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## DISCUSSION PAPER

# Water supply and sanitation sector challenges in India

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### Introduction

Rapid urbanisation is causing deterioration in the physical environment and quality of life in cities on account of widening gap between demand and supply of essential services such as safe drinking water supply and sanitation. The urban poor, particularly the slum dwellers are susceptible to diseases due to lack of these basic amenities. Small and medium towns need special attention as the situation is far from satisfactory.

### Water supply

While the demand for fresh water is increasing, water resources are depleting day by day. The majority of metro and mega cities are drawing water from distant sources due to which the cost of conveyance of water is high. Measures such as legislation to control and regulate abstraction of water from different sources, apportioning of available water sources for various beneficial purposes given top priority to drinking water supply needs through a long term planning are very essential. Cost of treating water is also going up due to indiscriminate discharge of untreated effluents into water bodies. Re-use and recycling of effluents and conservation of water is the need of the day and as such must be practised.

### Operation and maintenance

By and large, municipalities are unable to operate and maintain water supply and sanitation systems due to inadequate financial resources and trained technical manpower. About 30 to 40% of precious water is wasted/lost through leakages. Efficient and effective operation and maintenance will save considerable quantity of water, prevent possible contamination and improve pressures in the distribution system and increase revenue. In the core areas of many cities, Water Supply mains and sewers which were laid about 50-75 years back are in very bad condition and as such need rehabilitation/renovation at the earliest, by providing suitable lining so that their life can be increased further and thus replacement could be avoided for some years to come.

### Sanitation

While conventional sewerage and sewage treatment plants are necessary in major cities, low cost sanitation systems have to be provided in the fringe areas of all major cities, slum settlements as well as small and medium towns. "Pay and use" type of sanitary toilets are effective in slums and

public places. Due to high energy requirements, O&M of conventional sewage treatment plants is very expensive. As such, appropriate technologies such as UASB, duckweed ponds followed by fish ponds may be adopted wherever feasible by which adequate cost recovery is possible through the sale of bio-gas, harvested duckweed and fish.

### Solid waste management

Solid waste management is a major problem in metro cities. In these cities the existing land fill sites are getting filled up fast and as such new sites have to be identified at far off distances. Scientific and hygienic techniques of garbage collection, transportation and sanitary disposal have to be adopted to get better results. Compost made out of city garbage is not attracting farmers due to low NPK value and high production cost. Incineration of solid wastes is not cost effective. Efforts should be made to extract methane gas from landfill sites, to generate some revenue.

### Financial resources

Plan outlays provided for urban water supply and sanitation sector are not adequate to implement the schemes so as to achieve 100% population coverage with safe drinking water supply facilities and 75% with hygienic sanitation facilities by the year 2000 A.D. As such, additional financial resources have to be mobilised outside the plan, by the concerned water supply and sanitation authorities in the country. External support agencies (ESA) may be requested to step up their assistance considerably. Water tariff and sewerage charges have to be levied on a realistic basis and collected effectively to mobilise adequate revenue in order to recover back the capital cost with interest and maintain the systems effectively. Where economically weaker sections of the society live the service charges should be levied as per their paying capacity. Community participation involving women will go a long way in effective planning, execution and maintenance of the services in slum settlements.

### Privatisation

Privatisation of water supply and sanitation is a long felt need of the country. To begin with, newly developed urban areas may be entrusted to private agencies to build water supply and sanitation schemes, operate and maintain them for a period of 10-15 years and then transfer the same to the concerned local bodies for further maintenance and improvement.