

Rapid appraisal of the rural water and sanitation sector in Orissa

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for

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Section 1: Water Sanitation and Hygiene (WASH) sector context and objectives of appraisal

The primary responsibility of providing drinking water and sanitation facilities in India lies with the state governments. The central government supplements and provides guidance to states by providing financial assistance mainly under two national flagship programs:

1. The National Rural Drinking Water Program (NRDWP, 2010) earlier called the Accelerated Rural water Supply Program (ARWSP implemented since 1972-73), and
2. The Total Sanitation Campaign (TSC) being implemented since 1999.

Water supply: national policy framework: The Accelerated Rural water Supply program was launched in 1972 with the identification of the “problem villages”, using the criteria of distance of water source and quality. If a village did not have a drinking water source within 1.6 km (or 100 mts vertical distance) or the source of water had problems with the quality, it was categorised as a “problem village”. In 1986 the National Drinking Water Mission was established with the objective of providing universal coverage of all rural and urban areas with safe water supply and sanitation facilities.

During the Seventh Five Year Plan period the norm of 40 litres of water per capita per day was introduced in the ARWSP as the minimum supply norm for rural areas with one source provided for every 250 population. In 1999, the government approved a package of reforms in the sector to address major areas of concern namely, coverage of habitations, quality problems in drinking water and sustainability of sources and systems. The Government had also stipulated that 20% of the annual outlay under Accelerated Rural Water Supply Programme (ARWSP) be earmarked for implementing reform projects. The reforms initiative was launched on a pilot basis as Sector Reform Projects in 67 districts of 26 States by the Government of India. In Odisha three districts- Balasore, Sundargarh and Ganjam were selected to pilot the reforms in the sector.

Later in 2002, the reforms initiative was scaled up. The coverage norms were scaled up at this point to provide for 55 lpcd with a source within 500 mts in plains and 50 mts in the hills after coverage had been achieved using the existing norm at the time (40 lts pcd and a source within 1.6 kms). The status of water supply coverage was assessed in 2003 nationally and validated in 2006. This survey classified all habitations into three categories: a) Not Covered or NC getting less than 10 lts per capita per day (lpcd), b) Partially covered or PC getting 10-40 lpcd, and Fully Covered or FC getting more than 40 lpcd. The 2003 survey showed that there were 33,534 NC habitations, 15,166 PC

habitations and 84,997 FC habitations respectively out of a total of 133,697 habitations¹ as per ARWSP norms.

Water quality, which was addressed for the first time in the national program by the Sub-Missions of the National Drinking Water Mission was taken up systematically in the National Rural Drinking Water Quality Monitoring and Surveillance Program. This program provided guidelines and funding for testing water quality in all districts in the country.

In April 2009, the National Rural Drinking Water Program (NRDWP) guidelines was introduced to address the issues of sustainability, water availability and supply, poor water quality, centralized approach and financing of O&M cost while ensuring equity. The NRDWP essentially marks a shift the focus from habitation level coverage to achieving household level drinking water coverage. Household level drinking water security is to be achieved through formulation of water demand plans and budgeting at the village level as per the new guidelines. The NRDWP also provides support to the states for substantially augmenting the human resource necessary for implementing and monitoring both the water and sanitation programs.

The national policy framework for drinking water is guided by the following principles:

- Water is a *public good*. Every person has the right to demand drinking water.
- It is the *lifeline activity* of the Govt. to ensure this basic need of people.
- Enhance access to safe and adequate drinking water to increase *economic productivity* and improve *public health*.
- Focus for the most *vulnerable* and *deprived groups* in the society.
- More emphasis on *public – public partnership (GP & RWSS)*.
- Drinking water supply *should not be commercialized* and denied to those who can not afford to pay for such service.

Rural Sanitation: national policy framework: The national rural sanitation program had a much later start than the rural drinking water program. The Centrally sponsored Rural Sanitation Program (CRSP) was launched in 1986 with the objective of improving the quality of life of the rural people and to provide privacy and dignity to the women. This was intended to supplement the efforts of the States. The program provided for 100% subsidy for construction of sanitary latrines for Scheduled Castes, Scheduled Tribes and landless labourers and subsidy as per the rate prevailing in the States for the General public. The guidelines were circulated to the states in 1986. UNICEF supported the implementation of CRSP as per the guidelines in 5 Blocks in Orissa and three Blocks

¹ A 'Habitation' is a locality within a village where a cluster of families reside. The total population should be 100 or more for consideration for coverage under the rural water supply norms (Section 2 of ARWSP guideline). It is generally assumed that around 20 families reside in a habitation. Average number of persons in a family is taken as 5. In case of hilly areas, a habitation may have a population, which is less than 100.

in West Bengal in 1986. The program in Orissa was being implemented by the Community Development and Rural Reconstruction Department (CD&RR) then.

After five years of implementation, the CRSP guidelines were revised in 1991 based on feedbacks from UNICEF and other organizations to include families below poverty line among those eligible for subsidies for latrines, besides SCs and STs. The program also provided for construction of village complexes with bathing facilities, drainage facilities and washing platforms and for capacity building- 5% for administrative costs and 10% for training of masons, awareness generation and health education.

The guidelines were further revised in 1993 to introduce a more comprehensive approach in sanitation which brought in the components of personal hygiene, home sanitation, safe water, garbage disposal, excreta disposal and waste water disposal. The revision in 1993 also emphasised the need for people's participation in promoting sanitation and for generating a "felt need" for sanitation among people through intensive awareness drives. The concept of Rural Sanitary Mart (RSM) was also introduced in this revision for supply of material for construction of sanitary latrines, based on the successful demonstration of RSMs by UNICEF.

In 1999, there was a major revision in the national program guidelines simultaneous with the ushering in of reforms in the sector. The program, named as Total Sanitation Campaign (TSC) is designed as a comprehensive program to ensure availability and use of sanitation facilities in all homes and institutions (Schools and Anganwadis). TSC aims at effective and sustained change in hygiene and sanitation behavior in the entire population. The program intends to make the entire country free from open defecation (ODF) within an agreed time frame; initially March 2012 had been agreed as the time frame, and some states have either achieved it (such as Sikkim, a small state) or are well on the way like Himachal Pradesh, but it remains a challenge for states like Bihar, Odisha, Jharkhand etc. The target date for achieving ODF status countrywide is now extended to March 2017. Improved sanitation and hygiene practices in conjunction with improved access to safe water are together expected to contribute to improved health and nutrition outcomes.

The proposed new policy initiatives in the water and sanitation sector for the 12th Five Year Plan lays stress on convergence of NRDWP and TSC. This is to be achieved by first creating demand through contact and motivation for water supply schemes and undertaking toilet construction simultaneous with the construction of water supply systems. While selecting locations for Piped Water Supply (PWS) Schemes, priority is to be assigned to those villages which have achieved high toilet coverage, such as those which have received the NGP. Similarly, areas where PWS schemes have already been installed need to be taken up under TSC on a priority basis to achieve Open Defecation Free (ODF) status. The strategy in TSC will be to achieve community level outcomes

rather than individual toilet construction, as adopted at present. The new approach intends to bridge the BPL-APL divide by providing incentives to APL households to achieve community-level outcomes. It will be mandatory to constitute Village Water and Sanitation Committees (VWSC) as Standing Committee of the Gram Panchayats, and VWCs would supervise the implementation of TSC in their Panchayat. Independent assessment of use of toilets by the states would be made mandatory linked to release of funds.

Need for the present appraisal: The Orissa Health Sector Support Plan (OHSP) of DFID is supporting Government of Odisha since 2007 in implementing reforms in delivery of health and nutrition services. The annual review of OHSP in October 2011² noted: " One of the key contributors to the under five mortality and poor nutrition is non availability of safe water and poor sanitation and hygiene (WASH) practices among community." In the second phase of OHSP (2012-2015) interventions are being planned in the water and sanitation sector.

DFID's approach is based on strengthening delivery of services by improving capacity of Government of Odisha to frame better policies and to plan, manage and monitor the resources available better. It also aims to support convergence between the GoO departments of Health and Family Welfare, Women and Child Development and Rural Development as well as facilitate better coordination between the development partners in the state for synergy in achievement of program goals. The water sanitation and hygiene interventions will therefore reinforce the ongoing DFID interventions in the state in health and nutrition sectors.

To identify key gaps in the operational service delivery issues and to explore opportunities to support implementation of WASH actions in Orissa, a rapid appraisal of the status of rural drinking water and sanitation sector in Odisha was carried out in two parts: i) one looked at the effectiveness of water and sanitation services at the community level in 50 villages of four districts- Balasore, Bolangir, Kandhamal and Rayagada, with a focus on sanitation; ii) the second study looked at the overall situation in the sector in the state. The salient findings from these two studies were shared with the Principal Secretary, Rural Development Department, GoO in February, 2012.

Objectives of the appraisal: This rapid appraisal is being carried out to consolidate the findings from the two recent studies mentioned above and to recommend a "strategic process" and a set of program interventions based on these findings drawing on some of the acknowledged best practices from the sector. The specific objectives of the study are³:

- to identify and analyze specific bottlenecks in accelerating TSC implementation and in effective delivery and utilization of services at scale; and

² Annual Review 113963(1) <http://projects.dfid.gov.uk/project.aspx?Project=113963>

³ Terms of Reference from TMST dated 17 February, 2012

- to recommend a strategic set of evidence-based interventions (including National and international best practices for State government to deliver faster, more effective and efficient progress over the next 3-4 years.

Scope and approach: This appraisal focuses primarily on the Sanitation and Hygiene component (TSC) of the WASH program and to a lesser extent on Water Quality and Operation and Maintenance. The report draws on the following data sources:

- A rapid appraisal of the rural water and sanitation sector by a Consultant , Mr Subrat Dash
- Rapid appraisal of rural water and sanitation sector in Odisha carried out in four districts by Sutra Consulting
- The online monitoring system of Ministry of Drinking water and Sanitation, GoI
- Some unpublished reports provided by TMST, Odisha office
- Discussions with selected program officials from GoO, TMST and UNICEF, Odisha. (Annex 2 at the end of this report provides the list of persons contacted)

No additional field studies were considered necessary since primary data on status of WASH facilities and practices were available from the Sutra study at the community level⁴.

The appraisal attempts to respond to the following questions:

1. **Status of access to and use of WASH services:** What is the current status of WASH services in the state? What are the broad trends in access and use over the last decade? What are the gaps?
2. **Financial resources budgeted and utilized:** What is the budget for the program, how is it shared by three major stakeholders and what part of the budget has been utilised
3. **Institutional arrangements:** Which institutions are responsible for implementing WASH program and how do they relate to each other? Are there adequate formal linkages between these institutions and do they work effectively in the field level?
4. **Capacity of institutions and functionaries to deliver:** Do adequate capacities exist in the state- in the institutions and in the individuals who man various positions in the hierarchy of program management?
5. **Policies and procedures:** what is the existing policy framework for implementing the WASH program in Odisha and what are the operational procedures being adopted.
6. **Technologies and Supply chain:** Is the supply chain for delivering the program hardware efficient and to what extent is it functional
7. **Monitoring and evaluation:** How effective is the monitoring system and to what extent are outcomes and results monitored? Are any knowledge products generated in the program

⁴ Rapid appraisal of rural water and sanitation sector in Odisha- A Community Report: Sutra Consulting (in association with Sigma)

and shared among stakeholders for improved program management? Is there any evidence of knowledge sharing within the state and with other states

Section 2 State context

State demographic profile: The state is administratively constituted of 30 districts, 58 Sub Divisions, 314 Community Development Blocks, 6234 Gram Panchayats and 50,972 villages. The total population⁵ of the state is 41.94 million. A majority of the population (85%) live in rural areas (2001 Census).

The overall literacy rate is 73.45 % which hides a large difference between male (82.4%) and female (64.36%) literacy rates. Three demographic indicators suggest an improvement in social development program delivery over the last decade:

- > the sex ratio has improved from 972 in 2001 to 978 in 2011
- > the decadal growth rate of 13.97% for 2001-2011 is lower than the figure of 16.25% for the previous decade.
- > Infant Mortality Rate (IMR) is estimated at 61 for every 1000 live births for the state as a whole (SRS, 2010), which is a reduction of 29 points from the 2001 level of 90.

The population density is 269 persons per sq. km. as per 2011 Census- up from 236 in 2001. The density ranges from 91 in Kandhamal district to 799 in Khordha district. Figure 1 shows the clear

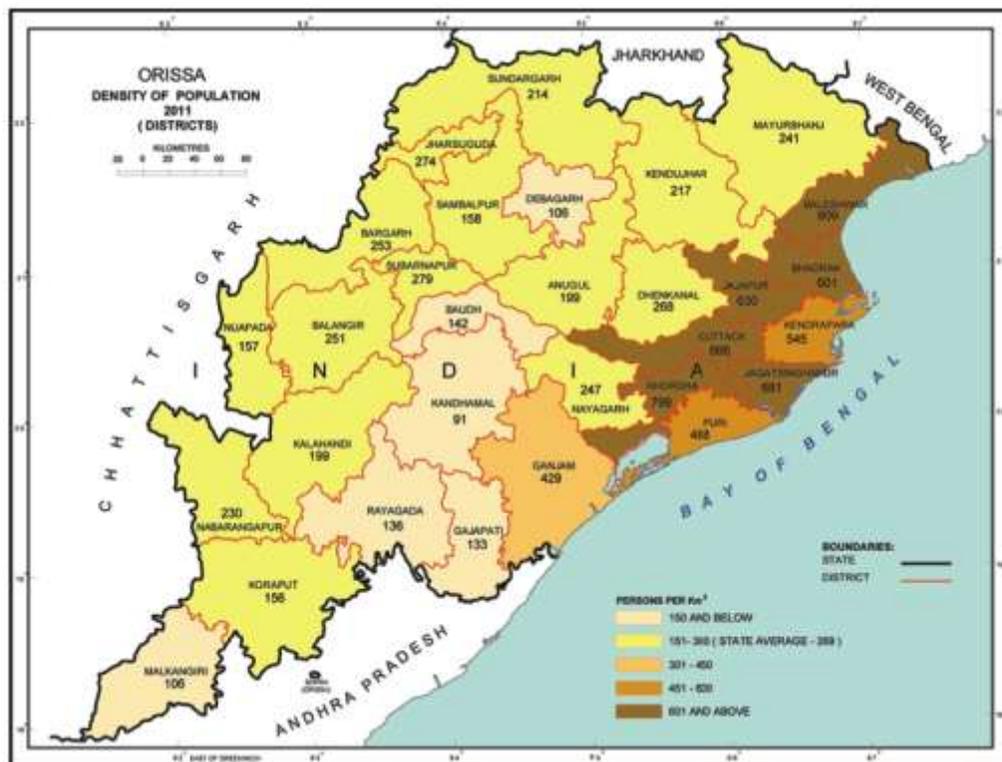


Figure 1: Map of Odisha showing density of population in districts (source: Census of India, 2011)

⁵ Census of India, 2011, Provisional population Totals; Paper 1 of 2011; Orissa, Series 22

variation in population density between the districts: the 10 coastal districts are far more densely populated than the eight KBK districts⁶ of the south-western region, which constitute one of the poorest regions in the country. Odisha has a high proportion of socially marginalized population: 22% belong to Scheduled Tribes (ST) and 17% to Scheduled Castes (SC) as per 2001 Census. But the KBK districts have a much higher proportion of tribal population- 38.7% are STs while 15.8% are SCs. The region is characterized by “...chronic income poverty resulting in absolute hunger, persistent drought conditions, and high levels of food insecurity, regular distress migration, and periodic allegations of starvation deaths.”⁷ The KBK region is also highly vulnerable to diarrhea epidemics during monsoon. In 2010, for instance, five of the eight KBK districts were assessed by the Inter Agency Group (IAG) as most vulnerable to diarrhea, with Rayagada being the most endemic area where 631 cases of cholera were confirmed resulting in 37 deaths. The IAG assessment attributed the epidemic to poor sanitation and hygiene: “...the spread of the disease is necessarily due to unhygienic living conditions, practices of the communities and sanitation issues in their villages.

