Design Summary and Implementation Document
World Bank Water and Sanitation in India

Program rationale

1. While India is making good progress in increasing access to water supply and sanitation infrastructure it is lagging behind in access to service that is reliable, sustainable and affordable. In sanitation, rural coverage jumped from 1% in 1990 to 18% in 2006 - this compounded annual increase of 27% will likely enable the country to reach MDG rural sanitation targets. The urban population share with access to basic sanitation, which rose from 43% in 1990 to 52% in 2006, is likely to improve to 81.5% by 2015, thus exceeding the theoretical MDG target of 71.5%.

2. However, water supply and sanitation in India continue to be inadequate, despite longstanding efforts by the various levels of government and communities at improving coverage. The challenges facing the water and sanitation sector in India are well understood – low tariffs, poor cost recovery, lack of clearly delineated service providers, poor accountability/autonomy when there are service providers, low managerial/financial capacity and excessive politicization in the larger cities, and often with supply driven/monopolistic agencies having sector responsibility at the State level. Sector financing is heavily reliant on grants from National and State governments both for investment and recurring expenses. Decentralization is underway but has not yet delivered on its potential to bring accountability at the local level. The process is hampered by lack of real financial transfers to the local authorities, limited ability of local governments to raise revenues, weak capacity, and resistance amongst state agencies and actors to loosen their grip on power.

3. This provides a challenge both for rural and urban water and sanitation activities. Rural schemes, which have traditionally relied on community based management for their management, need to be linked back into local government institutions for improved sustainability and accountability - but these institutions remain weak. Reform is integral to rural water supply and sanitation programmes to decentralise service delivery, improve governance, build capacity and involve NGO's and private sector providers. Urban schemes face a lack of interest and capacity amongst urban local bodies to take responsibility for services – preferring instead to leave this to the State agencies who can then be blamed for poor performance. Increasing urbanization is also resulting in increasing numbers of urban poor who need to access services.

4. The Ganga basin (which also extends into parts of Nepal, China and Bangladesh) accounts for 26 percent of India's landmass, 30 percent of its water resources, and more than 40 percent of its population. The Ganga river is under extreme pollution pressures and faces significant threats to its biodiversity, environmental sustainability, and both the quantity and quality of its flows. Due to increasing population in the basin and poor management of urbanization and industrial growth, river water quality has significantly deteriorated, particularly in the dry season. The primary sources of pollution are untreated sewage and industrial wastewater. At present, only one-third of the sewage generated in the main-stem towns and cities is treated before being discharged into the river.

5. The rationale for AusAID engagement in water and sanitation in India was spelt out in the Concept Document for the South Asia W&S initiative (see Annex1).

Proposed program

6. In the 2008 budget, the Australian Government announced $300 million over three years to address the critical challenge to health and well being posed by inadequate access to clean water and sanitation. Subsequently, on 1 October 2008, the Minister agreed to provide $20 million of the allocated funds to water and sanitation initiatives in South Asia.

7. An AusAID identification mission visited South Asia in early 2009 and the report from the Mission was considered by a Concept Peer Review on 20 August. The Peer Review accepted the Mission's recommendations to allocate funds to identified activities in Bangladesh and Nepal and to provide $4.3 million through the World Bank water and sanitation program in India.

8. The proposed engagement in the World Bank water and sanitation program is consistent with third objective of AusAID's Draft India Country Strategy: 'enhance delivery of basic services, focusing on water and sanitation and public health.' The proposed program is also consistent with the high priority given to water and sanitation in South Asia.

9. In 2003-2005, AusAID funded a program to improve water and sanitation services in Gantok, the capital of Sikkim and Shillong, the capital of Meghalaya. The planned seven year program was scaled back from $40m to $16 m over two years at the request of the Australian Foreign Minister in response to an Indian review of its bilateral aid programs. While this was an Australian managed project, it is proposed that in future AusAID work in partnership with another donor(s) and not manage any intervention itself. Since 2005, AusAID has provided $10 million in support to the World Bank Water and Sanitation Program (WSP) to address policy and institutional capacity issues.

