pollution Uncontrolled grazing accelerates soil erosion and compaction that reduces recharge rate The traditional knowledge pool has diminished Centralized water supply systems end up over-using a single source The increasing number of deep borewells makes it difficult to monitor withdrawals. It is easy to allocate water drawn from shallow wells but not from deep tubewells There is an absence of laws on</p>	<p><i>Destruction of traditional water sources</i> Safeguard traditional water sources from damage, pollution or encroachment by mapping their catchment; assess the sources for quantity (seasonal or perennial); discuss in gram sabha to ascertain sources for drinking water; create a movement to protect the sources; create plan for source protection in consultation with local people Determine village drinking water needs – clean water, inadequate quantity, inadequate storage, shortage of groundwater Plan for drinking water Create awareness and sense of ownership among people Execute scheme only after these steps have been achieved Ensure public participation in O&M and involve local institutions like SHGs, CBOs Panchayats should take up all issues related to drinking water, with the help of SHGs Need trained local people to plan, execute and maintain projects so village is self-sufficient They need financial support which can be obtained through NREGA and other government schemes</p> <p><i>Catchment protection</i> Map and demarcate catchments and engage experts from different fields – geology, forests, soil Start soil and water conservation programmes to increase recharge and check</p>	<p><i>Traditional water sources</i> Monitor expenditure and progress Ensure transparency so there is community and government involvement to the satisfaction of local people Decentralize planning and execution. Involve gram sabhas and government in planning; both sides should have the capacity to execute Document the process and activity so it can be used or replicated elsewhere; needs good record keeping and dissemination of information Responsibility should be distributed among the government, GPs and NGO/SHGs or other local groups that will also ensure that the benefits of planning reach all sections Implement a three-tier system Involve the SHGs and other similar groups in planning Revive natural resources such as water, forests and soil Recognize good work done by individuals Government should support good projects Involve prominent people working on water and NRM Create a group that will conduct the planning. This should include 2 people from the gram sabha, people from a local NGO, the government, gram panchayat and village elders Provide them with the means and tools to conduct accurate surveys for drinking water</p>