Of the 314 Blocks in the state, 47 Blocks in 8 districts have been identified as drought-prone where the GoI has been supporting the implementation of Drought Prone Area Program. The number of districts which are vulnerable to drought are however said to be 25 out of 30 and western Orissa is particularly vulnerable in this respect. Ironically, the state is also frequently inundated and the six coastal districts are affected by floods almost every year.

33 Blocks in the coastal districts are affected by high salinity level in ground water. In 1983 a drinking water project to address the problem of salinity was initiated with support from Danish International Development Agency (DANIDA). The project worked in 11 of the 33 affected Blocks in three districts and brought in a number of innovations in water well drilling technology, iron removal technology as well as maintenance systems for handpumps.

Fluoride in groundwater has been detected in one large pocket in Nuapada district, although anecdotal data from unconfirmed sources suggest that fluoride contamination in ground water could be also occurring in parts of Khurda and Nayagarh districts. No water quality map of the state is available at the moment in the public domain. The Central Ground Water Board (CGWB), it is understood, has prepared a groundwater atlas for Orissa which is available only for restricted use.

Information from the Concurrent Monitoring database of the TMST (2011) indicates the following status as shown in table 2.1:

⁶ The 8 districts are: Koraput, Malkangiri, Rayagada, Nawrangpur, Bolangir, Sonepur, Kalahandi and Nuapada. the TMST includes two more districts- Kandhamal and Boud as the most vulnerable districts (KBK+ districts).

⁷ Human Development Report 2004, GoO, P.24 (quoted in Nutrition Operation Plan DWCD, GoO).

Table 2.1

Estimated access to water and sanitation facilities in Odisha

Indicator	State-wide rural coverage (% HHS)
households using improved source of drinking water	83
households with improved sanitation facility	17

Source: Concurrent Monitoring of Health & Nutrition services in Odisha, TMST, 2011

Figures 2 and 3 show the coverage of safe water and sanitation in rural Odisha in the districts as per the Concurrent Monitoring database.



Figure 2: Access to safe water in rural Odisha (TMST, 2011)

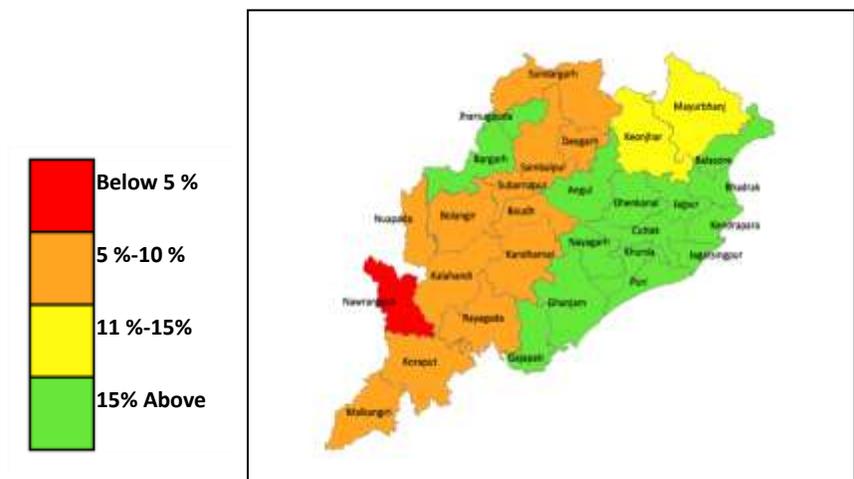


Figure 4: Access to sanitation facilities in rural Odisha ,(TMST, 2011)

State Water Policy: Orissa State Water Policy was prepared in March 2007 by the water Resources Department. The Policy lays down principles for equitable and judicious use of water for survival of life, welfare of the people and sustained and balanced growth of the state. The policy commits the state to provide safe drinking water for human beings and livestock in urban and rural areas. Maintenance of water quality through monitoring and surveillance and reduction of pollution load are integral components of this strategy. The policy document states that overexploitation of groundwater will be discouraged through appropriate legislation.

Section 3 Appraisal of access to and use of Water, Sanitation and Hygiene services

Drinking Water: The RD Department of GoO has listed a total of 141,928 habitations⁸ in the state of which 26,923 (18.96%) are identified as SC habitations, 49,242 (34.7%) as ST habitations and the remaining 65,763 (46.34%) habitations are reported to be inhabited by other (OBC and Upper) castes. As per data available on 30th June 2011 from RD Department, GoO, a total of 68,923 habitations (48.56% of total) were fully covered. The break-up of this coverage community-wise⁹ (Table 3.1) was:

Table 3.1

Coverage with water supply: Social category-wise in Odisha (April, 2011)

% Fully covered habitations- SC	% Fully covered habitations –ST	% Fully covered habitations –Other castes
56%	49.4%	44.6%

Source: MDWS website (IMIS)

The same report from RDD, GoO indicates that 2,92,410 handpumps fitted on tubewells, 6,940 piped water supply projects and 10,036 sanitary wells were functional as of June, 2011.

The Rural Water Supply and Sanitation Organisation (RWSSO) which is responsible for implementation of the water supply program has identified 14,811 quality affected habitations. Of these 475 habitations have excess Fluoride (>1.5 ppm), 13,191 report excess Iron (>1 ppm), 1,117 report high salinity (>250ppm Chloride) and 28 report high Nitrate level in ground water.

The most serious problem is posed by Fluoride which puts nearly 500,000 people including 248,500 persons belonging to SC/ST community in the 475 habitations in Nuapada at risk. However, as mentioned earlier, Fluoride is also suspected to be occurring in groundwater in parts of Khuda and Nayagarh districts also.

Although Iron in groundwater is not known to cause any direct health problems, it forces people to use alternate surface sources, which are usually unsafe. Although some efforts have been made in the past to address high salinity and iron content in ground water and technical solutions tried out, the problem largely remains unsolved.

⁸ A 'Habitation' is a locality within a village where a cluster of families reside. The total population should be 100 or more for consideration for coverage under the rural water supply norms (Section 2 of ARWSP guideline). It is generally assumed that around 20 families reside in a habitation. Average number of persons in a family is taken as 5. In case of hilly areas, a habitation may have a population, which is less than 100.

⁹ The data is extracted from two different sources: a) IMIS Reporting system of the MDWS, GoI and b) RD Dept GoO Report of 30.06.2011

In terms of population covered, the IMIS database of GoI indicates the following coverage (Table 3.2) of the three social categories:

Table 3.2: Social category-wise population covered with water supply in Odisha

% SC population covered	% ST population covered	% Other Caste population covered
74.9	73.1	74.8

Source: <http://indiawater.gov.in/IMISReports/NRDWP> Ref date: 1/4/2011

National Sample Survey estimates are available for a slightly earlier time point (July 2008 – June 2009) which provides the following estimates for rural Odisha (table 3.3):

Table 3.3: Type of drinking water source used in Odisha (rural)

Source	% HHs using ¹⁰
Tubewell fitted with handpump	73.3
Tap water (piped water)	5.8
Sanitary well	4.2
Unprotected well	13.5
Other unprotected sources (Tank/pond/river/canal/spring)	3.2

Source: NSSO 65th Round; 2010

The above table suggests that 83.3% households are consuming water from protected sources in rural Odisha.

The NSS 65th Round has also estimated the access in terms of distance from dwelling unit and continuity throughout the year. It is estimated that 83.9% of rural households got sufficient drinking water from the major source used. In terms of distance, 13.7% had the water source within their premises, while 61.5% had a source within 0.2 km and 22.2% had to travel a distance of 200-500 mts. This means 2.6% HHs have to travel a distance of more than 500 mts to fetch drinking water. Since the data on access does not specify what kind of source is available within the above distance intervals, it is not possible to assess how the earlier figure of 83 % (who use safe water) is distributed.

Data on household water use in rural areas of Odisha is also available from the Concurrent Monitoring of Health & Nutrition Services carried out from March 2010 to June 2011. This data base was generated from a base of 23,750 HHs spread over all 314 Blocks in the state; one Block from each

¹⁰ National Sample Survey Report No. 535 (65th Round): Housing Condition and Amenities in India: July, 2008-June, 2009. The NSS estimates have been provided for 1000 HHs. The percentages are worked out by us.

district was covered during every month thus ensuring that the entire state was covered within 16 months (?). This database¹¹ suggests the following status:

- 83% HHs reported using improved or potable water sources. Handpump fitted with tubewell is a safe source used by most number of people (62% - 66%)
- Across four social categories, use of safe water source does not vary greatly. While use of safe sources is highest among Scheduled Castes (87% -88% of SC HHs), Scheduled Tribes report the lowest level in the range (77%-79% ST HHs)
- In terms of income levels, the variation shows a consistent pattern. While 79.7% of HHs in the lowest wealth quintile reported using a safe source of water, the level goes up progressively with each higher quintile: 86.4% of those in the highest quintile reporting use of safe drinking water source. This indicates that, while access to/use of a safe water source is higher among the wealthier households, the disparities are not very significant.

A study on knowledge, attitudes and practices in the eight KBK districts¹² covering 5105 habitations and 2328 households provides some interesting information. The study shows that water supply coverage of smaller habitations is better; 97% of habitations with population less than 150 were fully covered, while the proportion of fully covered habitations with population greater than 150 was less (89%). This means there have been special efforts to reach out to smaller habitations which are also likely to be more remote.

Definitional and methodological issues notwithstanding, there is a good deal of correspondence among the various data sets available on access to/use of safe water. Close to 80% of households or more are using safe drinking water in rural Odisha; estimates of the nodal government department appear to be more on the conservative side.

Sanitation:

Home toilets: Unlike water supply, reliable data bases on access to - and more importantly use of – sanitary toilets are less easily available. The Census of India provides the most robust data set in this respect. The 2001 Census indicated a figure of 92.3% HHs in rural Odisha without access to any kind of toilets, and 7.7% with access to some kind of toilet. Census, 2011 data on household amenities shows that 14.1 % households in rural Odisha have access to some kind of toilet in their homes.

¹¹ Concurrent monitoring of Health and Nutrition Village Level Services in Odisha: Submitted by ORG Centre for Social Research to technical and Management Support Team for DWCD and DH&FW, GoO; 2011. Since “access” and “use” are used interchangeably in the report, there can be some ambiguity in the interpretation of the data. There are some other methodological issues, which need to be resolved for greater clarity. But in any case this provides a robust data set, which is very useful.

¹² An evaluation study on water and sanitation services in KBK region of Orissa; CYSD Bhubaneswar for Govt of Orissa undated (2007 ?)

Table 3.4 shows the status of access to home toilets in rural Odisha in 2011 and 2001:

Table 3.4: Access to toilets in rural Odisha (2011 / 2001)

Type of toilet	% HHs with access	
	Census 2011	Census 2001
Pit latrine	3.4	3.1
Water closet	10.0	3.3
Other latrine	0.7	1.3
No latrine	85.9	92.3

Source: Census of India: Household amenities

The TSC program was launched in Odisha around the same time as the Census, 2001 data was collected: in 2000-01 TSC activities started in three districts, and by 2004-05 all 30 districts were implementing TSC. Since inception of TSC, till end of February 2012, a total of 3,781,943 additional households are estimated to have gained access to a toilet in their own homes: 2,656,534 Individual Household Latrines (IHHL) have been built using TSC program incentives for those identified as BPL, while 1,125,409 HHs labeled as APL are enumerated as having built toilets using their own resources. Figure 4 shows the cumulative progress in construction of Individual Household Latrines (IHHL) in TSC in Odisha since inception.

If we use the number of rural households from the Census, 2001 and 2011 as the base and factor in the increase in access to home toilets attributable to TSC, the current level of access to home toilets in rural Odisha is estimated to be 52.85 %¹³. This is more than three times the access figure as per Census 2011.

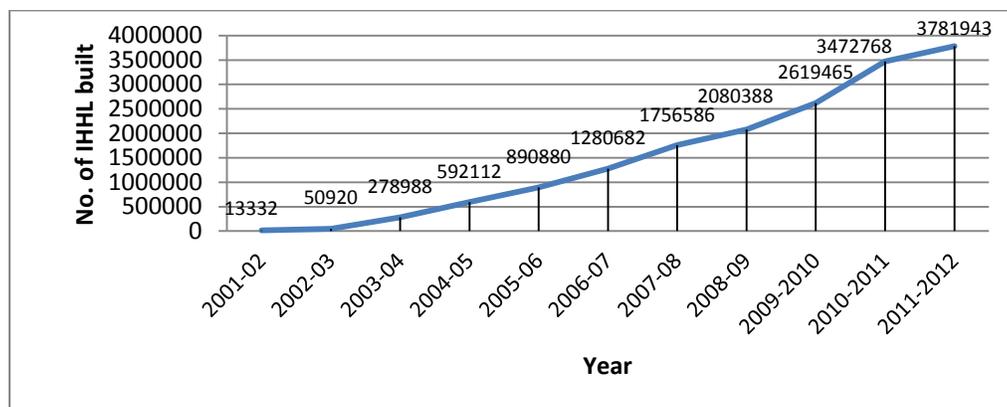


Figure 5: Cumulative progress of construction of IHHL in TSC Odisha (source: MDWS website)

¹³ A) No. of rural households as per Census 2001=6,782,879. B) HHs with toilet in rural areas in 2001= 7.7%. C) No. of rural households as per Census 2011=8,144,012. D) No. of toilets installed under TSC in Odisha (2001- 2012) as per data available in MDWS, GoI website = 3,781,943. $[(A \times B) + D] / C = 0.5285$

The data from independent surveys however indicates a very different picture of access to and use of home toilets in rural Odisha.