10. As AusAID is committed to increase support for improved service delivery in W&S, it is proposed that the new contribution be linked to the investment program of the World Bank South Asia Sustainable Development Department (SASDD) in Urban and Rural W&S. By partnering with the World Bank, AusAID will gain the benefit of the Bank's experience in working in the sector in India over the past decade. AusAID is also providing $3 million over 3 years to the World Bank (SASSD, Environment and Water Unit) coordinated South Asia Water Initiative (SAWI) under the regional program. SAWI has given high priority to assisting with the preparation of the World Bank loan to support the National Ganga River Basin Authority. The NGRBA was established by the Prime Minister in 2009 and the initial objective of the NGRBA is to improve the quality of the Ganga River, especially in the mid region from north of Delhi to Varanasi. While industrial waste is a major pollutant in the river, sewage is also a significan contributor. By investing in the WSI India initiative, AusAID will contribute to larger Bank investments aimed at improving sewage treatment and management of waste in the Ganga Basin thereby contributing to the goal of the NGRBA. This contributes the harmonization of AusAID's investments in water resource management in the Ganges Basin, including managing waste and improving water quality.

11. In developing the W&S program with the World Bank, AusAID has sought to draw on the experience of its WSP engagement. WSP has contributed to assisting towns and cities in India prepare water and sanitation plans. Nay of the towns and cities lie within the Ganga Basin. The next step is to assist these towns and cities to access GPI funds under such program as

the JNNURM to implement the WSS plans. As described in the WB PDD, a major challenge in the WSS sector in India is translating plans into activities that deliver improved services to the people of the towns and cities as well as people in rural areas. This challenge is often referred to as the implementation gap. One of the proposed activities under the WB WSI India program is to assist with implementation of the WSS plans and it will work with WSP to implement the plans in selected towns and cities. AusAID has asked that its funding be targeted to cities and towns in the Ganga Basin to link the investment and WSP experience to the primary objective of the NGRBA: to improve the quality of the water resources in the Ganges. By linking the three areas of engagement with the World Bank in India, AusAID seeks to build synergies and increase the impact of our investment. It also links our W&S investment to the centrality of the Ganges for the wellbeing and livelihood of 400 million people in India and to the second objective of the AusAID Draft India strategy: 'to improve water resource management and increase food security in response to climate change.'

12. The most effective way for AusAID to support the W&S sector in India is in building the capacity of local government to deliver water and sanitation services with a focus on the poor. World Bank has a number of programs in rural and urban areas with a policy, reform, and advocacy focus that provides the most flexible option for AusAID funding. Working in partnership with the World Bank is an appropriate modality for AusAID support in India and will result in improved knowledge, learning and capacity in local government to deliver services

Proposed AusAID funding

13. AusAID plans to contribute $6.0 m in 2010-11 to be allocated over 3 years. In 2010-11, the funds will be allocated for the Water and Sanitation Initiative for South Asia and funding in subsequent years will depend on budget allocation.

14. In broad terms the initiative will allocate its funding in two ways: Firstly, it will contribute to creating demand for reform in the urban and rural water and sanitation sectors. This would support activities at the various levels of government, and activities for which funding requests have been received from Government of India but no formal Project Concept Note (PCN) meeting has taken place in the World Bank. (Up to 40% of the fund). Secondly, support will be provided for detailed design and implementation of urban and rural, water and sanitation, projects identified for World Bank financing. Such support being predicated on either a Project Concept Note (PCN) meeting having taken place and Bank management having given the go ahead to progress project preparation or the project having been approved by the Board of the World Bank (A minimum of 60% of the fund).