<p>water use especially controlling abstraction of groundwater</p> <p>Need to protect catchment areas</p> <p>Agencies and the government have done good work but this is localized and has not been replicated elsewhere owing to a poor exchange of information</p> <p>In many places water quality is affected by Arsenic, fluoride, etc., but this can be treated by low cost technology</p> <p>Unequal access to water between upper and lower castes</p> <p>In the Sehgal Foundation's project area only 63 villages have fresh water, while the rest have saline water. They have executed integrated water management to improve water quantity and quality. There are disputes between as villages often tap into the aquifers of others. After the Foundation's interventions, the water quality and availability has improved and there are fewer disputes. People have even started salt extraction from saline water creating space for ingress of fresh water.</p> <p>Notki village, Mewat district, Haryana, has been developed as ideal village. They have made an RCC road, village health facilities, etc., that now service surrounding villages. More people use toilets than before. People have started fruit plantations after improving soil nutrient quality.</p> <p>Community contributions to watsan projects are critical to ensuring their ownership; if there is no contribution they have no stake in its upkeep</p> <p>RCC roads will interfere with natural recharge unless the runoff is channeled into recharge structures. There has to be a plan for grey water management. In urban areas, little has been done for rainwater harvesting. RWAs and other local citizens' groups should ensure RRWH and waste water reuse.</p>	<p>erosion, do afforestation and plant suitable species of grass</p> <p>Local people should shoulder their responsibilities</p> <p>Need legal reforms to stop land use change, control mining and dam construction</p> <p>Need to study the impact of these activities on the environment</p> <p>Balance destruction/loss of land with the need to generate more power through proper planning involving gram sabhas, GPs and NGOs as well as water experts and leading practitioners who can also suggest alternatives to big dams</p> <p><i>Pollution</i></p> <p>Change in laws. GPs should be empowered to take and enforce legally enforceable decisions against people who affect their water resources</p> <p>Review norms for siting industries to reduce impact on water resources</p> <p>Reduce imbalance in access to water between the rich and poor</p> <p><u>Timeline</u> is 3-4 years for all activities except the solutions regarding mining and dams</p> <p><i>Strategy</i>(See flowchart)</p> <p>Build awareness</p> <p>Identify issues</p> <p>Conduct a baseline survey of the selected area with local people</p> <p>Identify needs</p> <p>Create village level organizations to involve all user groups</p> <p>Make action plan and assign people for specific activities so people identify with that activity</p> <p>Work with gram sabhas, GPs and NGOs and all the line departments concerned (forest, water, irrigation, health, etc)</p> <p>Work out means of financial and technical support</p> <p>Identify experts and seek out instances of similar activities</p> <p><u>Timeline</u> - Review every 6</p>	<p>schemes</p> <p>Set up planning committees at the GP, district and state levels with same constitution</p> <p>Government officials to include JE (or other technical people)</p> <p><u>Timelines</u> - This process will need about 1 year else wont be successful</p> <p><i>Catchment protection</i></p> <p>Conduct baseline surveys and discuss them in the gram sabha along with the pradhan, NGO representatives and government officials</p> <p>Government officials to make format, assisted by NGOs and GP representatives</p> <p>Build awareness about schemes through public meetings Wall writing, posters, street plays involving people from NGOs and government officials</p> <p>Provide adequate money and experienced trainers, painters, vehicles for this</p> <p><u>Timeline</u> – three months</p> <p><i>Pollution</i></p> <p>Need cooperation from all Government departments, adequate finance and freedom from corruption</p> <p>Scaling up – through media, newsletters and international NGOs</p> <p>Funds to be transferred to GPs directly</p> <p>Government, NGOs and GPs to work jointly to tackle pollution</p> <p>Government to provide funds, monitor funds, create enabling law to facilitate cooperation between NGO, Government and GP</p> <p>Will improve efficiency of scheme and community involvement</p>
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Water supply		
Issues	Solutions	Recommendations
<p><i>There is discrimination among different sections of society. In Bundelkhand, the lower castes and poor lack access to water. They are not consulted when planning for water distribution. The dominant and rich corner the resources.</i></p> <p><i>There is a lack of spare parts and expertise</i></p> <p><i>There is no systematic process for water quality testing and this leads to variable results.</i></p> <p><u>Other issues</u></p> <p>People are familiar with seasonal water scarcities in May</p>	<p><i>Discrimination</i></p> <p>Create water user groups around specific sources – handpumps, tubewells, led by NGOs</p> <p><u>Timeline</u> – 3 months</p> <p><i>Lack of spares and capacity</i></p> <p>Need strategy for sustainability and inculcating community ownership for the maintenance of schemes.</p> <p>Build capacity for O&M to ensure continued operation by NGOs and the government</p> <p>Need IEC material</p> <p>O&M – training of local people</p>	<p>The government must provide adequate finances</p> <p>It must enforce laws</p> <p>There is a need to create mass awareness</p> <p>GPs have to be provided adequate funds</p> <p>Government should have closer links with village water and sanitation committees and provide them financial and technical support</p> <p>The government should provide support for creating drinking water sources and help with water treatment</p> <p>It should improve financial</p>