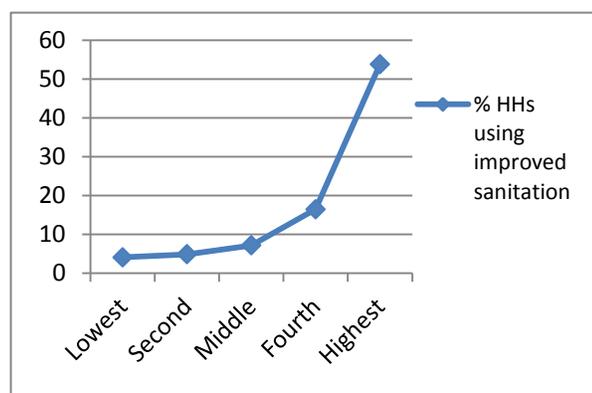


Figure 6: Variation in access to latrines across wealth quintiles (Source Concurrent monitoring of Health & Nutrition services ; ORG-TMST, 2011)

The most recent study accessed by this appraisal was commissioned by TMST (Sutra Consulting, 2011-12)¹⁴ which contacted a sample of 1502 households- 30 households selected randomly from among TSC beneficiaries from each of 50 villages from 12 Blocks in four districts. The districts, Blocks and villages were selected purposively. Two high performing districts (Bolangir and Balasore) and two low-performing districts (Kandhamal and Rayagada) were included in the sample. The three sample Blocks from each district were also selected based on their performance report from the online reporting system representing high, medium and low levels of performance, while the

sample villages were selected from among those which had been “saturated” with TSC services, in discussion with RWSS officials. The results indicate that 80% of the households (79% of BPL and 87% of APL) reported having toilets and 20 % did not. However, when the reasons for non-usage are analysed, 131 HHS from among 1339 BPL reported that they had only received the material for construction, but their toilets had actually not been built. This means, nearly 31% of BPL families listed as TSC beneficiaries actually did not have toilets in their homes, and this includes 21% who had not even been provided any material.

Within the group which had toilets, 38% reported using them. The usage rate was 36 % in the BPL group, but much higher (91%) in the APL category. The use rate falls further when the regular users are considered. The study analyses the reasons for non-usage. Most of the BPL toilets (86%) were not being used because they were not functional because of collapsed pits, broken pans, damaged pits or broken pans. Therefore poor construction appears to be the single most important reason for which toilets do not function and hence people cannot use them. It also suggests that when people invest their own funds to build toilets, they take care to see they are built well and they are also more likely to use the toilets.

There is one other robust data set which also provides reliable estimates of access to water and sanitation facilities. The NSSO’s 65th round survey on Housing Conditions and Amenities in India, referred earlier (2008-09), adopted the definition of sanitary toilets as stated in the Global Water

¹⁴ Community Report- Rapid appraisal of rural water & sanitation sector in Odisha: Sutra Consulting undated (study commissioned in TMST, OHSP in 2011). The study has adopted a purposive sampling to contact 1502 households in 50 villages from 4 districts. The household sample included consists of 90% BPL and 10% APL families.

Supply and Sanitation Assessment Report (WHO-UNICEF, 2000) : “.. sanitation was defined to include connection to a sewer or septic tank system, pour-flush latrine, simple pit or ventilated improved pit latrine, with allowance for acceptable local technologies.”¹⁵ Using this definition, NSSO provides an estimate of 11.8% use of home toilets in rural Odisha for the year 2008-09.

The difference in figures provided by Census or NSSO and the estimated coverage based on MDWS, GoI database (IMIS) requires more detailed verification.

The Concurrent Monitoring database (ORG/TMST, 2011) referred earlier also provides data on access/use of toilets. Again, there is some ambiguity in the data because the report uses “access” and “use” interchangeably, and in case of toilets this poses a far more serious problem. The survey indicates that 18% of households reported using toilets- which were either simple pit toilets or water-flushed toilets. There was consistency in the data on use, across the four Quarters, the variation being very low from 17.7% (Q1) to 16.9% (Q2). This figure corresponds closely with the recently released data from Census, 2011 on toilet coverage. The report provides further analysis of use:

- 92.7% of the ST HHs did not have “access to toilets”, while the figure was 89.8% for SCs and 68.6% for Other (upper) Caste HHs. Thus, 31% of the upper caste families report using toilets as against only 10.2% among SCs and 7.3% among STs.
- All the six districts in which more than 15% HHs were using toilets are also the coastal / more economically developed districts: Puri, Jagatsinghpur, Nayagarh, Khurda, Jajpur and Cuttack.
- There was significant difference across the wealth quintiles: level of use of toilets goes up exponentially as the economic background of the household improves (figure 3). Comparison between the clusters of backward districts (10%) and “other districts” or developed districts (21.1%) also shows a similar trend.

The CYSD evaluation (2007 ?) which worked on a sample size of 2328 HHs from 24 Blocks in the eight KBK districts showed a much lower level of use of individual home toilets. As per this report only 6.8 % households were using toilets. A more recent study by UNICEF (2011) on low utilization of TSC services among tribal population in Koraput district shows that 12% households had toilets but only 5% were actually using them. The CYSD study had reported a figure of 1.6% use four years earlier.

The IMIS (MDWS, GoI website) report for Koraput district shows that 103,255 IHHLs have been built in Koraput district in the last 7 years and 39% of the total target has been covered. If we take this one district as a test case, for which data on access and use are available from several independent sources, there is cause for serious concern. While toilets are being constructed (or

¹⁵ Housing Conditions and Amenities in India 2008-09: NSS 65th Round , Government of India, November 2010 page 25

reported to be constructed) following TSC project targets, this is not necessarily translating to increased access of families to sanitation facilities. But more important, rate of use of toilets is abysmally low, especially in the tribal dominated south western Odisha.

School and Anganwadi Sanitation: Provision of toilets in all Schools- Primary, Middle, Secondary and Higher Secondary Schools is an important component of TSC. In the initial years (till 2005-06) a community contribution of 10% was being sought to complement the funds available under TSC, but since then the guidelines have been revised and the entire cost of School toilets are made available under TSC with a 70:30 share of central and state government. The unit cost of a school toilet has been revised upwards to Rs 35,000 (Rs 38,000 in case of hilly and difficult areas). Separate toilets are to be provided for girls and boys in co-educational schools, and each unit is eligible for separate funding.

The IMIS report from the MDWS website indicates that a total of 68,300 School toilets have been installed under TSC in Odisha by the end of February 2012. This means 96.6% of the 70,663 School toilets planned have been installed. Figure 4 shows the cumulative increase in the number of school toilets constructed since inception.

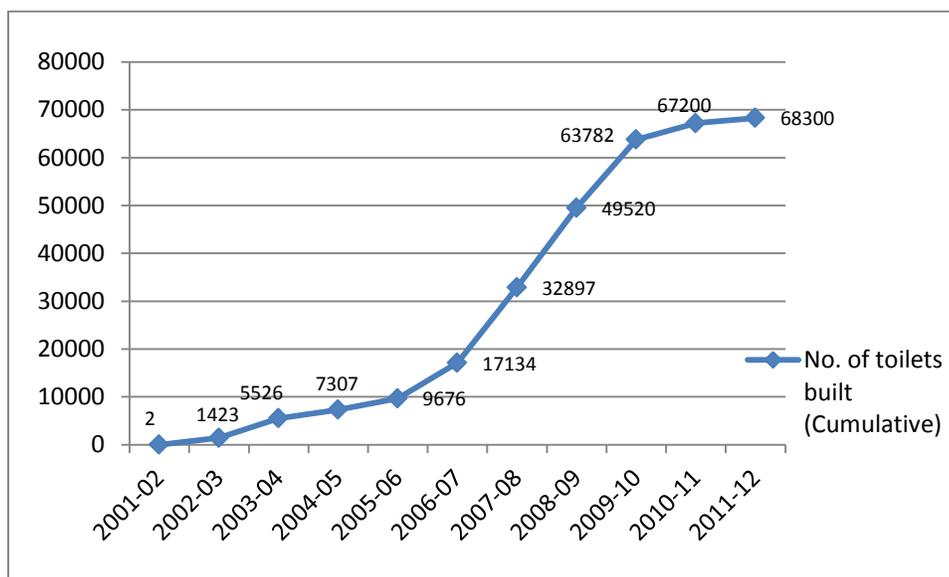


Figure 7: Cumulative progress of school toilet construction in TSC Odisha (Source: IMIS, MDWS, GoI)

An independent study on school toilet availability and use from Koraput (IMACS-UNICEF, 2011) however provides a picture which is disturbing: 38% schools did not have toilets, while 32% of the

toilets were non-functional¹⁶. There is a need for detailed studies which look at the status of school toilets, especially their functional status and the quality of construction and maintenance.

Data available from the DISE¹⁷ shows that by end of September 2009- by which time approximately 93% of the current construction figures had been achieved- 74.25 % of all schools in Odisha had functional toilets for boys and 44% schools had functional toilets for girls. This means in about 25% of schools boys' toilets were not functional and in 56% schools girls' toilets were not functional.

Construction of Anganwadi toilets started late from the year 2004-05. By the end of February 2012, 23,694 Anganwadi toilets have been built using TSC resources. In other words out of 59,203 functioning Anganwadi centres (Outcome Budget, DWCD, GoO 2011-12) in the state, about 40% have been provided with toilets in the TSC. Figure 5 shows the cumulative progress of Anganwadi toilet construction since inception.

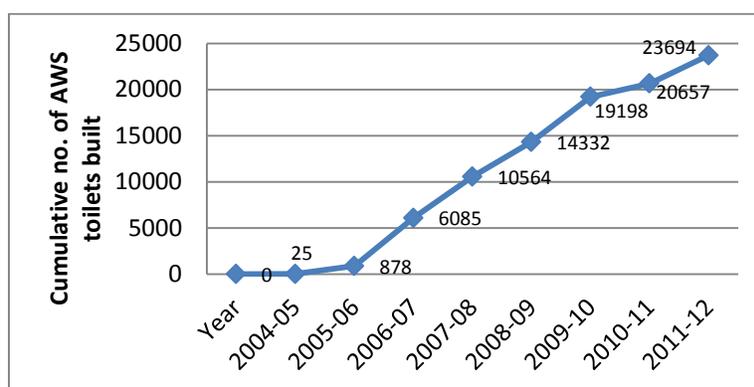


Figure 8: Cumulative progress of construction of Anganwadi toilets (Feb 2012)

Hygiene promotion: Hygiene education is stated to be an integral component of TSC and the IEC material used in TSC talks of the benefits of hygiene behavior and its impact on health. The TSC in Odisha supports the School Sanitation and Hygiene Education (SSHE) component and since 2008, the OSWSM has been leading the Handwashing Campaign in the state which has become a regular annual event anchored to the Global Handwashing Day (15th of October). OSSM works in collaboration with the State SSA, UNICEF and other stakeholders to raise awareness regarding hygiene. The annual handwashing campaign reinforces specific messages to school students on the ideal process of washing hands with soap before eating and after defecation.

¹⁶ Study to assess gaps responsible for low utilization of TSC among tribal population of Orissa- Final report ; ICRA Management Consulting Services Limited, April 2011 (page 37)

¹⁷ Elementary Education in India, Progress Towards UEE ; NUEPA 2011, New Delhi

The child care practices promoted through the ICDS network also includes handwashing and home hygiene messages. But there is no evidence to suggest that TSC works with the ICDS program systematically on any focused intervention to promote hygiene behavior.

There are no systems for monitoring hygiene behavior in the TSC program. In the absence of any reliable large data base, it is not possible to assess the reach of the hygiene promotion messages and their effectiveness. Therefore this appraisal relies on the sample studies conducted by Sutra and two other studies referred earlier to arrive at an understanding of knowledge, attitude and practices relating to hygiene in the state.

The Sutra study provides the following data on handwashing practices in the 50 sample villages (Table 3.5):

Districts	Hand washing before eating food		Hand Washing after defecation		
	with only water	with Soap	water and soap	water mud soil	only water
Balasore	172	13	98	68	18
Bolangir	82	5	37	46	1
Kandhamal	38	1	17	19	2
Rayagada	20	3	13	7	
Grand Total	312	22	165	140	21

Source: Household Survey, Sutra 2011 Base: 334 (BPL Household using Toilet)

Thus only 6% BPL HHs use soap for washing hands before eating and just about half (49%) do so after defecation. When all households in the study are considered, (Figure 2, page 33 of Sutra report) the figures are 3.8% and 23.8% respectively. Since the sample itself is purposively drawn the findings cannot be generalized for the state as a whole, but even with this limitation, the data indicates poor hygiene practices.

Another study in Koraput (IMACS-UNICEF, 2011) says that 92% HHs consider washing hands to be important, although only 36% linked this behavior to health reasons. But at the level of practice, in less than one-third (29%) of the households, soap/ash was kept in the designated handwashing space,

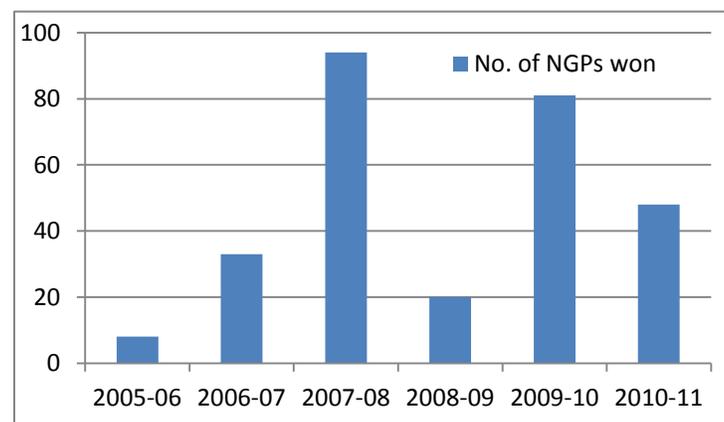


Figure 9: Number of NGPs in Odisha- yearwise

which indicates that awareness did not necessarily translate to practice. The CYSD study (2007 ?) in 8 KBK districts showed that only 6% HHs used soap for washing hands after defecation.

Total Sanitation and Nirmal Gram Puraskar (NGP): A system of incentive for achieving Total Sanitation at the Gram Panchayat level (and upwards) in the spirit of TSC was introduced in 2004 by Gol. Panchayts in

which all households use sanitary latrines, all schools and Anganwadis have functional toilets and where solid and liquid waste is disposed of in a safe manner at the community level receive the NGP award. The Panchayat should therefore be free from open defecation (ODF) to qualify for NGP. In Odisha 284 Panchayats have been awarded NGP thus far, which means only 4.5% of the total GPs in the state have reached ODF status.

In 2010-11, applications had been sent by 273 GPs from Odisha, out of which 48 qualified to receive the NGP, which works out to a success rate of only 17%. One district- Balasore claimed 52 NGPs in 2010 and 19 in 2011, and 104 overall since inception (37% of all NGPs in the state). Three coastal districts – Balasore, Puri and Cuttack- together have a 59% share in the list of NGPs, which is probably because of the high density of population and overall high aspiration level in these districts. The only other district which has reached double digit is Mayurbhanj- a predominantly tribal district, which has qualified for 16 NGPs thus far.

Two districts- Sambalpur and Bolangir- have claimed their first NGP in 2011. Sambalpur is quite a surprise because it is the original home of the “Barpali” toilet (single direct pit design) which goes back to 1958, long before any sanitation program was launched in the country.

Summary of status of access to and use of WASH : The situation with regard to water supply in the state is satisfactory, in terms of access. Water quality is emerging as a problem especially in the fluoride-affected areas. Sanitation however, poses a significant challenge. Physical progress of individual latrine construction is slow- just about half the target has been achieved in 12 years. But use of toilets is a much greater concern; the program seems to be relapsing into a latrine-construction mode. Quality of toilets constructed seems to need attention. There are no visible efforts for systematic hygiene promotion except in schools. Monitoring of hygiene behavior poses a significant challenge. Only one-tenth of the Gram Panchayats have become free from open defecation – most of them in three coastal districts.