Implementation arrangements

15. One annual payment will be made each year to a newly established World Bank Trust Fund. These funds will be managed at the level of the World Bank South Asia Region by the Sector Manager Urban and Water who is also the Program Manager for the Policy Advocacy Facility for Decentralization and Service Delivery that AusAID has been funding since 2007. The funds will be used for Bank executed activities that cover the thematic areas specified and meet the objectives of the Trust Fund (TF). Activity identification and selection for funding will be on a two step basis. In the first the Urban and Water unit (SASDU) and the AusAID India Country

Program, will agree on the thematic alignment of proposed activities to be funded as laid out in this note. In the second step funding proposals initiated by Bank Task Team Leaders will be ranked and a shortlist of proposals to be funded prepared by the program manager. An Annual Report will be provided in July of each year to AusAID on the utilization of the funds. Reporting to AusAID will be through the Trust Fund reporting mechanisms with involvement of AusAID New Delhi. AusAID resource requirements will be required for consultations with the Bank Program Manager during program planning stages as well as in periodic monitoring of program progress.

16. Funds will be channeled through a new single donor TF established for South Asia. The decision to establish a new TF rather than use the exiting Policy Advocacy Facility was made to ensure that the funds allocated are used for W&S activities only. Under the broad objectives of the existing TF, funds deposited can be accessed by any section within SASDD. AusAID was concerned to see that the funds remained earmarked for W&S and it was agreed a new TF be established for South Asia with an initial specific window for W&S in India. Further windows for other sectors can be subsequently established under this new TF.

Meeting AusAID Quality Principles

Clearly stated objectives

17. The aim of AusAID's support is to improve the quality of the Bank's investment in Urban and Rural Water and Sanitation programs and in the National Ganga River Basin Authority established by the Government of India in 2009. The development objectives of the initiative are outlined in more detail in paragraphs 39-43 in the PDD.

Monitoring and evaluation

18. The AusAID investment will be monitored by the AusAID New Delhi post through regular meetings with the WB New Delhi project managers. All activities under the WSI-India would be subject to the standard internal World Bank quality assurance process, including peer reviews of concept notes, terms of references of consultants and outputs of the latter. An Annual Report would be provided in July of each year to AusAID on the utilization of the funds and implementation progress. Reporting to AusAID would be through the existing TF reporting mechanisms.

19. A mid –term review would take place after 18 months to review progress and, if necessary adjust the breakdown of the budget. The World Bank South Asia Region (SAR) would ensure that Australian funding and identity are recognized for all activities funded under the WSI-India both within the World Bank and externally with clients.

20. High level performance indicators for the WSI India program would include:

- Number of knowledge products or events supported by the program
- Value of World Bank projects benefiting from program support

21. The outputs of the WSI-India program would be determined by the particular activities being financed but would be carefully monitored and include:

- Number of urban and rural WSS reform documents prepared
- Number of urban and rural WSS workshops organized and number of participants

- Number and value of World Bank projects under preparation which have benefited from WSI-India support
- Number and value of World Bank projects under implementation which have benefited from WSI-India support

Further details are included in paragraph 47 of the PDD.

22. The impact of the WSI-India on the reliability, efficiency, sustainability and affordability of the WSS service in both urban and rural areas is likely to be measurable only several years after the completion of the program. A series of impact monitoring indicators would be proposed for World Bank financed projects that would have benefited from WSI-India assistance. These could include for example:

- Reliability: permanence of the water supply service; quality of the water distributed; overflow of raw sewage in storm water drains…
- Efficiency: NRW, energy consumption, staffing ratio, collection ratio, outsourcing…
- Financial sustainability: working ratio; debt service ratio…
- Environmental sustainability: reliance on individual ground water sources; percentage of effluent treated; evolution of the ambient water quality…
- Affordability: share of the total WSS budget in household budgets; share of the budget for substitutes to piped water in household budget…

Addressing sustainability

23. The World Bank design document identifies the key National, State and local Government authorities and stakeholders in water and sanitation in India. The project targets policy and institutional reform to improve the sustainability prospects for urban and rural W&S services. See paragraphs 24 and 25 in the PDD.

24. *Financial sustainability*. In urban areas, inefficiencies are encouraged by the fact that WSS service providers are not required to recover their operation and maintenance (O&M) costs, let alone capital costs, from collected user charges. Even in mega-cities, WSS service providers are highly dependent upon fiscal transfers to survive. Similarly, most rural water supply schemes survive on large operating subsidies provided by States since user charges that are collected are not sufficient to recover O&M costs, and capital costs.