<p>– July because of socio-political influences partly caused by politicians who decide where handpumps are to be located. There is misuse of MLADS and MPLADS and they are spent on areas that support the ruling party.</p> <p>Source depletion.</p> <p>In Bundelkhand iron contamination is high and unsuitable for washing clothes.</p> <p>There is no action against people who contaminate water.</p> <p>There is nobody accountable for supply of poor quality water e.g., residual chlorine in water. The person responsible for chlorinating water does not follow the norms. For example, in Ranikhet water supply, the slow sand filters are not maintained and when they fail, they are bypassed resulting in bad water quality</p> <p>Standards of training for plumber poor as there is no demand for better standards</p> <p>In June, water supply is very erratic in Ranikhet.</p> <p>Multi-village schemes have caused social tensions as the upstream villages get water and waste it, while downstream villages do not</p> <p>People destroy infrastructure.</p> <p>Panchayats don't have trained mechanics or funds for handpump repair and are not self-sufficient and continue to be dependent on government departments</p> <p>Wastage of drinking water is a major problem</p>	<p>by Jal Nigam and NGOs to ensure proper operation. This is an on-going process</p> <p>Provide separate water supply for non-drinking use. In rural areas PHED can implement this. In Nainital, dual piping system is going to be introduced</p> <p><u>Timeline</u> - Can take 6 months</p> <p><i>Water quality testing</i></p> <p>Need for more emphasis on water quality testing.</p> <p>Provide information on drinking water schemes to the public through NGOs and the government</p> <p>Need suitable IEC material</p> <p>Planning to cover excluded sections – poor and lower castes. They have to be drawn in through user groups</p> <p><u>Timeline</u> - Will take 3 months</p> <p><u>Other solutions</u></p> <p>Advocacy with the government to ensure the village schemes are passed without changes</p> <p><u>Timeline</u> - on-going process</p> <p>Set up drinking water protection committees in the GPs and train and empower them.</p> <p><u>Timeline</u> – 6 months</p> <p>Protect traditional drinking water sources that are threatened by new water supply systems e.g., tubewell sunk next to open well.</p> <p>Survey these traditional sources, and assimilate community knowledge with the help of PRIs and NGOs. This activity can be funded by the government.</p> <p>PRIs can revive traditional drinking water sources using NREGA funds. Need technical expertise.</p> <p><u>Timeline</u> – 4-5 years</p> <p>Convert water sources into safe drinking water sources. Mini-pipeline schemes can be implemented by the government.</p> <p>Create mass awareness about IWRM, RWH to augment water availability</p> <p>Talaabs can be deepened by</p>	<p>status of water departments</p> <p>Government line departments should provide technical inputs</p>
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	<p>PRIs through funds from the government with expert help</p> <p>Create a sense of self-ownership</p> <p>Community involvement from village planning stage with the help of PRIs and NGOs. Need IEC material</p> <p><u>Timeline</u> - 3-6 months</p> <p>Community contribution is a must for all projects, and can be catalysed by PRIs and NGOs.</p> <p>Train manpower</p> <p><u>Timeline</u> - Can take 1 year</p>	
Sanitation		
<p><i>There was a debate on whether subsidy helps promote sanitation. on one hand, participants said poor people do not have the money to make toilets and need subsidy. On the other, some felt subsidy is a problem as it destroys the collective awareness and behaviour about sanitation by creating a divide between APL and BPL families; APL families don't get subsidies and therefore have fewer incentives than BPL families for making toilets. Subsidy fuels corruption and does not prompt people to make or subsequently use toilets. It does not help in behaviour change. In Himachal, there is no subsidy for the construction of toilets and many villages have become ODF without subsidy. It has achieved this by focusing on behaviour change communication. However, the situation in Madhya Pradesh is the opposite.</i></p>		
Issues	Solutions	Recommendations
<p><i>People do not feel the need for hygiene behaviour</i></p> <p><i>There is a lack of awareness about the need to use toilet and people don't feel the need to use toilets</i></p> <p><i>There is a shortage of water and toilets are of poor quality</i></p> <p><u>Other issues</u></p> <p>There is a shortage of toilets especially in schools and anganwadis and community toilets</p> <p>Quality is a major issue in toilet construction with leach pits, cover plates, etc</p> <p>The target of 1 toilet seat for 20 people is not met</p> <p>In rural areas, people prefer to defecate in the open and have habituated their children as well</p> <p>Toilet maintenance is poor and this also discourages their use</p> <p>There are financial constraints, shortage of space</p> <p>Local politics interferes with toilet construction and use. If one sarpanch is indifferent, others also tend to be indifferent to TSC</p> <p>Migration is a big problem by raising population densities. This</p>	<p><i>Hygiene behaviour and lack of awareness</i></p> <p>Need mass awareness campaigns in local languages, using local media (street plays, posters, leaflets)</p> <p>Educate school children about sanitation and hygiene, use of toilets, hand washing and convert them into change agents</p> <p>Use local community leaders who are aware about sanitation and hygiene for social awareness and mobilization to improve programme effectiveness. Involve pradhans, ANM and ASHA to spread message about health effects of poor sanitation, open defecation and hygiene. Will help cement local sanitation movement and stop open defecation.</p> <p>Provide information about diseases caused by these to drive people towards better quality of life – highlight economic loss</p> <p>Create sanitation movement at the local level by involving youth groups and women's groups</p> <p>Set up children's sanitation clubs and use suitable slogans</p> <p>Address demand by quick</p>	<p>Proper participation at all levels from all stakeholders – panchayats, communities, and the government</p> <p>There is for adequate allocation of funds, with suitable monitoring of funding and implementation</p> <p>Funds should to be transferred directly to panchayats from te Centre</p> <p>Funds for specific activities should be non-transferrable according to local objectives</p> <p>Funding process has to be transparent</p> <p><u>Non-negotiables</u></p> <p>Availability of funds</p> <p>Proper SLWM disposal system</p> <p>Infrastructure development</p> <p><u>Indicators</u></p> <p>Increase rate of toilets' construction and use</p> <p>Improvement of health, socio economic conditions, and the overall standards of living,</p> <p>Increased employment opportunity and social awareness</p>

