



Technology Mission Approach Towards Achieving Millennium Development Goals:

The Indian Experience

Key Note Address

of

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Technology Mission Approach Towards Achieving Millennium Development Goals: The Indian Experience

I feel privileged to address this august gathering of water and sanitation sector professionals and practitioners participating in the “Global WASH Forum” being organized by The Water Supply and Sanitation Collaborative Council and Government of the Republic of Senegal. During September 2002, many of us had met at Johannesburg for the World Summit on Sustainable Development, which took stock of development issues including those of drinking water.

The Earth Summit i.e. United Nation’s Conference on Environment and Development (UNCED) held in Brazil, called upon the nations to ensure that economic development proceeds in a way that assures the protection of our global environment. UNCED also adopted Agenda 21, which draw attention of global leaders on the urgent need to take action in protecting and managing fresh water, in promoting human health through proper sanitation and in promoting sustainable human settlements. At the World Summit on Sustainable Development (WSSD) held in Johannesburg in August-September 2002, world leaders agreed to halve, by the year 2015, the proportion of people without access to safe drinking water and basic sanitation. The 11th Session of the Commission on Sustainable Development (CSD-11) decided in New York in April-May 2003 that during 2004-05, CSD should advance implementation of the Agenda 21 and the Johannesburg Plan of Implementation (JPOI) in the areas of water, sanitation and human settlements. In the journey from Johannesburg to Dakar, water and sanitation has moved to the centre-stage in the development oriented deliberations. One of the key commitment and objective of the Millennium Development Goals set up in Johannesburg Summit 2002-is to ensure environment sustainability.

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For this purpose a target has been envisaged to halve the proportion of people without sustainable access to safe drinking water and basic sanitation facilities by 2015. Achieving this globally would be a monumental task that indeed needs sustained commitment, resources and effective programmes.

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Global Scenario

The challenge in water and sanitation is indeed enormous. Globally over a billion people still lack access to safe and reliable water sources and another 2.6 billion do not have proper sanitation services. Though access to improved water supply and sanitation facilities has been increasing, it is just sufficient to keep pace with population growth. In the year 2000, global water supply coverage

was 82 percent but sanitation coverage was just at 60 percent. There is a clear case of rural-urban divide. Urban water supply coverage was at 94 percent whereas rural water supply coverage stood at 71 percent. In case of sanitation, such rural-urban division is more prominent- urban sanitation coverage was 86 percent whereas rural sanitation access was only 38 percent. It is clear that given the importance of water resources and service delivery to economic growth and poverty alleviation, we cannot wait any longer before finally resolving the challenges in water and sanitation sector.

These problems are compounded on account of increasing water resource constraints, population pressures, higher service expectations and environmental challenges, besides lack of political commitment, lack of sectoral coordination, lack of community involvement, inadequate finances, unskilled human resources and poor operation and maintenance. Inadequate coverage, poor quality, as well as unreliable and unsustainable supply of water have an adverse impact on the socio-economic development in the developing countries. WHO has estimated that water related diseases contribute to nearly 1.8 million child deaths each year globally.

New Trends

It is becoming increasingly evident that national governments alone, even with the assistance of international organizations, will not be able to provide the necessary expansion of quality services to a growing population. The role of governments has to shift from service provider to that of a facilitator for providing financial and policy support to the communities and their institutions for fulfilling the desired levels of services on a sustainable and equitable basis.

The private sector is also becoming an increasingly important player in the management of existing utilities. The potential for increased private participation is considerable, particularly for the management of service delivery in the urban areas, even in developing countries. Suitably designed contracts and service delivery arrangements can ensure better focus even for the urban poor. However, private sector participation in the extension of services to the poor in rural areas might be somewhat more difficult, though there is scope for restructuring of the centralised water sector institutions and sector managerial capacity for the larger regional schemes. There is also scope for the restructuring of regional utilities with private sector participation and serving a geographical area that includes both rural and urban customers to improve financial and physical efficiencies. On the rural side, local government-led and community-based models of delivery of rural public services may prove critical towards sustainable solutions. If this is supported by strengthening technical and managerial capacity of different tiers of local governments and the communities for implementing

different and diverse models of service delivery, effectiveness and sustainability of the programme will increase.

The principles that I have mentioned above have certainly moved forward to become the facts of water and sanitation programming. There are now a number of examples even from the developing world which finds relation with these principles. Needless to say, India is one of the leading example of community based and decentralized model of water and sanitation programmes implemented in a mission mode approach that has scientific and democratic temper aptly supported by technological and other resource inputs. Under the Indian Constitution and in our federal democratic set up, drinking water and sanitation comes within the domain of the State Governments (Provincial Governments). In fact, the 73rd Constitutional Amendment has gone a step forward. It mandates that responsibility for drinking water and sanitation services should be with Local Self Governments (Panchayati Raj Institutions). Various States in India are at different stages of giving effect to this Constitutional mandate. Within the historical framework of this approach, I will now focus on India in detail where she stands in water and sanitation sector.

Technology Mission Approach in India

According one of the highest priorities to rural drinking water and sanitation sector, India adopted a technology mission approach in water and sanitation sector by launching a technology mission on drinking water in 1986 as one of the five technology missions at the initiative of late Shri Rajiv Gandhi, then Prime Minister of India. The Mission was later renamed as Rajiv Gandhi National Drinking Water Mission (RGNDWM) after his death in 1991.

The primary objectives of the RGNDWM were to improve the performance and cost effectiveness of the on-going programmes in the field of rural drinking water supply and ensure the availability of an adequate quantity of drinking water of acceptable quality on a long term basis. This also included monitoring the quality of water after identification of problems, tackling the same by the application of science and technology to ensure that the water available was of acceptable quality and ensure that