25. *Environmental sustainability*. This WB WSI activity will not implement any on the ground water and sanitation construction. Its focus is to assist and advise the preparation of larger World Bank loan projects. However, this activity along with all other loan projects are required to meet the World Bank's environment protection policies and procedures including the use of Environment and Social Management Frameworks (ESMF) and sub project specific Environmental Management Plans. Compliance with these requirements is essential before any activity is submitted for Board approval. AusAID has investigated these procedures and endorsed them as meeting AusAID's requirements. In providing support to World Bank activities, AusAID accepts that due environmental diligence will be undertaken by the Bank and it is not required that AusAID replicate this environmental due diligence. However, AusAID is required under Australia law to ensure that the activity complies with the ECBC Act and this is done through a checklist at time of entering the activity into Aidworks. This procedure will be followed in regards to this activity. It is also incumbent on AusAID to monitor WB activities to see that they comply with the Banks own requirements. This will be done through the M&E framework.

26. Environmental issues identified in urban areas include inadequate pricing of water that leads to excessive water consumption, and thus more quantities of wastewater disposed than necessary. Receiving bodies are heavily polluted by discharge of municipal wastewaters, as only a fraction is treated before final disposal and operation of existing wastewater treatment plants is often unsatisfactory. Due to a deficient piped WSS service, many customers have no other options than to revert to substitutes such as backyard boreholes and wells or on-site sanitation that endanger the sustainability and quality of local aquifers.

27. In many States, depleting groundwater tables and deteriorating water quality in rural areas are threatening source sustainability. Excessive salinity, fluoride or arsenic contents are common in some parts of the country. Open defecation practice results in high morbidity and mortality.

Risk management

28. The main risks associated with the project are:

- The difficulty of maintaining "champions" involved in the design of reforms in an environment where civil servants are regularly rotated;
- The difficulty of engaging with civil society representatives who need to move beyond protecting vested interests and towards improving the quality, sustainability and affordability of the service;
- The limited ownership by local stakeholders of reforms proposed by consultants recruited by and reporting to the World Bank; and
- The incapacity of translating into concrete actions otherwise well formulated Vision and Development Policy Statements

The details of these risks are outlined in greater detail in paragraph 49 in the World Bank PDD.

Based on sound technical analysis and continuous learning.

29. The World Bank PDD identifies several key lessons learnt from past experiences in the rural and urban water and sanitation sectors. They are outlined in more detail in paragraphs 33-38. A key lesson learnt from the past is that bridging the gap between infrastructure and service is the main challenge of the Indian WSS sector. A World Bank report focusing on this subject suggests that this would require major shifts of policies, institutional arrangements and incentives.[1]

30. In the urban sector, the World Bank executed WSP in South Asia has for the last 10 years, been actively promoting the benefits of internationally accepted good urban WSS practices, such as public-private partnerships (PPP), reduction in non-revenue water, energy efficiency or permanent 24/7 water supply. In the rural WSS sector, the dialogue has been easier as GOI embraced internationally accepted good practice, such as community involvement and financial contribution of beneficiaries even if a large percentage of development subsidies are directed to supply driven schemes and the focus is still placed on delivery of new infrastructure.

31. The recent progress in rural WSS sector is due to GOI playing a key role in promoting new ways of doing business. This is yet to happen in the urban WSS sector where GOI has played a limited role so far and potential champions for reforms in the States are regularly rotated before they can deliver. The experience highlights the need to identify and support Champions for reform in urban WSS.

[1] India – Water Supply and Sanitation – Bridging the Gap between Infrastructure and Service, the World Bank, 2006

32. Even though a private industry of providers of substitutes to piped WSS flourishes in most Indian cities, there are only few examples of formal public-private partnerships (PPP) designed to help improve reliability and sustainability of the WSS service. The obvious reluctance to consider PPP for large WSS operations probably has its roots in the facts that: (i) it may have, at least initially, to rely on international professional expertise; (ii) efficiency gains may result in the right sizing of overstaffed Municipal WSS Boards; and (iii) better financial discipline would require improved pricing and cost recovery procedures.[2]

33. As demonstrated by the Delhi experience, the political economy of reforming the Indian WSS sector particularly in urban areas is highly complex and not yet fully understood by external partners, including by the World Bank. Stakeholders to be involved in a consensus building process are many, and powerful vested interests that would lose significantly if the way the WSS business is currently organized were to be changed are not always well identified.