Section 4: Financial resources and their utilization

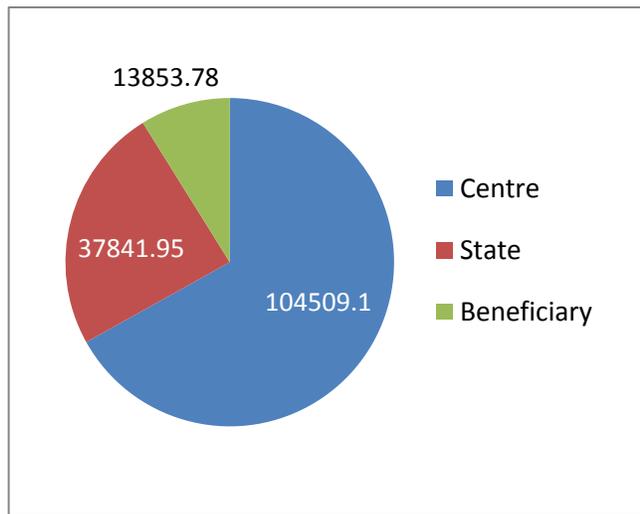


Figure 10: Total TSC budget (in Rs lakhs) and share of stakeholders

The total program budget approved for implementing TSC in Odisha is Rs 15.6204 billion (approximately equal to 192.1 million GBP¹⁸), in which the share of central government is 67%, that of State government 24% and beneficiaries of individual household latrines are expected to contribute 9%. Figure 10 shows the share of the three major stakeholders in the budget in money terms.

Out of this budgeted amount, a little more than half (55%) has been released and about a third (31%) actually utilized (Figure 11). If the funds released are considered, then the expenditure works out to 57%. If the expenditure from

government budgets alone (excluding additional funding from international agencies like UNICEF/WaterAid etc and beneficiary contribution) is considered, the investment made to achieve total sanitation in one NGP works out to Rs 154.92 lakhs (equivalent to 190,555 GBP¹⁹) based on current results.

In figure 12 the relative share of centre (Gol), state and beneficiaries in the funds released and spent has been shown. The percentages of central and state share released from the respective approved budgets are more or less same- 49% and 45% respectively. The level of expenditure from the funds released by state government is a little higher (71%) compared to the expenditure from the central share released (61%). However, if the total approved budget from the two heads is considered, the level of expenditure is more or less the same- 30% from central budget and 32% from the state budget.

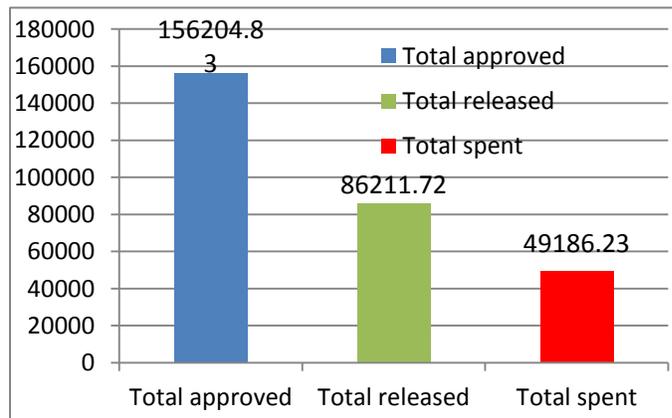


Figure 11: Funds released and expenditure incurred (Rs / lakhs)

¹⁸ Using an exchange rate of 1 GBP = Rs 81.30

¹⁹ Same exchange rate as above

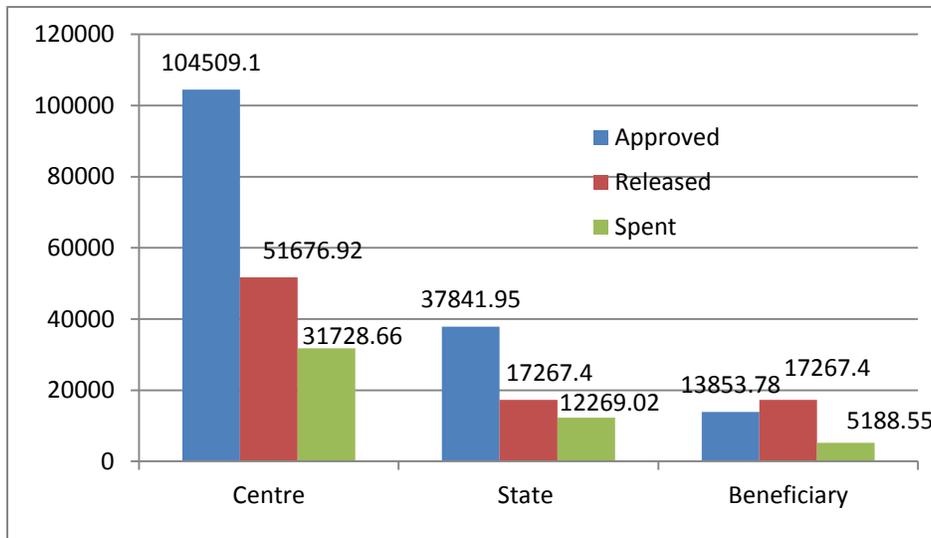


Figure 12: Funds released and spent from committed share of stakeholders (Rs / lakhs)

An attempt has been made to examine if the program expenditure has any relation to the achievement of target. The achievement of Individual Household Latrine (IHHL) target has been considered as a robust indicator of overall achievement, since it requires inputs for demand generation. The results have been presented in Figure 13. As this figure shows, no consistent pattern emerges. For instance, in Baleswar district, 89% of the IHHL target has been achieved with a good number of NGPs (104), using 46% of the approved budget. On the other hand, in Gajapati district, 32% of the budget has been utilized with almost the same level of IHHL target achieved (37%).

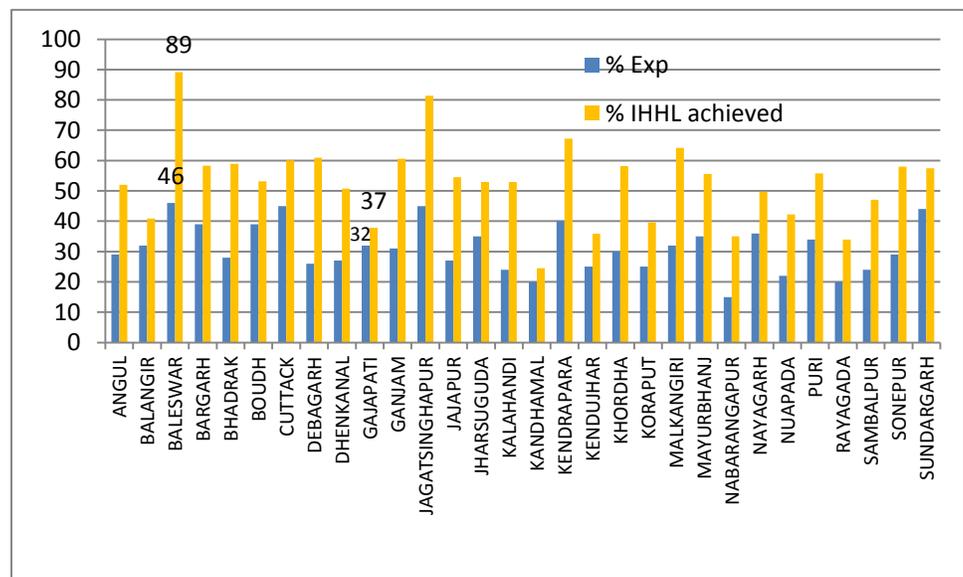


Figure 13: Utilisation of approved budget and achievement of IHHL target in districts. (Expenditure vis-à-vis total approved budget / percentage of total IHHL target achieved)

The relative expenditure on different heads (Figure 14) reflects the manner in which different components have been prioritized and points out the gaps in financial monitoring.

Expenditure on start-up activities has exceeded the budget head by 32%, while administrative expenses are a little less than one-third of the approved budget. Nearly 80% of the School toilet budget head has been utilized, which is indicative of the priority assigned to school toilet construction, because of the Supreme Court's directive to provide all schools with toilets by March 2012. As discussed earlier, the school toilet target has been nearly achieved..

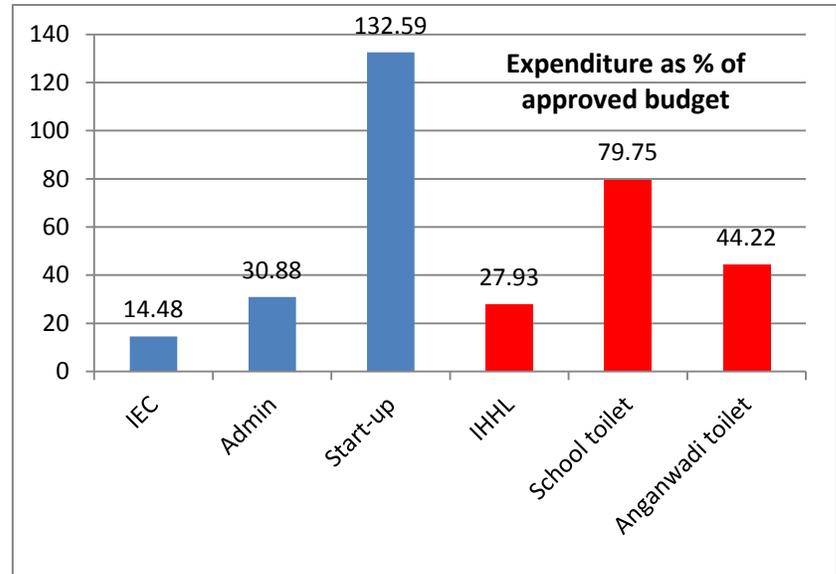


Figure 14: Relative expenditure on hardware and software heads in TSC in Odisha (as percentage of approved budget)

The expenditure on IEC is only 14% whereas the expenditure on administration head is nearly 31% and the expenditure on start-up activities is 131%. This skewed pattern of expenditure suggests a reluctance to undertake motivational activities to influence hygiene and sanitation behavior.

A finer analysis of budget planning and utilization is required at district level to assess the outlook towards budget, constraints in utilization especially of the IEC component and also to assess how budgets are strategically linked to results. The method used to compute beneficiary share and expenditure on this head also needs an explanation.

Section 5: Institutional arrangement and effectiveness

State level nodal agency: Drinking water and sanitation programmes in rural areas are planned, and monitored by the Rural Development Department (RDD) of Government of Odisha, which was created in 1990. The RDD is headed by the Principal Secretary. The Rural Water Supply and Sanitation Organisation (RWSSO) implements the programs. Figure 9 shows the organogram of the Rural Development Department.

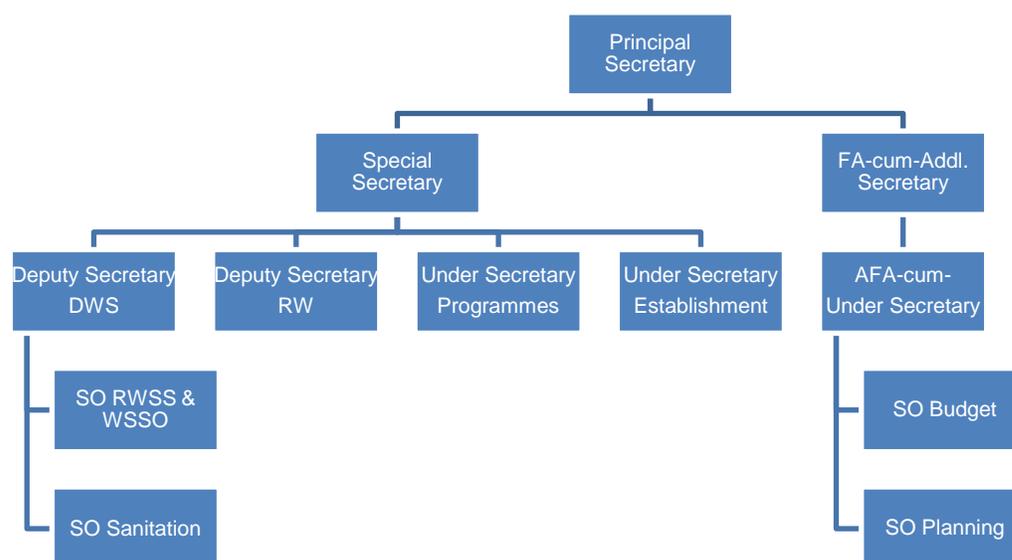


Figure 15: Organogram of Rural Water Supply and Sanitation Organisation (RWSSO)
Note: SO- Section Officer/ FA- Financial Adviser/ AFA-Assistant Financial Adviser/ RW-Rural Works

The Rural Water Supply and Sanitation Organisation (RWSSO) is the implementing agency. The RWSSO is headed by a Chief Engineer. The state is divided into 5 Circles which are headed by Superintendent Engineers. Each Circle consists of RWSS Divisions, which are generally congruent with the districts. Executive Engineers are in charge of the 31 RWSS Divisions in the state. The number of Divisions under a Circle varies from 5 to 8. Each RWSS Division is divided into Sub Divisions under the charge of Assistant Engineers. Sub Divisions consist of several Sections, which are generally coterminous with Blocks. Junior Engineers (JE) look after each RWSS Section, which is the lowest level administrative unit of the RWSSO. Till recently, one JE was appointed at the Section level. In 2011-12, the post of one more JE has been created to strengthen the capacity of RWSSO at the field level to address the operation and maintenance of water sources and to implement the TSC. The second JE will be reporting to the Block development Officer (BDO), who is responsible for all development works at the Block level.

The Orissa State Water and Sanitation Mission (OSWSM) was established in the state in 2002 as a registered society under the Society Registration Act to function as the nodal agency for implementation of TSC in the state. The State Mission has a Governing Body, which is the apex body for policy-making in WASH sector in the state. Chief Secretary is the Chairperson of OSWSM Governing Body and Development Commissioner (one of the two Additional Chief Secretaries) is the Vice Chairman. The Secretary RDD is the Member Secretary of the state Mission and the two Chief Engineers of RWSSO are Additional Member Secretaries of the Governing Body. Five Secretaries of GoO – Health, DWCD, Panchayati Raj, Education and Finance are ex-officio members. Figure 8 shows the organogram of the Governing Body of the State Mission.