Strategies of RGNDWM

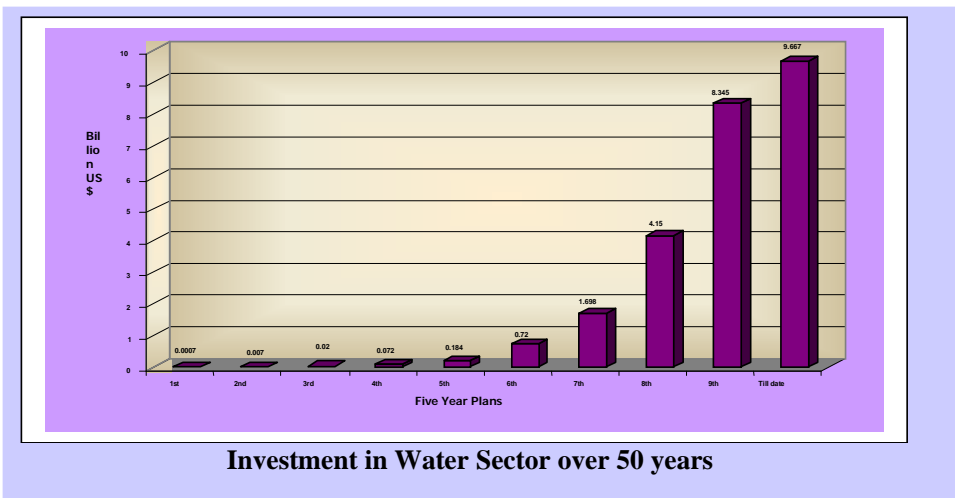
- Higher investment for water supply
- Mini Mission Projects launched to tackle coverage issues in difficult areas
- Sub Mission projects launched to tackle water quality issues
- Central Rural Sanitation Programme launched to promote rural sanitation
- Scientific temper and technology promoted

the quantity and quality of water was sustainable on a long-term basis through proper water management techniques and implementation of a management information system.

The mission proved critical for the development of water and sanitation sector especially for the benefits of population in the rural areas. Earlier, Govt of India's major intervention in water sector was through Accelerated Rural Water Supply Programme (**ARWSP**) started in 1972-73 for assisting States/UTs on allocation basis to accelerate the coverage of drinking water supply. This programme became the part of the mission in 1986 and is still continuing. Since the launching of the Mission, Govt of India scaled up its financial allocation to the sector significantly. As a result of the Mission's effort the coverage of rural population with drinking water facilities had a quantum jump from about 56% coverage in 1985 to 94.89% habitation in current year.

Water Norms in Rural Areas

- 40 liters per capita per day and additional 30 lpcd for animals in hot and cold deserts eco system
- Provision of drinking water source for 250 persons in a habitation
- Source of water should be within 1.6 km of the habitation in plains & 100 meters elevation in hilly areas.



The RGNDWM accorded priority to sanitation programme and through it, Govt of India, launched the first ever-structured programme for promoting rural sanitation in 1986 through **Central Rural Sanitation Programme**. This programme gave focused attention to the rural sanitation coverage, which increased from 1% in 1981 to 22% in 2001. At present, this coverage is about 30%.

With the rapid population growth, water is becoming an increasingly scarce resource in the country.

The provision of extensive irrigation infrastructure over the past decades is one of India's major achievements. However, unregulated and overexploited ground water extraction has resulted in groundwater depletion further led decline in water quality. In India, we have water quality problems in about 209,900 habitations. Excess fluoride, arsenic, nitrate, iron and salinity are causing health hazards for large number of people. Thus, water quality has emerged as a major issue for the Mission. There was no proper

Strategy for tackling water quality

The Govt. of India has embarked on a five-pronged strategy to mitigate poor quality of drinking water:

- Treatment systems for the household or community
- Alternative problem-free zones in groundwater
- Mini piped water supply that uses deep aquifers
- Regional piped water supply using mainly surface water
- Dual mode of water supply that provides potable water for drinking and cooking purposes alone.

emphasis on water quality till the end of the 6th Five Year Plan (1982-1987) and even in the Seventh Plan before launching the National Drinking Water Mission in 1986. As the functioning of the Mission gained momentum, parameters and safety standards on water quality have clearly been laid down, not only in the Mission document, but also in the Manual for drinking water supply including health standards. A beginning was made by tackling water quality problems ~~through the~~ Mini Mission and Sub-Mission projects mode to address the issues of chemical contamination. 120 exclusive sub-mission projects relating to Eradication of Guinea worm, Removal of Excess Iron, Control of Brackishness, Fluorosis, Arsenic, and Conservation of water & recharging of ground water aquifers were launched. 96 projects have been successfully completed, **in fact Guinea worm has been completely eradicated from India as certified by WHO (2000)**. Water Quality Monitoring & Surveillance was also launched by initially setting up State and District level water quality testing laboratories with the ultimate aim to provide safe drinking water and generate awareness about water quality among rural masses.

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The RGNDWM promoted research and development (R&D) activities in water and sanitation sector to develop better technologies for improved implementation. The mission has sanctioned 135 R&D projects of which 89 have been completed. It also promoted scientific source finding technologies and for this purpose, the mission has also undertaken preparation of hydrogeomorphological maps on 1:50000 scale showing prospective ground water zones, priority zones and sites for planning recharge structures. The mission has also developed Solar Photo Voltaic Pumping Systems for pumping water in remote non-electrified villages.

Salient Achievements of RGNDWM

- Coverage of water supply facilities in rural population increased from 56% habitations in 1985 to 99.6% habitation in 2004
- 3,54,673 problem villages and 8,12,066 other villages/habitations covered since 1985-86
- Guinea worm eradicated from the country and certified so by WHO in 2000
- Rural Sanitation coverage increased from 1% at the time of the establishment of the Mission to about 30% in 2004.
- 20 million household toilets, 3800 community complexes and 115,000 school toilet complex constructed.
- 77 Sub-Missions projects sanctioned between 1994-98 including 4 for Arsenic and 33 for fluoride mitigation, completed
- 325 solar photovoltaic pumps installed in remote areas. 135 R&D projects sanctioned
- US\$ 22 million released to States for computerization and establishment of MIS
- 75,221 schemes under Sector Reform Project completed
- Over 9,000 Swajaldhara schemes in 409 districts of 24 states and one union territory taken up with community participation.

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One of the major contributions of the mission has been its role in securing increased investment in water and sanitation sector. Since the beginning of the Sixth Five-Year Plan (1980-85) and the launch of the International Drinking Water Supply and Sanitation Decade (1981-90), India has increased its commitment to the water supply and sanitation sector. Sector investments have increased and presently constitute a significant proportion of the national budget (about 3 percent). Government of India formulates policies, sets standards and provides technical as well as substantial financial assistance to the States. Central Government funding constitutes about **40** percent of the total investment in the sector. The States provides the remainder. About 5 percent of the sector investment comes from External Support Agencies. Since independence, Central and State Governments have collectively spent more than US\$ 10 billion for rural drinking water sector. In sanitation, this has been less but gone up to US\$ 100 million in 2004-2005 alone. However, much more remains to be invested.

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The mission also launched a National Human Resources Development Programme in 1994 focused on empowerment of Panchayati Raj Institutions/Local Bodies/ Capacity of local communities through requisite training to mechanics/health motivators/mason, etc. In addition, IEC programme was also launched to increase the awareness among the rural population about various issues related to water and sanitation sector. The massive expansion of rural water supply infrastructure has gone hand in hand with increased community participation, awareness generation and decentralized management.