34. Supply driven engineering lobbies in SEA, that have so far successfully convinced decision makers that the only solution to the problems of the sector is adding more infrastructure;
Providers of substitutes to the piped WSS service, such as drilling companies, suppliers of individual tanks, tanker trucks or water vendors, who operate in most urban centers, are another category of stakeholders unlikely to let improved piped WSS service providers regain larger shares of the WSS market without proper compensation;[3] and
Officials who engage in fraud and corruption, a phenomenon surmised to be widespread, but that has not been systematically documented to help prepare mitigation programs. In South Asia, it is usually accepted that 20 to 30% of the cash injected in the WSS sector by customers and public financing sources is eventually diverted by vested interests through fraudulent and corrupt practices.[4]

Crosscutting issues: Gender

35. India's Planning Commission has recognized the need to enhance and protect water resources and invest in and protect women's access to water. In a recent working paper contributing to the formulation of the 11th Five Year Plan (2007-2012), it notes that gender issues arise in relation to both domestic water use especially for drinking (which women primarily collect) as well as water for irrigation (which women farmers tend to have little access to). National targets for clean drinking water should recognize that in many villages there is retrogression and a falling back and very large numbers of all urban and rural households lack this basic need. The paper notes that 25% of slum women and an even higher proportion of rural women have no access to drinking water within reasonable distances. Planning for drinking water needs to be sustainable and cannot be left to the market. Issues regarding quality of water as well as monitoring of ground water levels need to be addressed. In addition, rural women's access to irrigation water for their fields and their equal participation in water user's association are essential. Women must be made key actors in management of local

[2] Mumbai, for example, has been investigating without success during the last 10 years the possibility of implementing a pilot PPP to improve the quality of the WSS service while avoiding to address these issues.

[3] A comprehensive survey carried out in Delhi in 2006 clearly identified that DJB (which serves about 15 million people through 1.5 million connections) collects only about half of the cash injected by household and businesses for their WSS service. Smita Misra, 2009

[4] Corruption in Public Services Delivery; Experience from South Asia's Water and Sanitation Sector; Jennifer Davis, 2003

water bodies and women should constitute at least 50% of the members of Water Users Associations set up for participatory irrigation management.

36. Lack of awareness and socio-cultural attitudes have meant that sanitation has not received the recognition it deserves. This forces a large number of households to the continued indignity of open defecation. This has adverse impacts on health, well-being and dignity, and is an acute problem especially for women and young girls. This is because women and young girls often have to wait until after dark to defecate which increases the risk of urinary tract infections, chronic constipation and psychological stress. Women are also vulnerable to physical and sexual violence if they are forced to wait until early morning or late evenings to look for a secluded space in which to defecate. Lack of toilets also makes it difficult to manage discreetly symptoms related to pregnancy, menstruation and child birth. The absence of sanitary facilities in schools is also linked to female drop-out, especially at puberty. Finally, recruitment and retention of female teachers is also affected by lack of proper sanitary facilities in schools.

37. Field evidence in India shows that the involvement of women in water and sanitation programs increases the likelihood of successful interventions. In light of the significant gender dimension of sanitation, the Total Sanitation Campaign Guidelines encourage the involvement of women in the implementation of the program. The guidelines suggest that women's thrift and credit groups or other committees may be involved in mobilizations as well as entrepreneurial activities such as supplies of sanitary materials and services.

38. The Total Sanitation Campaign (TSC) and the Nirmal Gram Puraskar (NGP), by its emphasis on collective achievement of safe sanitation, is effectively an inclusive approach by including the marginalized populations, involving the poor and women. A focus on Total Sanitation as the goal means that the whole community has to achieve access to safe sanitation, which makes the community address the sanitation needs of the marginal populations as well. Incentives are targeted at Below Poverty Line households. Regular monitoring is done to ensure coverage of schedule caste and schedule tribe households. The new school toilet designs incorporate requirements of disabled and girls including menstrual hygiene. In schools especially, disposal of sanitary napkins in girls' toilets is big problem from the health aspects.