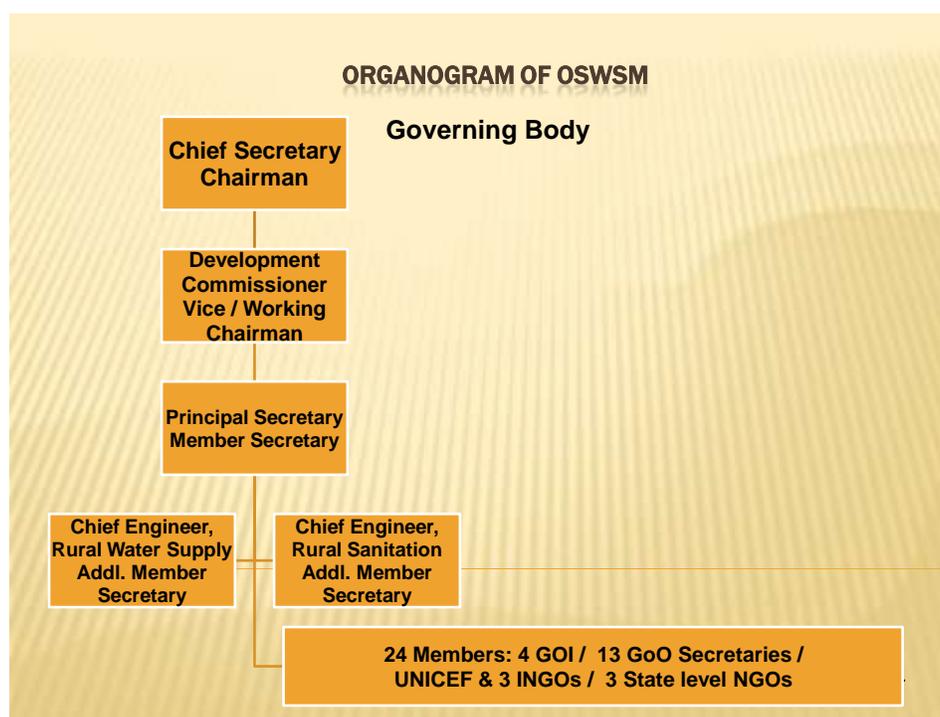


Figure 16: Organisation structure of OSWSM Governing Body

Source: Presentation by OSWSM, March 2012

The OSWSM also has an Executive Committee which is chaired by the principal Secretary, RDD and 8 members. Besides the two CEs of RWSS and Sanitation, the Director WSSO (now vacant) and five Directors of GoO -Health, Social Welfare, Orissa Primary Education Program Authority (OPEPA), and Rural Development- are the members.

The stated objectives of The State Mission are:

- To promote community ownership of the projects with the responsibility for operation and maintenance in order to ensure sustainability

- Overall policy guidance and coordination of programmes implemented by the District Water & Sanitation Missions keeping in view the guidelines of Govt. of India & Govt. of Orissa for water and sanitation programmes in order to make the water supply projects self-sustainable.
- To ensure transfer of all existing and new Rural Piped Water Supply projects to the Users' Association
- To ensure coordination with different departments, agencies and convergence of different activities related to water supply and sanitation in rural areas.

The State Mission reviews the progress of TSC on a quarterly basis; the last review was held on 17th February.

Technical support to the OSWSM for communication and School Sanitation and Hygiene Education was provided by UNICEF in the initial years. After the concept of Communication and Capacity Development Unit (CCDU) was introduced in 2005, this was constituted formally with the Chief Engineer, OSWSM functioning as the Director, CCDU in 2006. Two Consultants were recruited from the CCDU budget. Subsequently in 2010, following national guidelines the Water and Sanitation Support Organisation (WSSO) was also constituted. The organogram of WSSO is shown below:

The Gol capacity building budget provides for the position of a Director and six Consultants at State level and District Coordinators and Block Resource Centres in all Blocks.

However, a separate Director for WSSO has not been recruited. The Chief Engineer OSWSM (as the Director, CCDU) has taken over the additional role of



Director, WSSO although additional budget is available for this position. There is no dedicated position of State Coordinator for TSC as in some other states like Himachal Pradesh or West Bengal which have made considerable progress in TSC. A Coordinator at state level with the appropriate competence can support the OSWSM in monitoring critical performance parameters and plan strategic action.

The OSWSM has recruited 4 Consultants for i) IEC, ii) Water Quality iii) Sanitation and Hygiene and iv) MIS, against 6 approved positions. Two Consultants (Technical Advisers) – one for CCDU and one for SSHE- are supported by UNICEF. The quality of technical support available to the State Mission needs to be substantially augmented with good professionals for the state to achieve total sanitation. Thus OSWSM has not utilized the resources available from Gol budget fully to procure technical support.

Nine organisations in the state have been identified as the Key Resource Centres (KRCs) for capacity building in the sector. This includes three non-government institutions. The State Institute for Rural Development (SIRD), one of the three, is providing capacity building support in training of Panchayat representatives. SIRD has prepared Reference Books on various Rural Development Schemes being implemented in the state in which PRIs have a role and this includes the TSC and Water Supply programs. The Deputy Director, SIRD has prepared a plan for orienting 100,086 newly elected PRI members within a period of three months using 432 Resource persons from 76 network partners in the state. He also mentioned that the WASH content in the Reference Book has been revised in consultation with the OSWSM. However, there is no evidence of any of the other KRCs providing any strategic professional support to the TSC at this point of time.

District and sub-district level: At the District level, District Water and Sanitation Missions (DWSM) have been constituted. The President, Zilla Parishad (ZP) is the Chairperson of DWSM and the District Collector as Ex-Officio CEO of ZP is the Co-Chairperson. The Executive Engineer of the concerned RWSS Division is the Member Secretary of the DWSM. The Project Director, DRDA provides support to the Collector in conducting monthly review meetings.

District Coordinators (DC) have been appointed in the districts who report to the Executive Engineers, RWSS (Member Secretary) and provide support in monitoring physical and financial progress. The national (NRDWP) guideline (September 2010) provides for three Consultants at the district level in addition to the District Coordinators- i) MIS & M/E ii) IEC and iii) Sanitation and Hygiene. Thus far 38 District level Consultants have been recruited and the process of recruitment has been initiated for the remaining 52. It is understood that the position of TSC Coordinators have fallen vacant in almost half of the districts because some of the DCs have been selected for the Consultant's position. The earlier assessment (Dash, 2012) observed that "...a dedicated team of technical and social professionals is definitely absent in all the districts. There is an appreciable degree of confusion on the role and responsibilities of proposed field professional to be deputed by WSSO and OSWSM." Table 3.1 shows the current vacancies in four sample districts from the Sutra study.

District	Bolangir	Balasore	Kandhamal	Rayagada
<i>Executive Engineer</i>	I/C			I/C
<i>TSC Project Coordinator</i>				
<i>DEO</i>				
<i>WSSO-Hygiene</i>				
<i>WSSO IEC HRD</i>				
<i>WSSO M&E</i>				

Note: Vacant positions in red

Source: Sutra Consulting report (2012)

District Water and Sanitation Missions are statutory bodies created to function as the nodal agency at the district level to ensure coordination between the various sectors and agencies which have a stake

in improved sanitation. Since Chairperson of Zilla Parishads is the ex-officio chairperson of the DWSM also, logically DWSM can also ensure effective participation of Panchayat institutions at Block and Panchayat levels in implementation. No independent evaluation has been carried out regarding the effectiveness of DWSMs. However, discussions with TSC officials at the state level suggest that DWSMs are not very active.

Apart from the DCs and three Consultants, two other staff positions are also supported by TSC budget in the DWSMs: one Data Entry Operator and an Accountant. Therefore each DSWM will have the following personnel deployed using the combined budget of TSC and NRDWP (WSSO) when the recruitment process is completed:

- One TSC Coordinator
- Three Consultants
- One Data Entry Operator
- One Accountant.

In two states - West Bengal and Himachal Pradesh, DWSMs/DWSCs have played crucial roles in guiding and monitoring the TSC program with success. The DWSM/DWSC meetings are held regularly every month on fixed days in these two states and progress figures from the Blocks are reviewed, and constraints and solutions discussed and acted upon. In both states Panchayati Raj Department is responsible for implementation of TSC. In West Bangal, and all three tiers of Panchayat institutions- Zilla Parishads, Panchayt Samitis and Gram Panchayats- are closely involved and actually lead the TSC. In Himachal Pradesh, DRDA is the implementing platform.

Block Level: Till now, one Junior Engineer in charge of the RWSS Section- which is usually coterminous with the Block- was the last line functionary of the department. The Section JE has a huge workload- a crude average of 930 Handpumps and 22 Piped Water Supply systems apart from the responsibility of investigations for new water supply schemes and implementing the TSC. Inevitably JEs would prioritise their work and in the process TSC is usually relegated to the last position, unless the Executive Engineer of the RWSS Division considers TSC as an important deliverable.

Block Level Core Committees (BLCC) are to be constituted as per the Operational Guideline on TSC, including one representative from Civil Society Organization. The BLCCs are expected to assist the block level team under the overall coordination of BDO & Block level TSC coordinator and Community based organizations involved in implementation of TSC. However, there is no information in the available reports on whether BLCCs have been constituted or if they are functioning.

NRDWP is providing support to establish Block Resource Centres at the Block level to specifically strengthen the community mobilisation and participation of Panchayat institutions and for improving monitoring of social inputs in the WASH program at sub-district level. The guidelines for establishing

are fairly clear²⁰. In Odisha the process of setting up BRCs has been initiated by “inviting tenders” from NGOs, following the national guidelines. It is learnt from discussions with OSWSM that the BRCs would be constituted soon.

During the last one year RWSSO has taken one important step to augment the capacity of the organization at the Block level by recruiting an additional Junior Engineer (JE) at the Block level, who would be responsible for two crucial functions – Operation and Maintenance of water supply systems and implementation of TSC. The additional JE will be attached to the Block Office and would be reporting to the BDO. Out of the 314 approved positions, 203 have been recruited already while recruitment for the remaining positions is in process. The newly inducted JEs have recently been trained in an Induction program in which they were exposed to the O&M of water supply and TSC themes.

With the added manpower at district and Block levels, this group should be adequate to provide the necessary technical and managerial support to the DSWM (and RWSS Division) to implement the TSC and Water Supply Program provided they are motivated, have the necessary skills and get the right kind of guidance from the State Mission.

Gram Panchayat / Village level: It is at the Gram Panchayat and Village level that there is a crucial gap in capacity to deliver the WASH program with quality. As per the Operational Guideline, GPs are designated as the institution for planning and implementation of TSC at the Panchayat and village level. They are supposed to prepare micro-plans with support from Block Coordinators, and implement the plan.

The RWSSO has engaged Self-Employed Mechanics (SEMs) at the Panchayat level to maintain the handpumps, which constitute the mainstay of the drinking water supply program in the state. Each SEM is assigned 25 to 35 handpumps to maintain, depending upon the handpump density in the Panchayat. The SEMs are to be provided a bicycle and basic tools required for maintaining India Mark II handpumps. There are one or more SEMs in a Panchayat depending on the pump population. The SEM is the last link, a weak one though, of the RWSS Department in the field.

The RDD adopted a policy to decentralise operation and maintenance of water supply systems- both handpumps as well as piped water supply systems- by handing over the responsibility to Gram Panchayats in 2006. A Government Order was issued in September 2006 detailing the processes to be followed and specifying roles and responsibilities of the different actors and conveyed to the District Collectors and Chairpersons of Zilla Parishads. O&M budget was to be met from the grants available under the 12th Finance Commission. A MoU was to be drawn up between the Gram Panchayat and the Assistant Engineer of the RWSS Sub-Division, which reiterated the roles and responsibilities of GPs and of RWSSO and inter alia confirmed that the system/s to be handed over was in working condition.

²⁰ Ministry of Rural Development , DDWS, 24th August, 2010: Guidelines for setting up BRCs

There were also other information such as the technical details and energy use agreements with the electricity authorities, which were to be shared with the GPs. But a study carried out in late 2007²¹ after nearly a year of the transfer of responsibilities indicated that there were crucial gaps in the transfer process. The transfer was made without ensuring that the water supply infrastructure was in working order. Some of the problems reported were:

- The MoUs documents were not understood by Sarpanches of GPs, and no attempt was made to explain the provisions and roles and responsibilities to those who were freshly elected after 2007 Panchayat elections
- Technical specifications of PWS were not provided to the GPs
- Electricity bills for PWS schemes were in arrears when the devolution took place, which GPs were asked to clear. Agreements for power supply continued with the RWSS.

Box 1

Woman Sarpanch leads TSC in Kandhamal district (reproduced from Community report, Sutra Consulting, 2012 pg 18)

In Tumudibandha Panchayat of Kandhamal district, the lady Sarpanch Nalini Pradhan has facilitated the involvement of Self Help Groups for implementation of TSC. She has supported the SHG to use the community hall for the purpose of establishing a sanitary mart, helped them to procure toilet material for the RSM, facilitate meetings with households along with SHG to assist awareness building process and construct toilets

- There was no systematic effort to orient the GPs regarding the cost of operation and maintenance; as a result most of the Sarpanches had no understanding of how to manage the budget (including raising user charges)

- There was lack of clarity in the budget utilization process at all levels. The O&M funds were allocated to GPs by the DRDA, who divided the district budget equally among GPs, without using any norm based on actual requirement.

A second study by the same author²² after an interval of three years, i.e. four years after the formal transfer of O&M responsibilities to GPs observed that the policy of transferring O&M functions of rural water supply and sanitation to GPs has not translated to practice. The GPs are yet to be fully prepared and given the required independence to run the systems. Over 60% of GPs reportedly had not seen the MOU signed in 2006 mainly because many of the members including the Sarpanch and Executive Officer have changed. Only 17% of the Sarpanches/Executive Officers interviewed (in the 35 GPs covered in the study) had been trained on their

²¹ Multi Applied Systems 2007: Study on state of preparedness of Gram Panchayats to take on TSC

²² Rapid assessment of Establishing Village Water and Sanitation Committee in Orissa and using Gaon Kalyan Samiti as a Potential Vehicle, B.B.Samanta, November 2010, Bhubaneswar

Box 2**Panchayat works with implementing NGO In Balasore to implement TSC***(source: Community Report, Sutra Consulting: 2012)*

In Naikudi Panchayat of Balasore district, the Sarpanch Biswanath Swain has been involved to create a system of demand generation among the community. He has visited households along with the implementing NGO (“Baba Akhandala Mani Yuba Seva Sansada”) to inform about the programme, disseminate information on the promotional amount (recognised as cost of toilet by the implementing agency) and supported to develop application forms to invite demand. He has supported to conduct village meetings and personal interactions with households to discuss about costing of toilet, choices in contribution amount for superstructure and has also supported to establish demonstration model in the village. This has resulted in a developing an environment where community is well informed and have been convinced to use toilets.

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roles and responsibilities. Here again specific training/orientation on operation and maintenance of hand pumps and running a piped water supply system is lacking. Transfer of funds from Finance Commission Grants to GPs for purchase of spare parts has been discontinued which further dilutes the involvement of the GPs.

The role of GPs in planning and implementation of TSC is far less tangible. The Sutra report observes that Panchayats have not been involved systematically in TSC program and there are no systems for involving the Panchayats. They do not have any role in making decisions relating to selection of implementing agencies, or using local resources such as masons and materials. This is the situation across all four sample districts, although the districts were purposively chosen to include two high performing districts (Balasore and Bolangir) based on the TSC performance reported by the districts.

Earlier studies have suggested similar absence of involvement of GPs. For instance, the CYSD study (2007?) in 8 KBK districts showed that 43% of the PRI representatives were not even aware of the TSC program. More than half were not aware of the NGP while only 4% were aware of the special

incentives²³. The studies by MAS (2007) and Samanta (2010) confirm this situation at earlier time points.