Since women are the principal beneficiaries of the programme, they are involved in all stages of implementation of rural water supply and sanitation schemes, from hand pumps mechanics to member of villages of water and sanitation committees.

Mission Approach and Reforms

Having made significant progress in extending water supply to majority of villages, RGNDWM concentrated on various reforms needed in water and sanitation sector to ensure better coverage with sustainability. During this time, Department of Drinking Water Supply (DDWS) was set up in 1999, within the Ministry of Rural Development, Govt of India to extend greater thrust to the water and sanitation programme and RGNDWM became the main vehicle of DDWS to push forward the reforms in water and sanitation sector with specific objectives to:

1. Ensure coverage of all rural habitations especially to reach the un-reached with access to safe drinking water and sanitation
2. Ensure sustainability of the systems and sources
3. Tackle the water quality problems in affected habitations.
4. Sanitation coverage in rural areas
5. Accelerate promotion of hygiene education among rural masses.

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The year of 1999 may be termed as the year of reform initiatives when Sector Reform Projects (SRPs) for drinking water supply and Total Sanitation Campaign (TSC) for sanitation were launched. In 1999, the reforms were adopted within the perspective of growing demand for the sustainability, ownership and local community partnership in water and sanitation programme. Moreover, the reform aimed at the empowerment of the village community and their institutions as well as emphasized the inclusion of women, socially disadvantaged and poor sections of the society. NGOs and CBOs were included in the reform process to play prominent catalytic role in providing capacity support to the people, community and local Governments. The reforms as an agenda adopted by the Mission are based on the **subsidiarity principle** that recognizes that the lowest appropriate level should deliver services. The responsibility for the delivery of water and sanitation services vests with the Local Self Governments.

Water Sector Reforms

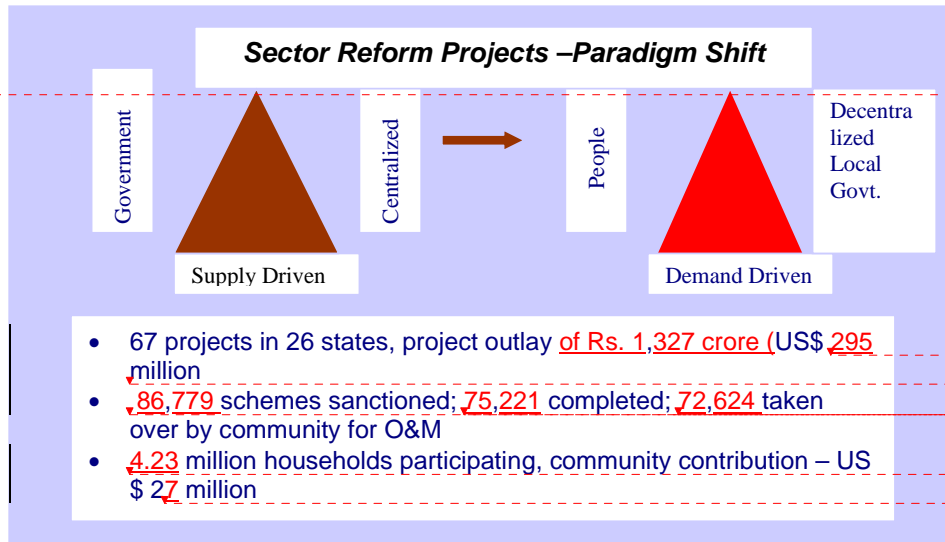
It has been observed that the conditions under which people would be willing to maintain and operate water supply schemes are: - (i) If they own the assets (ii) If they have themselves installed the water supply system or being actively involved throughout, (iii) If they have been trained to do simple repairs, (iv) If they know the Government will not maintain the assets, (v) If they have sufficient funds for maintenance, and (vi) If they have to pay for O&M.

Since, substantial investment has been made in the Rural Drinking Water Supply Sector and huge infrastructure and systems built up, it is paramount that they remain functional to a great degree to achieve sustainability. There is a general recognition that a transformation from a target based and supply-driven ~~approach, which pays little attention to the actual practices and/or preferences of the~~ Deleted: approach which end users, to a demand-based approach where users get the service they want and are willing to pay for, is urgently required. Implementation of a participatory demand driven approach will ensure that the public obtains the level of service they desire and can afford to pay. Further, full cost recovery of operation and maintenance and replacement costs will ensure the financial viability and sustainability of the schemes.

For this purpose, Government of India launched Sector Reform Projects (SRPs) in 1999. The central principles of the SRPs were:

1. The adoption of a **demand-driven approach** and empowerment of villagers
2. Shift in the role of Government from Service Provider to Facilitator;
3. Community and Local self Governments to plan, implement, operate and manage Water Supply and Sanitation Schemes
4. Focus on village level capacity building
5. The maintenance of an **integrated approach** to water supply, sanitation and hygiene promotion
6. Requirement for **partial capital cost recovery** and **full operations and maintenance** (O&M) financing by users
7. Promotion of groundwater conservation and rainwater harvesting.

The reforms initiated in 1999 have transformed the approach in water supply programmes which are now implemented with demand driven and community participation approach. Panchayats and communities now plan, implement, operate, maintain and manage drinking water and sanitation schemes, and also share partial capital cost. The subsequent steps have seen improved implementation of water supply sector in terms of coverage and impact.



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The **Sector Reform Projects (SRP)** were launched in 67 districts in 1999. The experience gathered during the past five years from the Sector Reform Projects have vindicated the reform principles. There have been demands to scale up the reform initiatives in the Sector. Hence, it was considered necessary to institutionalise community based rural drinking water supply programme at the level of Panchayati Raj Institutions and local communities to generate resources and equip them to plan, implement, use, maintain and manage water supply schemes themselves.

To fulfill the expectations and the need to scale up reforms in the water sector throughout the country, the Sector Reform Projects have now being scaled up as the **Swajaldhara Programme**, which was launched during 2002. The special feature of Swajaldhara scheme is that this is implemented, maintained and owned by the community. In these projects, the participation of community is a major factor, which is to ensure planning, implementation, operation and maintenance for all times to come. On an average, the community makes 10% contribution and the Government of India provides 90% funds of the total fund. This programme can be implemented throughout the country without restricting to 67 SRP districts selected earlier.