<p>leads to a shortage of sanitation facilities in some areas</p> <p>There is a shortage of toilets for disabled</p> <p>Low participation of women in deciding whether to have a toilet</p> <p>Women have to defecate in the open under cover of darkness. The lack of toilets causes health problems as they cannot relieve themselves during the day</p> <p><i>Solid and liquid waste management</i></p> <p>There is no segregation of non-biodegradable and degradable waste and disposal of the former is a problem because of a lack of space and proper disposal sites</p> <p>Disposal of plastics are a big solid waste problems in villages as there is no way to collect and recycle them. Cattle and wild animals eat the plastic</p> <p>Waste water disposal is a problem and drainage is insufficient. It accumulates around handpumps because there aren't any soak pits.</p> <p>In September 2010, a team of 88 surveyed 621 villages; only 1 qualified for NGP</p>	<p>planning and implementation to cash in on movement created by mass awareness</p> <p><u>Responsibilities</u> – departmental workers, SHGs, CBOs, individuals, media</p> <p>Finance can come from CSR programmes, panchayat system</p> <p><u>Timeline</u> – will take 1-2 years</p> <p><i>Shortage of water</i></p> <p>Providing water for sanitation</p> <p>Install handpump/tubewell/tank fed by public water system</p> <p>Responsibility rests with individuals, line departments and water supply department</p> <p>Government department should provide adequate manpower</p> <p>Fund can come from MLALADS</p> <p><u>Timeline</u> will take 1 year</p> <p><i>Subsidy and funding (linked to the debate above)</i></p> <p>Need policy that creates an enabling framework to promote sanitation regardless of income status</p> <p>Phase out sanitation subsidy gradually according to a well thought out plan</p> <p>Target sanitation plans to those below poverty line and make them eligible for other programmes if they make and use toilets</p> <p>Change mindsets with respect to corruption, inefficiencies, etc</p> <p>Create a revolving fund as an alternative to subsidy. This will supplement beneficiary contribution. Conduct a proper needs assessment (involve experts for this) to determine money available with families and use the revolving fund to fill the gap as a low interest rate. Banks and other institutions can provide seed money for this fund</p> <p>NGOs, GPs and government departments should work together</p> <p>Money, manpower and material are needed</p> <p><u>Timeline</u> – will take 2-3 years to phase out subsidies</p>	
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	<p><i>Solid and liquid waste management</i></p> <p>Need to create mass awareness about better waste management</p> <p>Provide sanitary landfills</p> <p>Increase recycling</p> <p>Make soak pits to improve disposal of waste water</p> <p>Community treatment plants</p> <p>GPs, line departments are responsible for effective implementation</p> <p>Funds can be drawn from companies under their corporate social responsibility programmes</p>	
Governance		
Issues	Solutions	Recommendations
<p><i>The Project Management Unit (PMU) and the State Water and Sanitation Mission (SWSM) can play a big role in Watsan projects. However, this is a government body and its functioning is quite autocratic. Designs are made to satisfy the exigencies of officialdom at different levels. Their attitude is autocratic and precludes inputs from the public.</i></p> <p><i>There is need for better transparency and monitoring has to be participatory.</i></p> <p><i>Data is of variable quality and baseline data may be inaccurate or missing. Primary data should be given priority. There has to be better data analysis. Departments question the veracity of data collected by communities or other departments.</i></p>	<p><i>The PMU and SWSM should include government officials, NGO and PRI representatives and separate such bodies should be constituted at the state, district and panchayat levels. This will make their decisions easier to implement. There is need for changing the institutional design to make projects more participatory and inclusive</i></p> <p>Service delivery has to be at the PRI level. Panchayat committees such as <i>jal prabhandan</i> committees should be responsible for water and sanitation and should assimilate all recommendations. The gram panchayat or gram sabha members should direct the construction of water structure (tanks, etc) and these decisions should not be taken by somebody outside the village</p> <p>There has to be a system to capture local wisdom (from local leaders, elders, etc.)</p>	<p>Financial allocations are not as per panchayat requirements and community contributions are lacking. To rectify this it is essential to have 20% community contributions. Grants should be as per panchayat requirements</p> <p>Social audits on water quality are necessary and action should be taken against people who supply poor quality water.</p>
Beyond water and sanitation		
Issues	Solutions	Recommendations
<p><u>Urbanization</u></p> <p><i>Rural migrants to cities do not consider making and using toilets important as they have a shortage of space leading to disease and water pollution</i></p> <p><i>A high population density in cities generates large quantities of human waste that pollute water</i></p>	<p><u>Urbanization</u></p> <p>Identify people who have been living in the same place for a long period and create community toilets</p> <p>Only the local urban body can do this but the users have to take charge of maintenance. The government has to create the</p>	<p>Improve funds flow in government programmes so there are timely disbursements</p> <p>State governments have to demonstrate commitment to programme implementation; the Central Government can be the catalyst by providing money and a legal framework</p>