And yet there is evidence to suggest that PRIs would like to participate actively in various aspects of TSC program (MAS, 2007) and have the potential to make specific contributions for program implementation even in underdeveloped regions (Sutra Consulting, 2012; See Box 1). There is also evidence that Panchayat institutions can lead the process and work in partnership with implementing agencies to facilitate the process (See Box 2).

But what the Sutra study observes is that Panchayat members have taken initiative in mobilizing communities in Odisha in their personal capacity out of their own interest although the system did not assign them any formal role. In other words, Panchayat institutions neither have the space they need nor the formal authority to participate in TSC and have to create the space for themselves with no support from the policy environment.

In discussions with officials of the State Mission, it was mentioned that Panchayats were given advances to implement TSC at the rate of Rs 12,000 following joint directives from RDD and PRD, but they failed to deliver. But as we have seen earlier in case of devolution of O&M responsibilities of water supply systems to GPs, handing over a responsibility without providing the necessary support in the form of information and skills and capacity to handle the responsibility can be counterproductive.

Analysis of success stories in TSC across Indian states (e.g. West Bengal, Himachal Pradesh) highlight the critical role that Panchayat institutions have played in mobilizing communities, in making local logistics innovations, in monitoring and in enforcing prevention of open defecation after a certain level of toilet coverage is achieved. It is imperative therefore that Panchayat institutions at district, Block and GP level be co-opted as partners and encouraged to take on a specific role simultaneous with quality training of PRI members in the operational aspects guided by clear guidelines and supportive supervision.

Village level: Village Water & Sanitation Committees (VWSC) and Gaon Kalyan Samitis (GKS): VWSCs have been constituted after the introduction of the Sector Reform Pilot projects and later the *Swajaldara* , mainly because it was a precondition as per national guideline. There are no reliable estimates regarding the number of VWSCs constituted, although one study (Samanta, 2010) suggests a ballpark figure of 5,000.

The TSC Operational Guideline of 2007 does not recommend formation of VWSCs, nor does it make any reference to any role for VWSCs, even where they exist. Gram Panchayats are envisaged as the planning and implementing institution which would connect to families living in numerous scattered

²³ The methodology needs verification since the questionnaire for PRI members does not have any questions relating to NGP.

habitations in villages directly. A crude estimate suggests that a GP in Odisha consists of 8 or more villages (23 habitations) and on average 6727 persons (approximately 1200 families) live in a Panchayat spread over an area of 25 sq km. With one official (Panchayat Executive Officer) it is unrealistic to expect the Sarpanch to plan, implement and monitor a process-driven programme like TSC which involves communication for behavior change as well as construction activities involving a technology which is not yet understood very well by masons.

The various studies available offer no surprises therefore. The Sutra study does not provide any indication regarding the presence of VWSCs in the 50 villages studied, but observes:

“...Village water and sanitation committee do not have any role in TSC implementation as per current sanitation strategy adopted across four districts. VWSC (wherever formed) are more involved in activities such as maintenance of public water source, regulation and distribution of water and collection of water charges from users.”(p.21)

Earlier studies which have inquired into the role of VWSCs in TSC (MAS, 2007 and Samanta, 2010) also confirm this.

The National Rural Health Mission (NRHM) has supported formation of Village Health and Sanitation Committees (VHSCs), which are intended to be a part of the local self-governance structure of the Panchayati Raj Institutions specifically the Gram sabha. The terms of reference of VHSCs includes promotion of sanitation and hygiene in homes as a core responsibility. The purpose of this Committee-called Gaon Kalyan Samiti (GKS) in Odisha- is to build and maintain accountability mechanism for community level health and nutrition services provided by the Government. VHSCs/GKS are supposed to be registered bodies with bank accounts in their own name.

One of the studies referred earlier (Samanta, 2010) was commissioned by WaterAid specifically at the request of the RDD, GoO to assess the feasibility and capacity of GKSs vis-à-vis VWSCs to handle WASH program functions. The study based on qualitative and quantitative assessment in 35 GPs of 10 Blocks in five districts indicated that the VWSCs are more active in water supply than in promoting sanitation and hygiene. The study also suggested that VWSCs, as community organizations, have still to go a long way in creating a sense of ownership of the water supply system by the community so that the system becomes sustainable. GKSs, the study reported, have been constituted in 94% of the villages. Women from all sections are well represented in the GKS, and they are invariably led by women as Chairperson. Although none were registered they have all opened bank accounts. There were gaps in their capacity although GKSs were willing to take on the additional responsibility of managing WASH activities if they were trained and if they could get the necessary funds. The study recommended three alternate institutional models at GP/Village level for WASH programs:

- a) VWSCs as Standing Committees of GPs, who should be fully responsible for O&M of Handpumps and for implementing TSC. GKSs can take the responsibility of generating demand for toilets at village level.

- b) VWSCs constituted at GP level linked to User Groups at village level. GKSs to be made responsible for TSC.
- c) Panchayat Kalyan Samitis be constituted at GP level (Gram Panchayat water Sanitation and Hygiene Committees) linked to GKSs at the village level.

The proposed 12th Plan approach to TSC (September 2011) has recommended that the VWSCs be constituted mandatorily as a Standing Committee of the Gram Panchayat and VWSCs should supervise implementation of TSC in every Panchayat.

Summing up: The delivery mechanism for WASH in Odisha is top heavy and basically focused on delivery of drinking water infrastructure. RWSSO as the nodal organization is administered by the Rural Development Department, and has the additional resources necessary to implement the TSC.

However it is the lack of an institutional platform of RWSSO at the Panchayat level and the gap in capacity of engineering staff at district and sub-district level to engage with the Gram Panchayat institution, which seems to have resulted in indifferent program delivery, especially of the TSC program.

Institutionally, TSC does not appear to be considered a priority area within the RWSSO at the Division (district) level across the state, if the report from three districts in response to RTI queries regarding their functions and duties, can be considered as evidence²⁴. There is no mention of the rural sanitation program (TSC) anywhere in these detailed reports; water supply is reported as the only function. This implies that the RWSS Divisions do not consider implementation of TSC as one of the core areas of their responsibility.

The Principal Secretary, RDD suggested that Job Descriptions of RWSS staff at all levels needs to be drawn up to include specific tasks related to the execution of TSC. At the moment it appears that there is no formal mention of TSC in the job descriptions. In fact there are no job descriptions or competencies defined for the various positions. Once these references are made and performance is assessed annually for recording in the ACRs, RWSSO can be made more accountable for progress of TSC and related activities.

The Principal Secretary also recommended that a Results Framework matrix should be prepared for the WASH program on the lines of the national Results Framework which is being prepared since 2020-11. Having a Results Framework would provide clarity on “Rule and Role” and would enable the monitoring of service delivery.

²⁴ Review of proactive disclosures under RTI by Public Authorities under the State Government, 2010 by Executive Engineers, RWSS Keonjhar and Sambalpur Divisions; posted on the website of RTI Central Monitoring Mechanism, Govt of Odisha

Section 6: Capacity of Institutions to deliver WASH services with quality

In the previous section the institutional network of the nodal agency i.e. RWSSO in Odisha to deliver WASH at different levels starting from the state level downwards till the village level has been described and the gaps identified. In this section the capacity of the institutions will be analysed from the following perspective:

- To what extent is the nodal agency functional and effective in delivering a program that is expected to create demand as well as respond to that demand
- What kind of coordination mechanisms have been set up at different levels and between different actors such as between different government departments and between RWSS and NGOs, PRIs etc
- To what extent village level institutions take the lead in implementing program at community level
- Adequate staff and capacity exists at district, block and sub-block levels (e.g. cluster, GP, habitation) for implementing the programme effectively.

Effectiveness of nodal agency: The RWSS seems to be delivering water supply services with reasonable efficiency as evidenced by the use and functionality of water sources. Its capacity to respond to emergencies is also appreciable if the action taken in the KBK districts following the diarrhoeal deaths in 2010 is considered as an indicator. RWSSO is trying to cope with issues of adverse water quality and operation and maintenance. It has achieved limited success thus far in decentralizing O&M responsibilities and engaging with Panchayat institutions.

But its capacity to deliver an effective people-centred and demand-responsive sanitation program is limited at the present time. The consistently high levels of non-usage of home toilets during the TSC implementation phase raise serious questions. In spite of supplements, both budgetary and technical, from GoI budget and from an external support organization like UNICEF, the RWSSO is yet to come up with a strategy to implement a sanitation program which generates authentic demand because it does not have a differential strategy for the different population segments. The extremely low levels of toilet ownership (12%) and even lower levels of use (5%) of toilets in Koraput district where UNICEF has been providing high quality social inputs for more than 5 years is an indication of the lack of capacity and willingness within RWSSO to utilize technical resource support to achieve results.

There is a limited understanding of the need for communication for behavior change within program officials. The subtle psychological states which are involved in the processing of information within an individual's mind when knowledge influences attitudes, which in turn, changes behavior are rarely understood or recognized by even senior program managers in TSC. Communication plans are therefore invariably limited to production of material such as posters, leaflets, or audio-visual software. Messages are predetermined and the medium for dissemination is also intuitively and arbitrarily decided, not based on any understanding of the audience's need for information or

perception levels. There is no evidence of any attempt to carry out formative research while developing messages or to assess impact of media on behavior at individual or collective level.

The following reports from the Sutra study are illustrative of the lack of any systematic approach adopted in TSC to communicate even basic program information to the target audience ²⁵:

It was found that majority of the toilet structures have collapsed in NGP villages covered during 2008-09. Individual beneficiaries are waiting for further incentive to construct either new toilet or reconstruct the toilet. In absence of any such mechanism for reconstruction of structure and ineffective mobilisation process the villages remain to be in the similar position as earlier with high levels of open defecation.

Households who have not received TSC benefits are not sure about the procedure and whom to approach to become eligible for availing TSC assistance. They are not aware about the paper work required to access TSC benefits. For example, household survey reports that more than 80% of the household were not aware of the exact incentive amount provided by government for IHHL construction.

Findings from the field survey indicate that more than 80% (out of 1058 BPL HH having Toilet) of the households have not followed any procedure and applications have not been filled to receive services. None of the panchayat has any database of the number of BPL/APL household receiving TSC benefit and the details of the implementing agency. However, few exceptional cases were found Balasore district.

It is understood that UNICEF is providing support in training of District Health and Information officers in communication for behavior change by Mudra Institute of Communication (IMACS report, 2011). Similar sensitization process of RWSSO engineers and WSSO staff will also be essential if an effective capacity is to be developed within the TSC program.

Coordination across government departments: The RD department launched an intensive mass campaign called “Sanjog” in June 2007 for inter-departmental convergence. “Sanjog” was endorsed by the political and administrative leadership at the highest level in the state and brought together the departments of Women and Child Development, Health and Family Welfare and School and Mass Education to join the TSC with the RDD facilitating the process. The campaign was flagged off by the Chief Minister and the Ministers from the respective departments sent out simultaneous appeals to their grassroots functionaries. This was backed up by letters from the Chief Secretary and the Chief Development Commissioner as well as the departmental Secretaries to all the District Collectors for specific follow-up action. As a first step all frontline workers - 9,000 SEMs, 45,000 Sikhya Sahayaks, 36,000 Angawadi workers, 35,000 ASHA workers- and 87,000 Panchayat Ward Members were requested to build their own toilets so that they could act as role models for the rest of the community, and this would trigger a surge in demand for toilets.

²⁵ A community report: Sutra Consulting; 2012 . (Reproduced verbatim from Page 36)

As Figure 9 shows there was an immediate impact in the number of NGPs won in 2007-08 when 94 NGP awards were won- the highest in any year so far. The impact is also visible in the consistent increase in the pace of installation of school toilets after the *Sanjog* drive (Figure 7). In Figure 18, the trend in installation of toilets by APL households is plotted, which also suggests a dramatic increase from 2008-09 onwards till 2010-11. There is a clear dip in 2011-12, which indicates that the impact of *Sanjog* might be waning and another boost is needed at this stage.

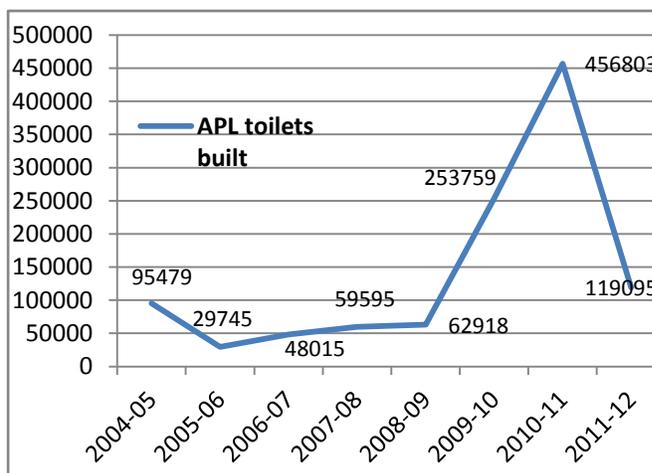


Figure 17: Trend in APL toilets built in TSC in Odisha
Source: IMIS, MDWS (figures for 2011-12 as on 29 Feb 29)

Coordination with NGOs: Much before the reforms in the sector were introduced (and the policy of participatory programming in the TSC framework declared) Orissa had experimented with a community-centred strategy within the pre-reform CRSP framework between 1993 and 1998. The concept of “Catalytic Agency” had been introduced to decentralize management to the field and RD Department had identified 10 Catalytic Agencies which included nine NGOs and one government corporate agency OREDA (Orissa Renewable Energy development Agency).

The program implementation strategy was discussed in joint consultation between RD Department and the 10 CAs. RDD released funds directly, using the principle of revolving fund, to the CAs who worked with their network of CBO partners to mobilize people to adopt toilets. RSMs and PCs were established to cater to the demand created. Technical capacity creation such as training of masons as well as developing skills for social mobilization in the program catchment was also the responsibility of the CAs. UNICEF complemented the government budget especially for capacity building. NGOs as CAs were trusted and respected as equal partners by the government. A post of Communication Expert in the rank of Joint Secretary in the RDD was created with an initial support for three years from UNICEF’s budget. The Communication Expert acted as the interlocutor between the NGOs and the RDD.

Junior Engineers of RWSSO verified compliance with technical specifications and on receipt of verification reports the revolving fund with the CAs was replenished. The system worked reasonably well. For instance, in 1996-97, the United Artists’ Association (UAA), the CA for Ganjam district, working with nearly 140 network partners, had installed 8,300 toilets in Ganjam district. The strategy was reviewed by a DFID Mission in 1997 and considered replicable.

The national TSC guideline provides legitimate space to NGOs. However, NGOs in the scaled up program in Odisha now play the role of “Contractors” rather than equal partners, who have the

potential to bring in the perspective of the community of users to the programme. If the State Mission reassesses the capacity in the NGO sector to provide this perspective, a number of blockages in the WASH sector which are resulting in the TSC (and NRDWP) to slip back into a supply-driven mode could be removed. Obviously this requires an objective and unbiased interlocutor, a role which the DFID could possibly play.