Community Based Monitoring and Surveillance of Water Quality

Need for institutionalizing water quality monitoring and surveillance systems in the country is a prime concern. Establishment of water quality laboratories has been taken up as one of the components of effective water quality monitoring system as part of the programme. The implementing agencies at the State level are responsible for detection of biological and chemical contamination of drinking water

and put in place a mechanism for evolving immediate remedial measures. Even though the coverage has been impressive over the last decade, various studies indicate there is no institutionalized quality monitoring and surveillance system throughout the country. This is going to be critical to the entire water supply sector in the future owing to increase in pollution and depletion of water sources. A National Workshop held on 7-9 August 1997 recommended that there was a need to institutionalize water quality monitoring and surveillance systems in the country. Establishing of water quality labs could be only one of the components of the programme.

As per the information available, a total number of 2,16,968 habitations in the country have been affected by quality problem either excess of Fluoride, Arsenic, Salinity, Iron, Nitrate or due to other reasons. To mitigate this problem, a community-based approach has been adopted by involving various grassroots level educational and technical institutions by utilising existing resources and strengthening them by providing additional financial resources to these institutions. This is implemented at three levels consisting of a Nodal Unit at the State level, premier technical institution, university, etc., intermediary level units like district laboratories, polytechnics, etc. and grassroots level units like education institutions (Inter Collage), labs, etc. In addition, there will be a national level center located in Delhi to guide and monitor the functioning of State level nodal units.

Activities relating to preliminary water testing, etc. are carried out at the grassroots level itself and more complicated cases referred to higher levels in such a way that cases of complex nature only reach the higher level units. The nodal units are networked with the State headquarters (PHED) Funding support, as per the approved norms, is provided to the States for strengthening water quality monitoring facilities, based on projects received from the State Governments. For this purpose, the health authorities are being closely involved in implementation of this new approach.

Reforms in Sanitation Sector

Rural Sanitation has never been perceived as a big priority till the launch of India's first nationwide programme for rural sanitation i.e. the Central Rural Sanitation Programme (CRSP) in 1986 through RGNDWM with the objective of improving the quality of life of rural people and to provide privacy and dignity to the women. The programme had been primarily an allocation-based programme, which was implemented in a supply driven manner throughout the country. Since, its inception and up to the end of the 9th Plan, 9.45 million latrines were constructed for rural households under the CRSP as well as corresponding State MNP. The total investment made has been US\$ 140 million under the CRSP and US\$ 230 million under the State sector MNP. This has led to only a marginal increase in the rural

sanitation coverage from 1% in 1981 to 22% in 2001. On an average, annual increase in the rural sanitation coverage has been only 1 percent, which was insignificant. A comprehensive Baseline Survey on knowledge, attitude and practice (KAP) in rural water supply and sanitation was conducted during 1996-97 which revealed that 51 percent of the beneficiaries were willing to spend upto US\$ 22 to acquire sanitary toilets. The study also documented the inter-sectoral and institutional linkages especially in the case of Midnapur in West Bengal where a collaborative effort among NGOs, the PRIs and the State Government had produced startling results.

TSC Principles

- Demand driven and people centered approach
- Shift from high subsidy to low subsidy with a range of technological options- basic model Rs. 500
- Campaign mode approach and focus on IEC
- Key focus on household sanitation
- Alternative delivery mechanism (RSM/PC)
- Strong focus on school and Anganwadi sanitation & hygiene promotion
- Involvement of co-operatives, women Groups, self help groups, Youth Clubs, NGOs, PRI, etc.
- Cost sharing in construction of sanitation facilities and O&M

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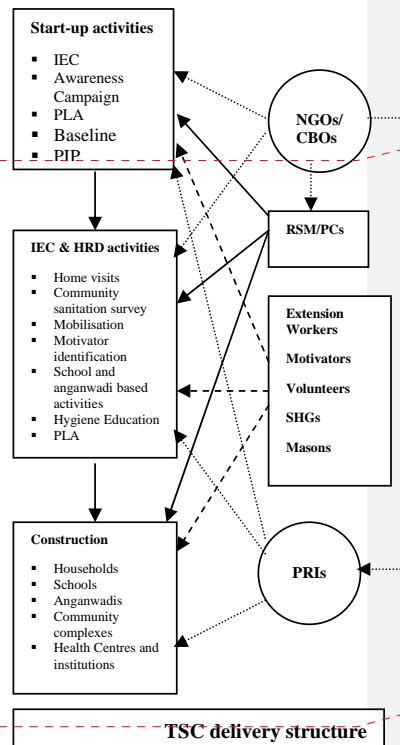
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The KAP study findings and internal gap analysis led the Government of India to restructure CRSP programme by removing the weaknesses in the programme. CRSP was restructured in 1999 with a provision for allocation-based component of CRSP to be phased out by the end of the 9th Plan i.e. 2001-2002. The **Total Sanitation Campaign (TSC)** under restructured CRSP was launched with effect from April 1999 following a community led and people centered approach. The TSC seeks to improve the quality of life in the rural areas through accelerated rural sanitation coverage, generation of felt need through awareness creation & health education; coverage of rural schools with sanitary facilities; encouragement for suitable, cost effective and appropriate technologies; check in absenteeism; and reduction in the incidence of water and sanitation related diseases. The main objectives of the TSC are:

- Bring about an improvement in the general quality of life in the rural areas.

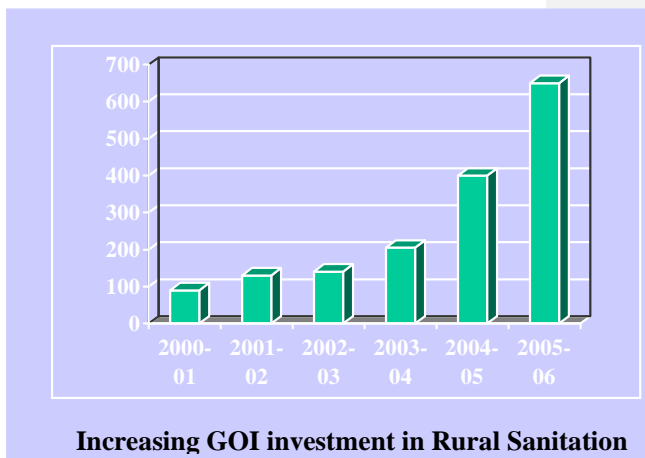
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- Accelerate sanitation coverage in rural areas.
- Generate felt demand for sanitation facilities through awareness creation and health education.
- Cover schools/ Anganwadis in rural areas with sanitation facilities and promote hygiene education and sanitary habits among students.
- Encourage cost effective and appropriate technologies in sanitation.
- Eliminate open defecation to minimize risk of contamination of drinking water sources and food.
- Convert dry latrines to pour flush latrines, and eliminate manual scavenging practice, wherever in existence in rural areas.