<p><i>sources</i> <i>Industrial pollution is not treated and released directly into rivers or water sources</i></p> <p><u>Pollution from external sources</u> <i>Overuse of chemicals fertilizers and pesticides causes pollution of both surface and groundwater</i></p> <p><i>There is <u>poor convergence</u> of schemes such as NRHM, MGNREGA and water-related schemes. For examples, in NRHM, there is no mention of the health effects of open defecation such as polio</i></p> <p><u>Other issues</u> Increasing impervious areas (roads, cemented areas, etc) has reduced the area available for recharge. Water sources have become garbage dumps and eventually get encroached. This again impacts water recharge Wells in fields are also being filled up/covered up Industrialization is affecting water resources. Townships come up around industrial areas and have the same problems as urban areas There is no systematic watershed management or integrated water management; afforestation schemes do not promote local trees that promote water recharge In MP MGNREGA is being used for construction of leach pit toilets but is in consonance with TSC; TSC is not being executed in villages where NGREGA schemes are operational In sanitation, there is need for more awareness else low use of toilets will continue</p>	<p>infrastructure but users have to pay user fees <u>Timeline</u> – will take 6 months</p> <p>For protecting water sources, create city sanitation plans by involving planning bodies and local organizations Create mass awareness keeping in mind the heterogeneity of urban populations through interpersonal communications Involve local NGOs Funding should come from budgets and it may be necessary to hire external experts <u>Timeline</u> – about 1 year</p> <p><u>Industrialization</u> Involve industrialists to make toilets for workers Local rules to make it mandatory for industrialists to create sanitation facilities for workers GPs to be involved Government and NGOs take up mass awareness <u>Timeline</u> – 1-1.5 years</p> <p><u>Pollution from external sources</u> Mass awareness about controlling use of fertilizers and pesticides at the national level. The agriculture ministry and agricultural universities can take the lead NGOs can also contribute to the mass awareness Has to be a continuous process</p> <p><u>Convergence</u> Need to hold joint meetings of all departments, GPs and local people for joint planning. Central government to drive process and provide all support <u>Timeline</u> - 2 years</p>	<p>Conducts a national level mass awareness campaign on water and sanitation Water and sanitation programmes have to be community-driven involving NGOs, GPs, government and the masses as the movement has to be at the grassroots Have a strong regulatory framework to govern commercial activities. In urban and industrial areas, contractors have to ensure sanitation facilities and their usage by their employees In all cities, there have to be proper landfill sites that are scientifically designed to prevent water pollution Wastewater treatment plants</p> <p><u>Indicators</u> People use sanitation facilities Water quality is improved Clean sanitary landfills devoid of bird and animal life People aware of water management</p>
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State-wise issues