Capacity of Panchayat and Village institutions in TSC: In section 4, we have discussed the role of Gram Panchayats in maintenance of water supply infrastructure after formal devolution of O&M responsibilities but without the necessary support to build their capacity. Some crucial gaps in the capacity identified were²⁶:

- Inadequate understanding of the role assigned to them
- Lack of understanding of essential technical knowledge regarding functioning of the systems; without a working knowledge of how systems work they could not plan the maintenance logistics
- Lack of technical manpower support in their control for major repairs
- Lack of clarity regarding operative procedures for fund utilization and transfers

Assigning responsibility without building capacity and without supportive supervision resulted in the failure of GPs to perform their role. The study by MAS is perhaps the only systematic attempt initiated by RD Department to identify the constraints in translating policy of devolution into practice. The extent to which the recommendations have been actively considered is not known.

The current role of VWSCs/ GKS (or rather the absence of it) in implementing TSC has also been discussed in Section 4. However, studies which explored this issue in 2007 and 2010 suggest that all three institutions were willing to take up active roles in the program implementation. It was learnt in discussion with the State Mission officials that Panchayats were given funds to implement TSC, but their performance was erratic: while some Panchayats performed well, several other Panchayats defaulted and are yet to account for the funds disbursed. This appraisal is constrained by the absence of any reliable data on the success or failure of the GPs in managing TSC and the gaps in capacity of GPs in this context. Some of the problems identified in their performance in managing water systems can be considered generic although a detailed assessment would be necessary to work on an operational strategy to ensure their participation. Engagement with Panchayat institutions and Village institutions is imperative if WASH sector has to deliver quality outputs which can contribute to improved health outcomes.

While part of the solution could be to build capacity of Panchayat and village institutions, an equally important precondition for making the system work would involve changes in policies and procedures

²⁶ MAS, 2007

to engage with GPs. Similarly, the WASH sector has to take a considered decision on how to engage with GKS and frontline workers from other sectors (ASHA and Anganwadi Workers) and how to build their capacity to take on WASH sector related roles and responsibilities. This will obviously require dialogue and agreement with health and Nutrition sectors. The *Sanjog* platform could be rejuvenated for creating an enabling environment for this dialogue.

Capacity at district and sub-district level: Additional capacity for delivering WASH is being created by RDD/OSWSM at district and Block level. The three Consultants at the district level, personnel who would be deployed from NGOs in Block Resource Centres, and the JE-II attached to the Block Development Office together will form a fairly large pool of human resource for the WASH sector. While the NRDWP guideline provides generic description of roles for these positions, it will be essential to define competencies required for these positions to deliver the WASH program as well as formal Job Descriptions with clear deliverables right from the beginning.

Once the JDs and competencies are defined, a capacity building plan with clear timelines and putting the plan on track with concurrent monitoring for simultaneous fine-tuning of the plan would be the logical next steps. The RDD's plans in this area will need to be examined and discussed for identifying the opportunities and scope for value addition. For instance, implementing TSC is one of the major roles of the JE-II, but the recently completed orientation module (6th March, 2012) did not have any substantial content on TSC.

Section 7: Policies and procedures

Policy framework: The State has a stated policy on water resource which accords the highest priority to drinking water and domestic use. The Policy document directs the state to prepare macro-level multi-sectoral river basin plans for 11 identified river basins. These plans are supposed to take into account drinking water needs also. The policy document states that irrigation and multipurpose projects should invariably include components for domestic use, which should override the demands from other sectors. Maintenance of water quality and reduction of pollution load will be an integral part of the strategy. Monitoring and surveillance of water quality would also be an integral part of the strategy.

The state does not have a separate policy of its own on sanitation apart from the national policy in the sector as stated in the TSC document.

Convergence of water and sanitation: The state has adopted a policy of providing every village with piped water supply in a phased manner²⁷ and the following approach has been adopted:

- a) Villages which achieve sanitation coverage with priority to those with largest population and in descending order. Small and inaccessible villages where tubewell or sanitary well is not feasible will also be covered with PWS
- b) Quality affected villages would get priority
- c) Panchayats will take steps to collect user service charges
- d) Model plans would be prepared by the RWSSO for every Panchayat including O&M budgets and quality certification of water sources
- e) All Ward Members and Sarpanches would take steps to install toilets in their own homes following the “Sanjog” declaration by the Chief Minister (June 2007)
- f) The Village Health and Sanitation Committees would be reconstituted to include all Ward Members who have toilets in their own homes
- g) All Panchayats to adopt a resolution confirming the above and share with RWSSO in a prescribed model format.

This is a very positive statement of intention by GoO to ensure convergence of water and sanitation services at GP level. It is understood that approximately 7,000 villages have been identified in the state where this convergence is feasible.

The **Sanjog** declaration of June 2007 led by the Chief Minister discussed earlier reaffirms the policy to encourage convergence. GoO has setup a **Sanjog Helpline** on its website www.sanjoghelpline.in for registering grievances online.

²⁷ Panchayati Raj department letter of 1 September 2007, Government of Orissa

Achievement of total sanitation: The Operational Guidelines on TSC published in February 2008 as a joint declaration from the Rural Development and Panchayat Raj Departments states that 324 GPs had achieved nearly 100% coverage with toilets and projected the achievement of ODF status by 2011-12 in the following phased manner (See Annex 1 at the end of this section for details) :

2008-09:	1570 GPs
2009-10:	2198 GPs
2010-11:	1910 GPS
2011-12:	232 GPs

The detailed appraisal of progress discussed in the preceding sections clearly indicates that the above phasing has not been adopted. It will be necessary to explore why this plan did not work and more important whether any concrete steps were taken to make the plan work and to monitor progress.

State level incentives: The operational guideline also lays down the role of Gram Panchayats and specifies 15 functions that they have to perform. It specifies also that GPs will receive TSC funds and collect community contributions. There is a directive also to all Collectors to release a first instalment of Rs 12,000 to GPs which is to be operated as a revolving fund, to be replenished on submission of utilization statements.

Additional incentives at the state level for Gram Panchayats taking the lead in implementation of TSC have been made in the guideline: *Agrani parimal* Gram Puraskar of Rs 10,000 per village for those achieving full coverage/ *Parimal Mitra* award of Rs 50,000 for the Sarpanch for constructing 500 toilets and Rs 100,000 for constructing 1,000 toilets.

But as we have seen in the section on institutional appraisal (Section 4), Panchayats are playing virtually no role in the implementation of TSC and in water supply.

Procedures: There are clearly huge gaps in translating policies into practice. All the good intentions expressed in the policy documents and government orders seem to remain on paper.

One possible reason could be that clear operational procedures are not laid down. Exhaustive analysis of the role of GPs in O&M of water supply systems and the failure of the policy of devolution (MAS, 2007) suggests this.

In TSC implementation, too similar gaps in operational procedures are suggested in the observations made by various studies referred earlier (Sutra, 2012 / CYSD, 2007?/ Samanta, 2010). This aspect needs detailed analysis by tracking Government Orders issued from time to time by the

state to the district and sub-district levels to identify specific breakdown points in decision-making process.

One suggestion from the Principal Secretary, RDD can be acted upon immediately. It was suggested that a compendium of all government orders and notifications including technical guidelines , in Oriya language , would be a good starting point. Earlier in 2005, DDWS (GoI) had produced such a compendium in English for national circulation, which was extremely useful for all program staff.

**Annex 1: Yearwise GP intervention plan to achieve total sanitation by 2012
(Operational Guideline, TSC, GoO)**

Sl no	Districts	Total no. of GPs	Total no. of Blocks	GPs to be Intervened in 2008 & Min cov. (20%)annually	GPs to be focussed for 100% coverage			
					2008	2009	2010	2011
1	Angul	209	8	190	40	56	72	22
2	Balangir	285	14	285	70	98	117	
3	Baleswar	289	12	240	60	84	96	
4	Bargarh	248	12	244	60	84	100	
5	Bhadrak	193	7	179	35	49	63	32
6	Boudh	63	3	55	15	21	19	
7	Cuttack	342	14	320	70	98	126	26
8	Debagarh	60	3	57	15	21	21	
9	Dhenkanal	199	8	189	40	56	72	21
10	Gajapati	129	7	125	35	49	41	
11	Ganjam	475	22	451	110	154	187	
12	Jagatsingpur	194	8	189	40	56	72	21
13	Jajapur	280	10	274	50	70	90	64
14	Jharsuguda	78	5	74	25	35	14	
15	Kalahandi	273	13	268	65	91	112	
16	Kandhamal	153	12	146	60	84	2	
17	Kendrapara	230	9	230	45	63	81	41
18	Kendujhar	286	13	275	65	91	117	2
19	Khorda	168	10	155	50	70	35	
20	Koraput	226	14	217	70	98	49	
21	Malkangiri	108	7	104	35	49	20	
22	Mayurbhanj	382	26	370	130	182	58	
23	Nabarangpur	169	10	164	50	70	44	
24	Nayagarh	179	8	171	40	56	72	3
25	Nuapada	109	5	105	25	35	45	
26	Puri	230	11	182	55	77	50	
27	Rayagada	171	11	165	55	77	33	
28	Sambalpur	148	9	144	45	63	36	
29	Sonepur	96	6	89	30	42	17	
30	Sundargarh	262	17	253	85	119	49	
	Total	6234	314	5910	1570	2198	1910	232

Section 8: Technologies used and supply chain

This part of the appraisal will be restricted to technologies used in TSC and the related supply chain.

Technologies used: The TSC program made a clear shift to a demand-based approach, in which the role of subsidy is marginalized. A wide range of technologies are to be promoted- single direct pit, single offset-pit, two-pit offset, and people are expected to make a technology choice depending on the geo-physical conditions and their capacity to pay. An incentive is provided to BPL families for a basic toilet. But this amount is not to be considered as “subsidy”, which was the prime mover of the program in the earlier supply-driven CRSP.

This shift in approach was guided by the experience from Medinipur district in West Bengal where the Intensive Sanitation Program demonstrated that right sequencing and mix of social mobilization and communication techniques backed up by a good supply chain for materials and services can result in large scale adoption of sanitary latrines on a sustainable basis, irrespective of economic background. Subsidies were at best used to facilitate the process, but not as the driver of change. The West Bengal program offered a choice of alternate low-cost designs- 1) single direct pit, 2) single offset pit and 3) two pit offset. The design details and costs were explained clearly in booklets that were developed based on FAQs collected from the field. But in actual practice, though, the single-direct pit design was actively promoted because it was affordable. The well-organised network of RSM/PCs ensured that technical information was available, on a regular basis and at convenient locations, to the people to make a choice.

In Odisha, technology choice offered has been largely determined by the incentive offered to BPL families in the national program. The amount of subsidy has changed over time in the following manner:

Table 7.1 Subsidy / Incentive Pattern for IHHL

Year	Incentive	Beneficiary Contribution	Total Cost of IHHL
2000-2006	500	125	625
2006-2009	1200	300	1500
2009-2011	2200	300	2500
2011-2012	3200	300	3500

Reproduced from TMST study: Dash (2012)

When the TSC program started out in Odisha the single direct pit design was promoted²⁸, which has always been a popular latrine design in Odisha. There was no provision of any superstructure, to accommodate within the unit cost of Rs 625. Later as the amount of incentive offered in TSC went up the single offset pit and two-pit design were introduced.

One study (Samanta,2007) provides the following picture of design-mix based on observation of 362 toilets installed in TSC:

- Single direct pit -52%
- Single offset pit – 44%
- Two pit offset- 4%

In the absence of any information in the two studies commissioned earlier by TMST, on the specific toilet designs currently adopted, we go by our own observation in the field in Puri district during 2010. It was found that the program was promoting mainly the single offset pit with brick and mortar walls, but without providing any junction box which would make it possible for a second pit to be built and connected to the junction box when the first pit gets filled; the toilet would then be a permanent one. Without a junction box, the toilet would have to be abandoned when the pit gets filled and therefore the investment on the brick wall would be a waste. This aspect is important and needs further investigation, because it has implications on how technology is perceived by users. There are umpteen examples from health and renewable energy sector of how a technology fails to sustain in the market place because of faulty design or because of poor service follow-up. Poor construction causing collapsed pits, choked water-seals, and incomplete superstructures were cited as reasons why toilets are not being used (Sutra, 2012).

The process of how information on technology gets disseminated is therefore extremely important. The Sutra study (2012) suggests that adequate information on how a toilet works and the technology options are not always provided before starting work. In many cases (181 out of 724 BPL HHs) material is merely dumped in the courtyard of the house by the implementing agency (usually a contractor or a local NGO) and toilet construction is deemed completed. The following quote is illustrative of the delivery process :

In an in-depth discussion, the head of the household reported that the contractor (based out in Bissam cuttack) built toilets in their village in the month of May in 2010. He came with a team comprising of the main mason, an assistant mason and two labourers. Prior to the day of his visit, a youth from the village

²⁸ A single direct pit toilet design was developed in Odisha in late 1950's by American Peace Corps workers in a place called Barpali in undivided Sambalpur district. The design is popularly referred to as the "Barpali latrine" and consists of a single squatting slab which has a cement pan and water-seal built in. The Barpali slab is cast using a mould which is native to Odisha. This technology is well-established and its production as well as supply has been entirely through small private sector production centres

had called for a meeting in one cluster (*'sahi'*) where everyone was informed that they would be getting toilets as per government provision. The youth informed all villagers and conducted a group meeting in one day and the next day one labourer from his side and a male adult from each of the household were involved to dig pit in their respective households. The same day the main mason started doing the ground level work. The main mason, along with one labourer completed the plinth level construction with support from a male adult member of the family. The assistant mason constructed all superstructures in the same patch of household simultaneously and they were constructing approximately 2 toilets per day. In 7 days time 12-14 toilets were built in the village. (Sutra, 2012; page 28).

Supply chain management: Availability of materials and services at convenient distance is a basic prerequisite for adoption of any technology. This basic lesson emerged very early in the Intensive Sanitation Program (ISP) in Medinipur in West Bengal in early 1990's. The ISP came up with the concept of Production Centres to cater to the demand generated for toilets as a result of intensive awareness campaign. This concept was picked up by the Rajiv Gandhi Mission and in the first revision in the CRSP guidelines (1993) Rural sanitary Mart (RSMs) was introduced as a component of CRSP. Initially RSM was conceived as a "one stop outlet and counseling centre" for sanitation as well as personal hygiene products. Several such RSMs came up mainly funded by UNICEF in Uttar Pradesh and in other parts of the country including Orissa (undivided Phulbani).

Gradually however, experience suggested that, dedicated outlets were required for latrine promotion which could supply pans, traps, squatting platforms and related material. Diversifying the inventory to include personal hygiene goods such as toothbrush, tooth paste, soap, ladles, etc was not a practical idea although it sounded good conceptually. Thus, successful RSMs in the decade of 2000 specialised mainly in latrine hardware.

National guideline: The national TSC guideline (2011) states that RSMs should deal in latrine hardware as well as other material linked to the sanitation package. The RSM is expected to provide materials, services and guidance needed for constructing different types of latrines, and other sanitary facilities such as soakpits, compost pits, vermi-composting, washing platforms. The guideline describes the RSM as a commercial venture with social objective, which can be run by NGOs, SHGs, women's organisations, or even private entrepreneurs. RSMs can be set up combined with Production Centres where the material are produced or simply as marketing outlets where a wide range of pans is available for purchase by anyone intending to install a toilet. There is a good deal of flexibility offered in the use of RSM budget head which can also be used to complement Revolving Fund available for each district. The entire objective is to ensure that a chain of supply nodes for toilet hardware is available on a sustained basis at sufficiently decentralized level so that the material demand for both BPL and APL segment is met.