39. A national sanitation policy in 2001 earmarked a maximum of 6 percent of the budget for Village Sanitary Complexes for Women and stipulated separate school toilets for girls. It also stressed that all family members should be trained on upkeep and maintenance. The policy overlooked, however, gender equality in decision making, organizations, training, functions, and paid work. It also overlooked the different needs for, access to and channels of information for women and men.

Disability

40. Performance indicators of WSS service providers, such as NRW, collection and staffing ratios are usually low by international standards, but the paucity of the data generated by WSS service providers often only allows guesstimates. Inefficiencies translate into higher than necessary operating expenditures. However, it is recognized that efforts to reduce the costs of WSS infrastructure must take into account the need to ensure universal design principles are used, and that the specific accessibility needs of people with disabilities, as well as other vulnerable groups, are considered and incorporated into designs

41. Access to services is not the same as utilization; for people with disabilities, the ability to use WSS services can rely on additional factors or standards than for the wider population. For example, if infrastructure is not designed to be physically accessible then people with certain

physical impairments may not be able to use it. In addition, standards for maximum distances from water points or latrines might not be appropriate for people with some impairment, for whom travelling even relatively short distances may be very difficult and/or time-consuming. Special attention will be given in the Social Inclusion study to ensure that the needs of disabled people are effectively included in WSS design work.

Climate Change:

42. Nearly 400 million people live on less than $1 a day, with the majority of these people living in the Ganges Basin and depending on the waters of the Ganges and its tributaries for their food security. The 2030 Water Resources Group/ McKinsey report concluded that by 2030, demand for water in India will be more than twice available supply. By virtue of demographics, topography and geography, India is ground zero for climate change. The impacts of climate change in India are likely to have wide ranging impacts on water availability, food security and health. Increased frequency of extreme weather events will increase India's susceptibility to natural disasters.

43. Improved management of India's water resources is critical to adapting to the impacts of climate change. A key element of managing water resources is improving the efficient use of water and protecting its quality. The WSI India will address these two key issues and thereby contribute to climate change adaptation in India. The principle risk that climate change poses to the WSI Initiative is that there will be insufficient water available to maintain the flow in sewage systems all year round. While the wet season flow is very substantial, increase demand for water and greater water storage up-stream could significantly reduce the dry season flow.

5 April 2011

ANNEX 1: Rationale for engagement in Water and Sanitation in India

1. India accounts for almost 76% of South Asia's population and is a major economic growth catalyst for the region. In 1990 India was among those that posted the lowest coverage figures in water supply. Since then it has made significant advances, posting 96% coverage in urban areas and 86% coverage in rural areas, and is projected to achieve the MDG target for water supply by 2015. However, the development of piped water supply infrastructure appears to be slightly behind schedule, suggesting a need to accelerate investment. While India is making good progress in increasing access to water supply and sanitation infrastructure it is lagging behind in access to service that is reliable, sustainable and affordable. In sanitation, rural coverage jumped from 1% in 1990 to 18% in 2006 - this compounded annual increase of 27% will likely enable the country to reach MDG rural sanitation targets. The urban population share with access to basic sanitation, which rose from 43% in 1990 to 52% in 2006, is likely to improve to 81.5% by 2015, thus exceeding the theoretical MDG target of 71.5%.

2. Water supply and sanitation in India continue to be inadequate, despite longstanding efforts by the various levels of government and communities at improving coverage. The situation is particularly inadequate for sanitation, since only one of three Indians has access to improved sanitation facilities (including improved latrines). While the share of those with access to an improved water source is much higher than for sanitation, the quality of service is poor and most users that are counted as having access, receive water of dubious quality and only on an intermittent basis. As of 2003, it was estimated that only 30% of India's wastewater was being treated, with the remainder flowing into rivers or groundwater. The lack of toilet facilities in many areas also presents a major health risk; open defecation is widespread even in urban areas of India, and it was estimated in 2002 by the World Health Organisation that around 700,000 Indians die each year from diarrhoea.