TSC advocates shift from **high subsidy to a low subsidy regime**, greater household involvement, demand responsiveness, and providing for the promotion of a range of simple and cost effective toilet options to increase the coverage. TSC is implemented on a campaign mode, taking district as a unit by involving PRIs, NGOs, SHGs, etc. So far, TSC projects have been sanctioned in 426 districts with the total outlay of US\$ 910 million.



Govt of India has given deep focus to hygiene aspects, which moves from personal to community hygiene. Schools are particularly targeted for hygiene education, as children are the change agents

Physical components sanctioned are:

- To provide Individual latrines to 35.3 million BPL households
- To ensure individual latrines to all uncovered APL households without subsidy through IEC
- To provide sanitation facilities to 0.385 million rural school toilets
- To provide baby friendly toilets in 86,871 Anganwadis
- To provide 27,136 community sanitary complexes.
- To establish 3,212 RSM/PC as alternate delivery system

who can ensure generational change on hygiene behaviour. Funds have been specifically earmarked for this purpose. TSC aims to make sanitation and hygiene a people's agenda through a management structure that makes the gram panchayat the prime mover, motivator and monitor of the programme. The challenge before the nation is to facilitate a process of providing resources

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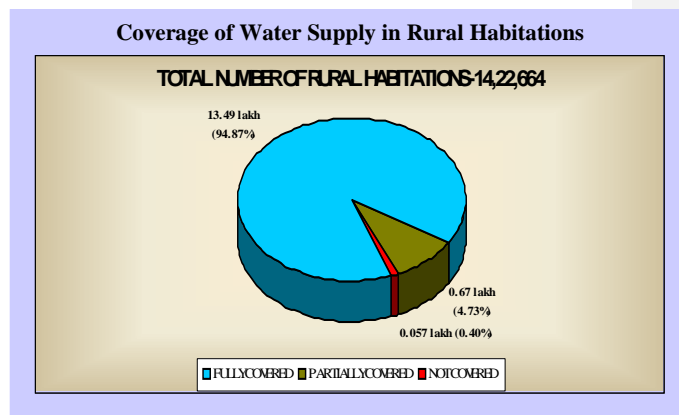
for decentralized capacity, institutional support systems, hardware, and software outreach and technical inputs for technology and design choices for nurturing the movement for sanitation and hygiene in every community. NGO and private sector participation with entrepreneurship in marketing household, school, and anganwadi toilets will be an integral part of the national strategy. The RGNDWM also continues to foster partnerships with key external support agencies such as DANIDA, WSP-SA, UNICEF, World Bank, WASH, IRC and WHO.

Achievements in rural water supply and sanitation sector

Experience shows that mission approach has been widely accepted in the water and sanitation programmes and the subsequent implementation has made significant progress in ensuring better watsan coverage and their sustainability. There are several success stories from many States of ~~which~~ uniformly reflect strong commitment to achieve results with a range of innovations that have brought the leaders and managers closer to the people.

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- **Water supply:** Many achievements have been recorded since the setting up of RGNDWM. Coverage of rural population increased from 56% habitations in 1985 to 99.6% habitation in 2004 due to implementation of ARWSP, SRP and Swajaldhara. ARWSP has seen substantial



increase in allocation of funds i.e. from about Rs 300 crore (US\$ 67 million) in 1999-2000 to Rs.3148 crore (US\$ 700 million) in the year 2004-05. Out of the total number of ~~1.42 million~~ rural habitations in the country, water supply has been extended to most of the habitations till 31st December 2003. Only 8,686 habitations still classified as Not Covered (NC) habitations are left to be provided with water supply. Since setting up of RGNDWM, 812066 habitations have been provided with water supply facilities. In SRP (67 districts) and Swajaldhara (in ~~409~~ districts) alone, ~~0.1 million~~ schemes were sanctioned with total outlay of Rs. 2,710 crore (US\$ ~~602 million~~) during the period of 1999-2005. From the sanctioned schemes, ~~77,505~~ have been completed. All the schemes are owned, operated and managed by the community.

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- **Water Quality:** While giving thrust on water quality, 3,54,673 problems villages have been covered since 1985-86. Gunieaworms have been completely eradicated from the country.

About 2,09,900 habitations in terms of water quality are left to be covered. Various other technological initiatives have been taken like preparation of hydrogeomorphological maps, etc for scientific source finding. Special Sub Mission projects were taken up to tackle water quality problems related to arsenic, fluoride, iron and nitrate. 120 Sub Mission and 55 Mini Missions projects were taken up since 1985, out of which 90% of them have been successfully completed.

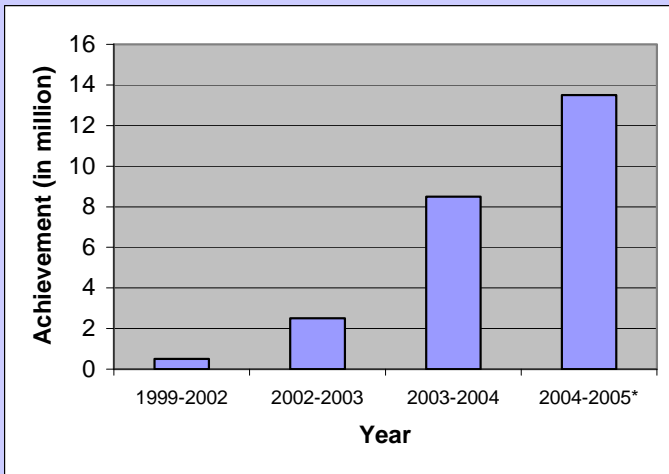
- Sanitation:** Although initial thrust on sanitation promotion was low but with the introduction of Total Sanitation Campaign (TSC) the sanitation coverage has been increasing steadily. The TSC projects have been sanctioned in 426 districts of the country with the total outlay of Rs.4135 crores (US\$ 910 million) out of which Centre, State and Community Share are Rs.2444 crore (US\$ 543 million), Rs.917 crore (US\$ 204 million) and Rs.774 crore (US\$ 172 million) respectively. The budgetary support for rural sanitation has been increased tremendously from Rs 92 crore (US\$ 20 million) in 1999-2000 to Rs 400 crore (US\$ 100 million) in 2004-05 which is going to be further increased to Rs.650 crore (US\$ 144 million) in 2005-06. It is proposed to sanction TSC projects in all remaining districts of the country.