Himachal Pradesh

Water supply

For drinking water, wells, baolis, khattris, handpumps and rainwater are the sources. It costs Rs 20,000-22,000 to repair a baoli but making a new one can cost up to Rs 1 lakh. They are repaired repeatedly, often to no avail, but this affects the water source. In June and July there is a water crisis but people still do not bother to maintain baolis or follow traditions to keep them clean.

In Kangra, Bilaspur and Hamirpur, wells are the main source on a model adopted from the UK. Initially, there were disagreements over the construction of one well that cost Rs 60,000 but after it worked successfully, people were willing to contribute up to Rs 1.5 lakh to make wells. Wells are suitable only for certain areas and they help in cultivation and water recharge from rainwater, as well as for storing water supply from pipelines.

Many handpumps produce contaminated water and there is poor maintenance. In many cases, their output is not enough to meet the 70 LPCD norm.

Watersheds, agro-forestry and agriculture

Community mobilization and awareness is a critical prerequisite. Women take the lead in most new activities. The Department of Science and Technology has a water testing Programme and women check their own water quality. There were some sources that people had stopped using but after testing they have started using these sources again. They have motivated other villages to do water testing.

Sanitation

Future plans for SLWM are being made at the panchayat level. The target is to cover the entire state. There are problems of literacy, awareness, and shortage of water. In cities there is a shortage of toilets. Awareness building is through kala jathas, CLTS and face to face meetings. The Maharshi Valmiki Sampurn Sswatchata Yojana is a state level programme to reward successful villages and mahila mandals.

Pucca toilets cost Rs 25,000-30,000 per unit but some spend Rs. 5000-6000 per unit. For SLWM, an amount of Rs 20,000 – 25,000 per ward is given.

Haryana

The approach to sanitation and water supply is target based not need based. This affects quality and community mobilization and in turn sustainability. The Sehgal Foundation also tried achieving 100% toilet coverage but later found people were using toilets as godowns. This is due to a shortage of software in terms of health and hygiene impacts. Therefore, need exposure visits, training; CBOs/PRI's have to be involved in selecting toilet designs and material.

There are many problems with schemes including political interference because of which they are not inclusive. The marginalized and poor are excluded. For the very poor, Rs 2200 is not enough for toilet construction since material costs have gone up. For them, it's a choice between seeking livelihoods and making toilets and therefore they need better subsidy/incentives.

A major campaign is needed to change mindsets as there is large scale open defecation in the state, to inform people of the ill-effects of open defecation. This has to be an on-going process. Maintenance and IEC are underfunded and whatever funds come are also under-used as the focus is usually on hardware.