3. ***Sector Policy and Legislation***: In 1993, the Indian constitution and relevant state legislations were amended in order to decentralize certain responsibilities, including water supply and sanitation, to municipalities and elected local bodies called *Panchayati Raj* Institutions in rural areas. Since the assignment of responsibilities to municipalities is a state responsibility, different states have followed different approaches. In 1999, a demand-driven and people-centered sanitation program under the name Total Sanitation Campaign (TSC) or Community-Led Total Sanitation (CLTS) was initiated. Since 2002, the Government of India has rolled out at the national level a program to change the way in which water and sanitation services are supported in rural areas. The program, called *Swajaldhara*, includes the phasing out of supply driven programs; decentralizing service delivery responsibility to rural local governments and user groups; adopting an integrated approach to water supply and sanitation and improving hygiene behaviour as well as generating sanitation demand through awareness campaigns.

4. ***Sectoral Institutions:*** Water supply and sanitation is a State responsibility under the Indian Constitution. States are devolving responsibility to local government under India's decentralisation policy - *Panchayati Raj* Institutions in rural areas or municipalities/urban local bodies in urban areas. At present, states generally plan, design and execute water supply

schemes and often operate them through state agencies like the Departments of Public Health Engineering and Rural Development as well as State Water Boards. The Ministries of Urban Development and Rural Development are the main federal agencies responsible for policy formulation and coordination of water and sanitation programs for urban and rural areas respectively.

5. ***Training Institutions:*** India has a rich network of academic and research institutions that provide training and support for the water and sanitation sector. These including the large number of technical and engineering colleges, management and civil service training institutions like the Administration Staff College of India and Academies of Administration at the state level and specialised water sector Indian. A Public Health Engineering Training Programme was established in 1956 under which some 108 in-service engineers are provided post-graduate courses every year. The Central Public Health and Environmental Engineering Organisation (CPHEEO) regularly conducts short-term courses for the water industry and produces guidelines and manuals for design, construction and operations of water and wastewater facilities.

6. ***Sector Financing:*** The Government of India funds large-scale investment programs in water and sanitation in urban and rural areas under its Jawaharlal Nehru National Urban Renewal Mission (NURM) and Swajaldhara funding state and local governments under its decentralisation policy. It also accesses significant levels of financing from the World Bank and Asian Development Bank for its water sector initiatives. Based on preliminary estimates, meeting the MDG target in urban and rural areas would require capital investments of about US$22 billion and US$16.5 billion respectively by 2015. Despite this massive investment, WaterAid in a recent study indicates a possible shortfall of some US$6.4 billion in the financing needed up to 2015 to reach the MDG target for rural sanitation.

7. While the level of investment in water and sanitation is relatively high, the local government institutions in charge of operating and maintaining the infrastructure are weak and lack the financial resources to carry out their functions, partly due to very low tariff levels.

8. ***Urban sub-sector:*** India has experienced rapid economic development over the past decade but has identified there is a gap in delivery of services in urban and rural areas and need for sector reform. Towns and cities in India are growing rapidly and there is continuing migration from rural areas to urban centres as people seek jobs. Urban development has increased the slums areas and account for about 25% of the urban area. Service coverage is low and the quality of service is low with many water systems not capable of delivering 24/7 water supply. Sanitation in particular presents many problems and in many settlements residents rely almost entirely on public toilets. Critical issues of poor local governance, weak finances, poor planning, infrastructure gaps and the deteriorating urban environment Challenges include improving the capacity of local government to plan, deliver and maintain sustainable services. It is particularly difficult to increase access to sanitation without having an adverse impact on the urban environment.