Achievements in Sanitation

- More than 10 million households provided with toilet facilities
- Greater emphasis on School and Anganwadi toilets
- More than 115,000 schools provided with toilet facilities
- Big push to hygiene education in schools and communities
- Shift in focus from Subsidy to awareness creation
- Nirmal Gram Puraskar- an incentive scheme launched
- Increasing investment on sanitation. More than 500 PRIs fully sanitized
- About Rs 2,500 Crore (US\$ 550 million) earmarked by GOI upto 2007

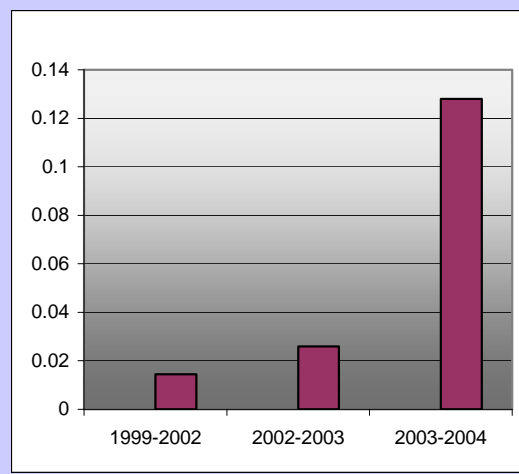
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The most reckoning achievement under TSC has been the coverage of 10 million household with toilet facility since 1999-2000 which has led to overall increase in sanitation coverage from 22% in 2001 to 30% in 2004. Of late there has been rapid growth in rural sanitation coverage. The achievements of other components are equally important; 115,000 school toilets, 3,800 community sanitary compels and 17,000 Anganwadi toilets have been constructed. Against the total of outlay of Rs.4138 crore (US\$ 910 million), center has released Rs.812 crore (US\$ 180 million) and state has released Rs.377 crore (US\$ 84 million) Deleted: and But the most striking aspect is the amount contributed by community i.e. Rs. 182 crore (US\$ 40 million) which clearly reflects how well the reform initiatives have been adopted by the Deleted: which community.



Rapid Growth in household coverage

* Projections based on achievement made so far



School Toilets constructed under TSC – Cumulative (in Millions)

- Decentralized Delivery Structure:** As discussed earlier, there is need for greater community involvement for better delivery and sustained use of water and supply schemes. For this purpose, the responsibility has been delegated to Panchayati Raj Institutions (PRIs) at District, sub district and village levels. District Water and Sanitation Missions (DWSM) have been set up in almost each district and in each village, Village Water and Sanitation Committees (VWSCs) have been set up. At the state level SWSM has been set up to coordinate and monitor the actions of DWSMs.
- Promoting Inter Sectoral Coordination;** Water supply and sanitation are managed by different agencies in many States. Therefore, greater involvement of all line departments is essential for successful implementation of the programme. To promote inter-sectoral coordination at State level, a State Water and Sanitation Mission (SWSM) has been constituted with representation of various sectors like Education, Health, Local Self Government such PRIs, Rural Development, Public Health Engineering and, Women and Child Development, etc. This is meant to function as a task force as well as implementing agency and help develop state level action plans on water and sanitation. District Water and Sanitation Mission (DWSM) and Village Water and Sanitation Committee (VWSC) are required to do

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similar coordination at their respective levels. To foster inter sectoral coordination at national level; coordination panel has been set up under the chairmanship of Secretary, DDWS with representation of all the line ministries to give policy direction to the programmes.

- **Priority to Hygiene education:** Hygiene education is very important component to change behavior. This is required to be imparted to the children in the schools as well as community in general. A national level communication strategy has been developed with the assistance of UNICEF to promote sanitation and hygiene behaviour. Similarly, prototype of district IEC strategy has also been developed for promoting interpersonal communication at district level. To provide adequate focus on hygiene education in schools, many initiatives have been taken to make it a part of the school curriculum. Coordination with Department of Elementary Education and Literacy is being made to incorporate it in the school. In addition, efforts are being made to train at least two teachers from each school on hygiene aspects. TSC has also earmarked separate funds for hygiene education.
- **Focus on Operation and Maintenance:** Mere construction of watsan is not enough. The operation and maintenance (O&M) of such facilities is to be ensured. Govt of India has taken many ~~efforts to~~ involve PRIs, PTAs, School Management ~~Committee and~~ School WATSAN/Health committees, Self Help Groups (SHG) which has been quite successful in many places. They are now involved in taking up the activities of operation and maintenance which includes resource mobilization for consumables and repairs, cleaning of watsan facilities, regular meetings on O&M issues, etc. School and community based operation and maintenance has emerged as one of the key strengths of TSC programme over the years. This has increased the level of participation and ownership.
- **Intensive Monitoring:** Programme with such magnitude needs regular monitoring at all level that includes community based monitoring, district, state and central level, which demands a lot of dedicated manpower and effective MIS system. Sufficient focus has been given to ensure better monitoring of RGNDWM programmes. It now covers not only physical and financial coverage but also tracks down the process level indicators. Online softwares have been developed for monitoring physical & financial progress as well as process indicators for easy

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availability of data from anywhere for TSC and Swajaldhara. Govt has released Rs. 98.74 crore (US\$ 22 million) to the states for computerization and establishment of MIS at district level.

In order to effectively monitor process level indicators, independent (third party) agencies are being appointed for each district, which will monitor TSC and Swajaldhara implementation and furnish online reports, which will be analyzed by experts in RGNDWM on daily basis.

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Constraints in Water & Sanitation Programmes

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If we have resounding achievements to narrate, constraints are also manifested in our programme implementation. Some of the constraints are:

- Coverage of water supply has increased to the extent of 99% but there are many habitations, which have slipped back from fully covered status to partially covered and not covered. Priority is to be given to such habitations.
- There are about 209,000 habitations still affected with water quality that need to be covered. There is low awareness among people about water quality issues.
- Sanitation coverage is still inadequate which needs to be increased with special focus on school sanitation and hygiene education (SSHE).
- Financial allocation in water and sanitation has increased but it certainly needs more resources. For this, separate concept papers have been prepared for water quality, TSC and SSHE and matter has been taken up with Finance Ministry as well as external agencies for additional funding.
- More investment in R&D needed to ensure affordable and simple technologies in water and sanitation sector.
- Ground water is fast depleting, which calls for water recharge and conservation systems to be strengthened.
- Under the reform process, many activities are now software based that need proper capacity building of different stakeholders supported by informative communication

approach and inputs; lack of this is hindering the successful implementation of reform programmes.