On the water issue, in some villages there are 6 tubewells but they are allotted Rs 22,000 per year for maintenance that is not enough even for one tubewell. The solution is to get contribution from communities to cover minor repairs, new connections, etc., for sustainability and community ownership.

Incentives and subsidies have to be revised. School and college children can be involved to spread awareness and water and sanitation issues should be included in the school/college syllabus. There should be better provision for water testing kits and dissemination of results. Technology should be suitable for local conditions.

There is a shortage of dedication and motivation among government staff since many haven't been paid for years or given promised incentives since 2000.

There is need for more transparency in planning and execution; capacity building and skill enhancement can be done through refresher courses.

Challenges include lack of inter- and intra-departmental cooperation and support. There is low involvement of communities as officers do not work with the gram sabhas and instead focus on a few panchayat members,

In salinity-affected areas, SLWM is poor. There are no sewage lines and the high water table affects toilets.

Vijay Kumar, Haryana.

Under TSC, he devised a formula but it didn't work because there were too many women. They issue ration cards only to those who have toilets in their house and use them.

Delhi

In 1996 MRYDP developed a community based handpump maintenance system. Site selection was done jointly (Delhi Jal Board, UNICEF and Maraido). The NGO focused on community mobilization, opening bank accounts and overseeing installation. UNICEF gave technical support. Jal Board provided materials and money. It took 1 year for implementation. If people are involved from the beginning, it is half the battle won. They decide where the handpump will be situated, who will manage it, selecting the contractor, overseeing the work, technical details, and water quality. Those handpumps are still being used. People were given skills training for repair and tools at a discount, so maintenance is done locally. People have collected money from other villagers and opened a bank account to cover other hardware costs.

Challenges. Took a long time to make people understand the process and motivate them to take ownership because the government used to sink handpumps without any

consultation with the community. The issue with community ownership is fixing a person who is responsible for the hardware and creating local groups to watch over the pumps. There are caste divisions especially with Harijans so the NGO allotted different timings for people from different castes to use the pumps.

Sanitation. Lok Gaon people prefer to defecate in the open. This lack of awareness can be addressed through behaviour change. The NGO had 9000 toilets constructed using TSC technology in 62 villages of Najafgarh and these recorded 96% usage. They used a revolving fund to finance activity and supplement individual contributions through soft loans. Emphasis was on quality and cleanliness, and communicating the health benefits of using toilets.

Uttarakhand

Water sources include rivers, streams, waterfalls, naulas, etc., in hills. In the plains there are wells and handpumps. In hilly areas, GPs make contour bunds on slopes to increase recharge water. They make check dams on gadheras. In Sangda village, Nainital district, they spent Rs 32,000 on check dams that have helped improve water sources in 2010. The project was done by the VWSC of the village and they maintain them. To scale up, need more check dams on gadheras.

Under Swajal project phase 1 (1997), in the in Gamtoli village, Pithoragarh district, the community action plan included drinking water, toilets and SLWM. It cost . Cost of Rs 9 lakh. The VWSC comprising 100% women took charge of planning and implementation. Approach started with community mobilization and participation. People selected the sources, hardware, and were locally trained. The activity expanded to 90 villages involving NGOs. In the second phase panchayats have a larger role.

There has been community involvement at all stages, and conflict resolutions were led by the community. Challenges include difficult terrain, scattered habitations, internal conflicts, process approach VS contractual approach, insensitivity of PRI leaders especially with regard to safe drinking water, conservation of water bodies, low understanding about problems of open defecation, low training and exposure.

Solutions. There is a need for better interpersonal communication, use of folk media to mobilize people, coordination with state-level officials and timely release of funds.

Replication. Adopt policies to create a conducive environment, and replicate what NGOs, CBOs, SHGs and PRIs have achieved. Build trust between stakeholders. Sensitise senior government officials. Ensure proper NGO participation and give them the space to operate.

Devas, Chamoli.