9. The Government of India recently adopted a National Urban Sanitation Policy The Ministry of Urban Development (MoUD) announced a new award plan, as part of this initiative,

to motivate cities and urban local bodies to achieve total sanitation. The Nirmal Shahar Puraskar (Clean Cities Award), designed along the lines of the rural sanitation rewards scheme, honors cities that achieve total sanitation, including open defecation-free (ODF) status and 100 percent safe waste disposal. A national task advisory group on urban sanitation has been established to mobilize governments and civil society to create community-driven Nirmal Shahars, or totally sanitized cities and towns. The MoUD also developed guidance notes for states and cities to design strategies, detailing key institutional, financial, and social indicators required for implementation. States and cities must change collective behavior regarding sanitation to ensure sustainability of resources, and accountability for doing so is made local. A key highlight of the policy and the award plan is that the focus is not on infrastructure development alone but outcomes and behavior change. Under the policy, all states are required to develop state sanitation strategies according to the national guidelines. Six states have already started doing so, and one city has started a citywide sanitation planning process, also in line with the policy.

10. ***Rural sub-sector:*** In the rural sector access to drinking water supply is poor and where it exists, systems are unreliable and unsustainable. Systems have been developed by state agencies with little community ownership so there is only limited maintenance. Increasing coverage of sanitation and hygiene are major challenges as improved sanitation coverage is about 28% and over 58% of the population still practice open defecation. The Government of India has recognised that the traditional supply driven approach is not sustainable and is scaling up demand driven approaches in the sector. Reform is integral to rural water supply and sanitation programmes to decentralise service delivery, improve governance, build capacity and involve NGO's and private sector providers. A World Bank study on rural water supply systems in ten states has shown substantial inefficiencies associated with a supply-driven approach compared to decentralized, community-driven approaches such as *Swajaldhara*. Nevertheless, more than 90% of rural water supply investments in India continue to be channelled through more centralized, supply-driven approaches.

11. Innovative approaches in rural sanitation have been initiated through community-led total sanitation that emphasise demand for services and community action instead of supply-driven programs of latrine construction by the government. In rural water supply, the focus has also shifted away from supply-driven to demand-driven approaches.

12. ***Donors:*** The World Bank, Asian Development Bank and Japan's JICA are among India's most important external partners in water supply and sanitation. Sectoral funding from bilateral donors like DFID, Swedish SIDA, the Netherlands and others has dropped in recent years and several other bilateral agencies including AusAID do not have a bilateral development relationship with the Government of India following the issue of a new aid policy and have chosen to co-finance multilateral agencies like the World Bank, WSP-SA and UNICEF. A large number of national and international NGOs are active in the water and sanitation sector including WaterAID and Oxfam India.

13. ***Issues and Challenges:*** India faces many challenges in addressing drinking water and sanitation needs of its massive population. Key amongst them are:

- the need to allocate substantial resources for the sector and improve the delivery system so as to make more effective use of these resources
- Inefficient use of groundwater for irrigation is lowering groundwater levels. Water quality is an increasingly a problem, with arsenic, fluoride, nitrate as well as faecal contamination.
- Panchayats (institutions of local self-government) are increasingly gaining responsibilities, but the transfer of financial and administrative authority is slow.
- Three key challenges for the Indian sanitation sector are a) the need to raise the political profile and the related institutional position of sanitation; b) generate increased demand for sanitation particularly in rural areas; and c) increase financial resources for sanitation.

14. ***Donor Coordination Group:*** No formal SWAp or donor consultative processes are in place for the India water and sanitation sector. Donor agencies like the World Bank have occasionally facilitated informal consultations amongst bilateral and multilateral agencies. UNICEF coordinates formal consultative events with donors and NGOs during disaster response situations including for the water and sanitation sector.

15. ***World Bank:*** The World Bank finances a number of projects in urban and rural areas that are either dedicated fully to water supply and sanitation, or have large water supply and sanitation components. In urban areas the World Bank supports the Karnataka Municipal Reform Project (approved in 2006, $216m loan), the Third Tamil Nadu Urban Development Project (approved in 2005, $300m loan) and the Karnataka Urban Water Sector Improvement Project (approved in 2004, $39.5m loan). In rural areas it has financed the Second Karnataka Rural Water Supply and Sanitation Project (approved in 2001, $151.6m loan), the Uttaranchal Rural Water Supply and Sanitation Project (approved in 2006, $120m loan) and the Punjab Rural Water Supply and Sanitation Project (approved in 2006, $154m loan).