- Another main problem area is system sustainability. The total estimated cost for operation & maintenance of existing water supply schemes at the present value would be around Rs. 2000 crore (US\$ 444 million) per year. At present, the total available funds for O&M purposes are only about 15% of available funds. Hence, the gap between the available resources and total estimated total requirement of fund for O&M is rather large. The only possible solution to make the systems under the rural water supply programme sustainable is to decentralise their operation & maintenance by making the beneficiaries and Panchayat stakeholders in the system.

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Goals and Commitment

There is enough evidence as shared above that the reform initiatives in the rural water and sanitation sector are making a positive impact on the quality of life of rural people. Government of India plans to reach out water supply and sanitation facilities to all, ahead of the time limit fixed in Millennium Development Goals (MDGs). A target of halving by 2015 the proportion of people not having access to safe drinking water and basic sanitation facilities is clearly a priority for the nation. In addition, School Water Supply, Sanitation and Hygiene Education Programme (SSHE) is one of the prime concerns of Government of India. This is reflected in Government of India's goals to cover all rural schools by providing water, sanitation and hand washing facilities with separate toilet facilities for girls in co-ed schools along with hygiene education by 2006-07. In addition, Govt has also planned to cover all Anganwadis with toilet facilities by 2006-07. This also finds mention in 10th Plan document (2002-2007), "**School sanitation should be given highest priority to inculcate safe hygiene habits among school children**". Govt is also committed to eradicate the menace of open defecation by 2012.

Goals and Commitments

- **National Common Minimum Program** - availability of potable drinking water to all villages.
- **Xth Plan target** – consolidating coverage of all villages with safe drinking water by 2007– tackling slippages in coverage
- **Millennium Development Goal** – to halve by 2015 the population without access to safe drinking water and basic sanitation
 - Water supply to all by 2007
 - Sanitation facilities to all by 2010
 - Water supply and sanitation facilities in all schools by 2006-2007
 - Eradicate the menace of open defecation by 2012.

Strategies

Achieving the set goal especially in the context of Millennium Development Goals (MDGs) will need a clearly defined strategy not in terms of planning but also in implementation. The mission has sufficient capacity both technical and financial to carry forward the programme. The Govt of India has formulated the following strategies in this regard:

- **Coverage of all residual and slipped back habitations so as to ensure sustained supply of safe drinking water to rural habitation ahead of the time frame prescribed in Johannesburg plan of implementation.**
- **Launching of community based Water Quality Monitoring and Surveillance Programme in association with Ministry of Health, Govt of India:** The mission has planned to initiated a community based Water Quality Monitoring and Surveillance Programme following Catchment Area Approach on massive scale to solve the all quality related problems. For the same, sufficient funding is being made available. Focus on water quality affected habitations and tackling all quality related problems in time-bound manner is being given.
- **Sanction of TSC projects in all districts of the country so as to achieve MGD goals relating to basic sanitation ahead of the time frame provided in the Johannesburg plan of implementation:** The mission has already sanctioned 426 TSC projects; it is expected that by 2005-2006 all the remaining districts would be brought under TSC implementation.
- **Providing all rural schools and Anganwadis with safe drinking water and sanitation facilities in the shortest possible time:** The Mission, as informed above, has already set the target to cover all the schools by 2006-2007; accordingly States have been advised to prepare the action plan to ensure 100% coverage by this time.

MDG and Mission's Efforts

- Water Supply- only 0.4% habitations not covered with water. Few habitations expected to have slipped back but expected to be comfortably achieved
- Sanitation- Great challenge lies ahead
 - About 118 million rural household not having access to sanitation
 - About 59 million households to be provided with sanitation So far 10 million household covered since 2001-02

Current policy focus of the Mission

The Mission has revisited its focus in the view of National Common Minimum Programme adopted by the present Government of India, which has given highest priority to provide water and sanitation to all especially in rural areas. It clearly

Milestones of Mission

- From 2005-06, MOU will form the basis for all activities in the sector by Government of India & State Governments
- Covering newly emerged and slipped back FC/PC habitations by 2007
- Tackling quality problem habitations by 2010
- Ongoing TSC projects likely to result in 75% sanitation coverage of rural households by 2007
- Proportion of rural population in India without access to water and basic sanitation to go down to 0 by 2015

shows that there is enough political will to make water and sanitation programmes- a success. The focus has taken concrete shape, which is reflected in following interventions:

- **Memorandum of Understanding:** Government of India has taken initiatives to institutionalize the reform process initiated since 1999 onwards both in water supply and sanitation sector. In this process, the State Governments have to own up the reform process and take up key roles and responsibilities to give a fillip to the programme. As a result each state needs to devise a plan over a time frame depending on its socio, cultural, administrative and political set up. MOU will clearly define various milestones for pushing the reforms in the states.
- **Emphasis on Capacity Development and Communication through CCDU and Key Resource Centers:** Both Swajaldhara and TSC lay greater emphasis on use of IEC and HRD to generate awareness and create demand for water and sanitation facilities. Necessity of a State level institution with adequate funding and manpower support was felt to develop a comprehensive IEC and HRD strategy for the whole State and also to assist the districts to develop and implement the same at district level. To meet this requirement, **Communication and Capacity Development (CCD) Units are proposed to be set up in each State who** in turn will make State level IEC and HRD plan and also implement them. CCDUs will take up capacity development activities through a network of **Key Resource Centers (KRCs)** identified at the State and regional level. Government of India will also support such resource centers.
- **Demand Responsive Sanitation Programme:** With launching of TSC, the focus has been on demand responsive sanitation programme where attention is on IEC for demand generation. There is a shift from high to low subsidy regime and from supply driven to demand driven approach with the decision making lying with the community.
- **School Sanitation and Hygiene Education:** School Sanitation coverage in India is inadequate. The mission has, therefore, given special focus on schools by providing water and sanitation facilities and imparting hygiene education to children. In this perspective, school sanitation, health and hygiene education (popularly known as SSHE) programme has been taken up as part of TSC to address coverage issue health, hygiene and related issues and improve them.

- **Community Incentive Scheme:** To add vigour to sanitation drive, Govt of India initiated an incentive scheme for fully sanitized and open defecation free Gram Panchayats, Blocks, and Districts called the ' **Nirmal Gram Puraskar**' in 2003. The incentive provision is for PRIs as well as individuals and organizations that are the driving force for full sanitation coverage. This has helped PRIs to give more attention to sanitation programme.
- **Catchment Area Approach in water quality:** In order to ensure effective Water Quality Monitoring & Surveillance in Rural Areas, the mission has now given priority on 'Catchment Area Approach (CAA)' by establishing appropriate institutional mechanism right from Panchayat to State headquarters level including adequate infrastructure.