The issue is a shortage of drinking water. Earthquakes, landslides and dams (tunnels) have affected water sources. In Bajwad there are dense bamboo forests and there were good water sources but now they are being supplied by tankers. New sources have to be developed. Sources dry up in summer and people have to queue for hours. There are

some areas with forests with broad-leafed trees that increase soil moisture retention. SHGs have started a campaign to reforest the tops of hills with these trees to protect water sources and three sources have been thus revived.

The number of water sources have to be increased. The GPs have made small ponds on the hill tops to increase water harvesting. But there are large deforested areas and this affects forests.

An integrated programme is needed. Dams are destroying the environment of the region. There is a need to restore the local ecology. Rivers from Himalayas should be diverted to drier regions, and ponds should be made on hilltops. Where peaks are deforested, water should be supplied by tankers to speed up afforestation. For irrigation, water can be supplied through turbines to farms, horticulture, etc., from streams in the valley.

Rivers are drying up because of dams; the large dams should be stopped and instead replaced with small ones and made with the involvement of villagers.

Sanitation. People who have little land or who own land far from their dwelling should be the focus of any programme. Improve solid waste management by providing proper disposal.

Chudi village, Nowgaon village, Ramgarh block, Nainital district

In Nowgaon, the government spent Rs 20 lakh on a pipeline scheme of which 10% was collected from the community. People are still responsible for maintenance. CHIRAG is working on a project with the help of IIT Kanpur Department of Geology and Hydrology to help people understand what comprises a catchment from Google Maps and identify recharge points, storage locations, and geology. CHIRAG is working on 30 springs and has completed work on 15 springs. Villagers are in the managing committee. Safe drinking water should be a human right. DORE has worked on water quality testing.

Cheuri village, Nainital district.

Activities include providing water supply and sanitation, by construction of RWH tanks, compost pits and community capacity building. It cost Rs 2.5 lakh and was successful because people were involved in planning and gave enough time. Process took 2 years.

Beheri block, Bareilly district.

The People were reluctant to make toilets. The GP president went from house to house talking to people about advantages of constructing toilets and succeeded in getting 650 toilets made. Challenges include political interference and caste differences. Each toilet cost Rs 10,000

Badagaon, Varanasi district

Here, under the school sanitation programme, the NGO led a block-wide campaign to improve usage of toilets. Focused on middle school kids, and made bal swachata clubs to inform them of the need to use toilets at home and school. If they did not have a toilet at

home, the idea was to get them to persuade parents to make toilets. They succeeded in making 1400 toilets (APL) using students as change agents.

Bundelkhand, UP

Handpumps are very common but poorly maintained. In Mahoba district, the NGO found the time taken to repair handpumps was 15 days. It developed a PPP with Wateraid's help involving panchayats to train mechanics and set up a centre. Complaints are received and the centre dispatches a team to fix it. The aim is to provide response in 24 hours. Now there are centres in 4 blocks. Each centre costs Rs 2-3 lakhs and there are 10 mechanics in each centre including women who go on cycles to fix faults. The centres also provide masons for toilet construction. This model can be scaled up. Problems include funding – government provides money only to the panchayat but the centres should also be provided some funding. NGO participation – training, develop centre, activities of centre, income generation for the mechanics, reduce O&M response time.

Under Swajal, in 2001, the NGO made a plan for villagers. Groundwater levels started falling and sources started drying up. With Wateraid's help the organization did RRWH at a school and built gully plugs with immediate results. They also installed electric pumps to supply water. There is a community based monitoring system in which people are involved in planning, supervising execution and monitoring. The NGO has trained them in each of these skills and continues to provide technical support for some works.

School sanitary blocks. VSA complained about shortage of water, so they addressed it through a force-lift handpump and have separate toilets for boys and girls.

Disabled friendly toilets. Spoke with state TSC coordinator for these costing Rs 5000-8000 each. They are ignored under TSC but have to be given greater emphasis in the next Plan.