The WAY FORWARD in Global Context

In implementing the bold new approach in drinking water and sanitation, we are in the mode of learning by doing. In this context several important questions have emerged which we hope that **international experience** - lessons from other countries – will provide some insights. The answers to these questions will be essential in ensuring the successful operationalisation of water and sanitation sector reforms in India. These questions are equally applicable to the developing countries in Africa, Asia and Latin America. Some questions are flagged for deliberation in the Forum.

How do you manage transitions? Shifting from one set of existing institutional rules, practices and arrangements to the community led, participatory and demand-responsive mode - from the supply driven to demand-driven approach in water sector in the context of the political economy of countries is no small task. What have we learned from countries that have undergone deep institutional change in which mind shifts have taken place about managing a process of change? Perhaps, the World Bank and other External Support Agencies and Institutions will need to place appropriate emphasis on the process of change as they do on advocating change.

In a multi-tier system of government, how does one tier support and promote change in another tier? We are used to talking about un-bundling of services but we are less used to talking about service delivery in Governments, which should have been unbundled with constitutional rights and authorities to the Local Governments.

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What are the lessons here? To me a critical issue of the reform agenda in water sector is **what are the vehicles and processes through which local government capacity grows?** It is clear that a top down model of capacity building first and then

followed by decentralization is an old paradigm. Rather, **capacity building** must take place in the context of decentralization - a more challenging task. In this context, how best to support and nurture this synergy between capacity building and decentralization. The fate of the water sector may well depend on how we answer this question.

What are the potential institutions for providing water and sanitation services that fit into the systems of local governments and communities? We hear about city utilities, regional utilities for small towns, independent service providers, cooperatives, and much more. What is the potential of scaling up the creation of such institutions in developing countries? How can we design these to fit into the local government community paradigm? How can we support the capacity of Governments to manage these institutions?

GLOBAL WASH FORUM

During these 5 days, we will be discussing issues on drinking water and sanitation and define a road map towards achieving MDGs goal with a major focus on democratic decentralised and strengthen their capacity of local governments role in the water and sanitation sector, promotion of Public-Private Partnership and Private Sector participation in sector management with the ultimate objective of promoting poverty reduction strategies in the developing countries. We would learn a lot from the forthcoming deliberations.

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We have come to this international forum to engage together to find solutions to questions. I am confident that the deliberations in the coming days will seek to take stock of the international experience and assist us in answering these questions at least open up policies and principles that can enable us to innovate and search for the answers jointly. As I mentioned earlier, we are in the “**learning by doing**” mode and we see this forum as part of that process. Our collective experience is the necessary ingredient for finally converting the challenge faced in water sector into opportunities.

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Let us all work together globally to ensure a secured and sustained water and sanitation facilities to all.

Thank You

Abbreviations and Acronyms

| | |
|------------------|---|
| <u>ANM</u> | <u>Auxiliary Nurse Midwife</u> |
| <u>ARWSP</u> | <u>Accelerated Rural Water Supply Programme</u> |
| <u>AWW</u> | <u>Anganwadi worker</u> |
| <u>BDO</u> | <u>Block Development Officer</u> |
| <u>CCA</u> | <u>Catchment Area Approach</u> |
| <u>CCDU</u> | <u>Communication and Capacity Development Unit</u> |
| <u>CRSP</u> | <u>Centrally Sponsored Rural Sanitation Programme</u> |
| <u>CSD</u> | <u>Commission on Sustainable Development</u> |
| <u>DDWS</u> | <u>Department of Drinking Water Supply</u> |
| <u>DEE&L</u> | <u>Department of Elementary Education and Literacy</u> |
| <u>DPEP</u> | <u>District Primary Education Programme</u> |
| <u>DWCD</u> | <u>Department of Women and Child Development</u> |
| <u>FC</u> | <u>Fully Covered</u> |
| <u>GoI</u> | <u>Government of India</u> |
| <u>GP</u> | <u>Gram Panchayat</u> |
| <u>HRD</u> | <u>Human Resource Development</u> |
| <u>IEC</u> | <u>Information, Education and Communication</u> |
| <u>IMR</u> | <u>Infant Mortality Rate</u> |
| <u>KRC</u> | <u>Key Resource Center</u> |
| <u>MDG</u> | <u>Millennium Development Goal</u> |
| <u>MICS</u> | <u>Multiple Indicator Cluster Survey</u> |
| <u>MMR</u> | <u>Maternal Mortality Ratio</u> |
| <u>NC</u> | <u>Not Covered</u> |
| <u>NCAER</u> | <u>National Council for Applied Economic Research</u> |
| <u>NCERT</u> | <u>National Council for Education Research and Training</u> |
| <u>NDC</u> | <u>National Development Council</u> |
| <u>NFHS</u> | <u>National Family Health Survey</u> |
| <u>NGO</u> | <u>Non-governmental Organisation</u> |
| <u>NSS</u> | <u>National Sample Survey</u> |
| <u>PC</u> | <u>Partially Covered</u> |
| <u>PCs</u> | <u>Production Centres</u> |
| <u>PLA</u> | <u>Participatory Learning Appraisal</u> |
| <u>PRI</u> | <u>Panchayati Raj Institutions</u> |
| <u>PTA</u> | <u>Parent Teachers Association</u> |
| <u>R&D</u> | <u>Research and Development</u> |
| <u>RGNDWM</u> | <u>Rajiv Gandhi National Drinking Water Mission</u> |
| <u>RSM</u> | <u>Rural Sanitary Mart</u> |
| <u>SHG</u> | <u>Self-Help Group</u> |
| <u>SMC</u> | <u>School Management Committee</u> |
| <u>SRP</u> | <u>Sector Reform Project</u> |

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|---------------|---|
| <u>SSA</u> | <u>Sarva Siksha Abhiyan</u> |
| <u>SWSM</u> | <u>State Water Sanitation Mission</u> |
| <u>TSC</u> | <u>Total Sanitation Campaign</u> |
| <u>TSP</u> | <u>Tribal Sub-Plan</u> |
| <u>UN</u> | <u>United Nations</u> |
| <u>UNCED</u> | <u>United Nations Conference on Environment and Development</u> |
| <u>UNICEF</u> | <u>United Nations Children's Fund</u> |
| <u>VEC</u> | <u>Village Education Committee</u> |
| <u>VWSC</u> | <u>Village Sanitation Committee</u> |
| <u>WSSD</u> | <u>World Summit on Sustainable Development</u> |
| <u>ZP</u> | <u>Zilla Parishad</u> |