State Mission guideline on supply chain : The State Guideline published in 2008 specifies that the DS&SCM²⁹ shall serve as the RSM/PC. As per this guideline, DWSMs would identify entrepreneurs to establish RSMs at Block and district level. The "entrepreneur" can be NGO / SHG/ Panchayat/ private

²⁹ There is no explanation anywhere in the Guideline of what is a DS&SCM is

entrepreneur/ dealer in building hardware and so on. The entrepreneur would be given a revolving fund of Rs 1 lakh for a Block level unit and Rs 3.5 lakhs for a district level unit. Working masons in the area are supposed to be linked to the PC and the PCs are expected to deliver materials as well as masons on demand- either directly from the “beneficiaries” or when mediated through the Panchayats. The entrepreneur is required to report the number of individual or institutional (school/Anganwadi) toilets constructed to the BDO on a monthly basis. The price of material would be fixed by the DWSSM. The state guideline virtually reduces the concept of RSM to a dealership for sanitary hardware , but with the DWSSM playing a regulatory function.

Status of supply chain: The online data base (IMIS, MDWS) shows that 285 RSMs have been established through TSC out of 289 planned, which means that 90% of the Blocks have been covered. The Sutra study confirms the existence of RSMs, but does not provide hard data on how many are functioning in the 12 Blocks covered. The report says at the same time:

“..there is no supply chain established at the block levels and it is they (implementing agencies) who operate through their own production centre to meet material requirement during construction of toilet. In the current strategy of TSC implementation community have not got the opportunity to purchase/procure sanitary materials for toilet construction. There was no supply chain found through which a rural household can purchase sanitary material and construct their own toilet. “

Elsewhere the report indicates that people do not have any idea whom to contact for follow-up service when the toilet breaks down.

The gaps identified in the supply chain are:

- No supply chain connecting actual individual beneficiary
- Lack of information with community about resource available
- Limited choices in technological options
- Lack of monitoring during construction (bad quality construction)
- No access of community with implementing agency in case of repair and maintenance of toilet

This leads us to conclude that although RSMs have been established and budgets utilized, they remain as captive stores for the implementing agency. They do not perform the technology dissemination and counseling function as intended.

The single direct pit technology (Barpali design) is well-established in Odisha and its production as well as supply chain has been run entirely through small private sector production centres for more than 50 years. These units also fabricate reinforced cement concrete rings for wells, and other building components and are quite visible, too in most coastal districts. These should have been logically co-

opted in TSC to constitute the supply chain because they have sustained for so long without any funding support.

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Section 9: Monitoring and evaluation

Monitoring systems – both in water supply and sanitation- are currently focused entirely on physical and financial progress. In this respect, TSC reports are better updated. The online IMIS of the ministry of Drinking Water and Sanitation shows that all 30 districts have filed their physical and progress online for the previous month i.e. February 2012.

Using this basic data it is easily possible to compare physical and financial progress of the Divisions. This will provide valuable insights into how funds are being used by various Divisions and with what results and can be used as management tools.

But there are no systems for monitoring of progress towards “total sanitation” that is 100% coverage and ODF status within a village or Panchayat. The fact that 273 applications for NGP were sent in 2010 but a large number (192) were rejected indicates that the internal monitoring system of the state is weak. We have seen in Section 6 that the RDD had set a target of achieving 100% coverage of all Panchayats with home toilets by end of March 2012. The actual achievement is nowhere near this. By the end of 2010-11 a total of only 236 GPs in Odisha have been assessed as ODF. The current achievement of TSC target for IHHL stands at around 54%. The Census, 2011 suggests an access figure of less than 20%. Clearly there are serious mismatches between progress of latrine construction reported and actual progress of access to and use of toilets in the villages.

Use of toilets is a serious concern. There are no systems for monitoring of use. While Rs 21.48 crores have been spent on IEC and social mobilization, which means Rs 56 for every toilet reported as built, significant gaps exist between construction and use figures as shown by different independent agencies (NSSO / Sutra/ CYSD/ MAS). The system of concurrent monitoring of Health and Nutrition services at village level by the TMST is an excellent initiative which looks promising. Sharing of these data with all stakeholders could be considered.

There are no systems for monitoring of hygiene behavior within TSC. This needs to be considered seriously if the “H” in WASH needs to be retained. RWSSO may not have the system resources to monitor hygiene behavior. This begs the question: who then ?

New policy initiatives for 12th Plan: The new initiatives proposed for the 12th plan recommend real time monitoring through the Integrated Management Information System (IMIS) by the Ministry of Drinking Water and Sanitation (MDWS). The focus of monitoring would shift from tracking individual household latrine construction to achievement of total sanitation outcomes at community level. DWSMs would be required in this approach to collect, compile, analyse and transfer data to the MDWS through the IMIS. Outcomes will also be monitored through ASHA workers who would collect data on incidence of water borne diseases while independent studies would monitor higher level outcomes like

IMR, MMR and malnutrition. Independent biennial evaluation studies by states would be mandatory and linked to fund releases.

The focus of monitoring would also shift to use of toilets and quality of construction. This would require substantial restructuring and strengthening of the monitoring and evaluation infrastructure for the TSC program in the state. While data on usage and progress towards community level total sanitation can possibly be collected through systems such as the Concurrent Monitoring process of TMST, it will be essential to ensure that the data feeds into the program management and appropriate mid-course corrections are made to achieve desired outcomes.

Section 10: Conclusions

The objective of this appraisal was to identify and analyze specific bottlenecks in accelerating TSC implementation and in effective delivery and utilization of services in the WASH sector. The following conclusions are drawn from the appraisal:

Access and use:

Out of 141,928 habitations in the state, 48.5% were fully covered with safe water by April 2011. Scheduled Caste and Scheduled Tribe habitations show better coverage than upper cast habitations. In terms of population, three-fourth have access to safe water. Independent estimate by NSSO(2010) and TMST (ORG, 2011) indicate a higher coverage of 83%. Problem in water quality are reported from 10% habitations: iron, salinity, fluoride and nitrate are found above permissible limits in these habitations.

Census, 2011 suggests that 20.2% households have access to sanitary latrines in Odisha including both rural and urban areas. Disaggregated figures are not yet available, though it is safe to assume the rural coverage is less than 20%. Physical progress of individual latrine construction in TSC is slow- just about half the target has been achieved in 12 years. School toilet targets are nearly achieved. But use of toilets by households is a much greater concern; the program seems to be relapsing into a latrine-construction mode. Quality of toilets constructed also needs attention. There are no visible efforts for systematic hygiene promotion except in schools. Monitoring of hygiene behavior poses a significant challenge. Only one-tenth of the Gram Panchayats have become free from open defecation – most of them in three coastal districts.

Institutions and their capacity: The institutional mechanism for delivering WASH in Odisha is top heavy and basically focused on delivery of drinking water infrastructure. RWSSO as the nodal organization has access to additional resources necessary to implement the TSC, but there are indications that these resources are not used optimally.

However it is the lack of an institutional platform of RWSSO at the Panchayat level and the failure of the engineering staff at district and sub-district level to engage with the Gram Panchayat institution, which seems to have resulted in indifferent program delivery, especially of the TSC program. Institutionally, TSC does not appear to be considered a priority area within the RWSSO at the Division (district) level across the state. Lack of specific job descriptions and lack of clarity in roles and responsibilities with regard to sanitation program is a major constraint. A results framework for the RWSSO is necessary to agree on deliverables for better accountability in the system.

The RWSS seems to be delivering water supply services with reasonable efficiency as evidenced by the use and functionality of water sources. Its capacity to respond to emergencies is also appreciable. But its capacity to cope with issues of adverse water quality and operation and maintenance needs augmenting. It has achieved limited success thus far in decentralizing O&M responsibilities and engaging with Panchayat institutions. RWSSO's capacity and motivation to deliver an effective people-centred and demand-responsive sanitation program is seriously limited at the present time. The consistently high levels of non-usage of home toilets during the TSC implementation phase raise serious questions.

The weakest link in the TSC program is at the Gram Panchayat and village level. Panchayat institutions have been completely marginalized in the decision-making process, although they are contributing in exceptional cases. However, the policy framework gives them legitimate space in the TSC implementation process. Steps taken so far to equip Panchayats with the skills and information necessary to take on their role in WASH sector have not been effective.

Communication for behavior change: There are serious gaps in the capacity of TSC program managers to design communication strategies which can change hygiene and sanitation behavior. The understanding of behavior change process is simplistic and therefore communication is limited to production of material.

Inter-agency coordination: Excellent mechanisms for coordination- the *Sanjog* initiative- have been created five years back with endorsement at the highest level in the government, but they have become dormant over time. The political will which was shown to drive sanitation needs to be rejuvenated. Sanitation and water quality needs to be repositioned with the elected leaders. This can be the "game changer".

Coordination with the NGO sector needs to improve qualitatively. Engaging with NGOs as mere contractors results in underutilization of their potentials.

Sanitation Technology: Odisha has a huge advantage because it has pioneered low-cost sanitation technology in the marketplace long before the national program was even conceived. The technology dissemination process in TSC has failed to take advantage of this head-start. Supply chains for TSC – RSMs and PCs- are not playing the desired role. The Alternate Delivery System and supply chain needs revamping.

Monitoring: Monitoring is entirely limited to physical and financial progress. Even in this limited context use of online monitoring data as management tool is limited. Monitoring use of latrines is critical to the success of the program. Without this, the state can not make progress towards 100% ODF status even by 2017. There are no systems for monitoring hygiene behavior. This has to begin with the search for an appropriate agency and a consensus on measurable and realistic indicators. Monitoring of results needs to be initiated immediately.

Section 11: Recommended Intervention matrix

Based on the appraisal, it is recommended that the interventions be made at two levels- a) at the district level in two districts, and b) concurrently drawing lessons from the two districts to develop a strategy which can be scaled up by the RD Department and RWSSO throughout the state. The latter component will mainly aim at strengthening systems and building capacities for the program to deliver with quality. It will be strategically important to achieve congruence with the policies being formulated nationally for the 12th Plan while designing the detailed plan of interventions.

The following matrix outlines a set of recommended interventions which will address the gaps identified in the appraisal:

Aspect	Gap analysis	Interventions recommended
1. Policies and procedures	<ul style="list-style-type: none"> State does not have a sanitation policy or sense of urgency to reach ODF status 	<ul style="list-style-type: none"> Support RDD/OSWSM to draft a state policy to reach ODF status by 2015 and guide its adoption
	<ul style="list-style-type: none"> Operational guideline not revised after 2007 	<ul style="list-style-type: none"> Prepare a compendium of various orders and guidelines issued (since inception) and supplement with SoPs in consultation with RDD/OSWSM for achieving ODF status statewide
		<ul style="list-style-type: none"> Field test operational guideline in 2 districts for 6 months
	<ul style="list-style-type: none"> Guide statewide adoption of revised guideline by providing technical support 	<ul style="list-style-type: none"> Procedures for engaging in partnerships with NGOs, SHGs and private sector developed using best practices from other sectors in Odisha / other states Establish partnerships with NGOs in 2 districts, mentor them and document results for simultaneous inclusion in revised operational guideline
<ul style="list-style-type: none"> There are no clearly laid down procedures for engaging with NGOs/SHGs/ private sector 		

Aspect	Gap analysis	Interventions recommended
(Policies and procedures Contd...)	<ul style="list-style-type: none"> No communication strategy to address hygiene behaviour change 	<ul style="list-style-type: none"> Identify and agree on a set of 4-5 key behavioural indicators to be adopted statewide for WASH sector (and agreed with Health and Nutrition sectors) Rapid assessment of communication material developed/used and strategy for communication currently adopted in Odisha in TSC, good practices in health and nutrition sectors Prepare an operational strategy and test it in 2 districts; refine and finalise for adoption statewide with a goal to reach ODF status
	<ul style="list-style-type: none"> Advocacy action based on locally generated evidence missing, especially for high-level policy-makers 	<ul style="list-style-type: none"> Review available evidence from locally generated data (Health Directorate, NFHS-III, DLHS) and prepare advocacy package for legislators, PRI members Advocate with Chief Minister/Minister and with PRIs in 2 districts using advocacy package to create an awareness surge regarding importance of hygiene and sanitation as preventive health measure Organise and guide learning visits for key policy-makers Advocacy with media to showcase champions, good practices and to highlight positive deviance
2. Institutional arrangements	<ul style="list-style-type: none"> Need for improved clarity of roles missing at all levels- state, district, block within RWSSO 	<ul style="list-style-type: none"> Support RDD in preparing Job Descriptions of RWSS engineers (with competencies) to include sanitation and hygiene promotion and water quality related tasks Support RDD in preparing and monitoring Results Framework for delivery (RFD) of WASH program with household at the centre (consistent with DDWS results framework) Provide technical support to RDD in monitoring of the Results Framework for Delivery (RFD)

Aspect	Gap analysis	Interventions recommended
(Institutional arrangements Contd..)	<ul style="list-style-type: none"> No specific agency responsible for hygiene promotion and monitoring 	<ul style="list-style-type: none"> Advocate jointly with RDD, DWCD and Health Department to include promotion of hygiene and sanitation as deliverables of specific functionaries with agreed methods for verification Provide technical and managerial support to NRHM to organise VHNDs with WASH agenda in 2 districts and use this experience to scale up and institutionalize use of VHND as occasions to monitor WASH program at village level
3. Capacity of institutions and functionaries to deliver	<ul style="list-style-type: none"> Panchayat institutions and Block administration not involved at all in TSC delivery 	<ul style="list-style-type: none"> Advocacy-cum-orientation sessions with Zilla Parishads and Panchayat Samitis in joint partnership with RDD and Panchayat Raj Departments Revive functioning of District Missions and support/guide them in monitoring TSC and WQ/O&M issues
	<ul style="list-style-type: none"> RDD, Health and DWCD yet to have shared (WASH) program goal; Sanjog framework exists but not operational 	<ul style="list-style-type: none"> Support RDD in revitalising Sanjog platform and decentralizing it to district and Block level using video conferencing and technical facilities already in use in the state
	<ul style="list-style-type: none"> No village level institution made responsible for sanitation/hygiene 	<ul style="list-style-type: none"> Work jointly with RD and Health departments to build capacity of Gaon Kalyan Samitis (GKS) to take up WASH program linked to Gram Panchayat system (policy advocacy action) Support and guide the process of training GKSs in 2 districts to refine methodology and test information fidelity across channels of communication for replicability Prepare statewide plan and support its implementation
	<ul style="list-style-type: none"> SHGs have potential to promote sanitation & hygiene but not currently engaged 	<ul style="list-style-type: none"> Identify and agree on niche role of SHGs in TSC implementation, water quality monitoring and in O&M Develop package for training of SHGs in WASH and field test it in 2 districts Support scaling up of training of SHGs statewide

Aspect	Gap analysis	Interventions recommended
(Capacity of institutions and functionaries to deliver contd..)	<ul style="list-style-type: none"> RWSS engineers need to develop uniform understanding of TSC procedures 	<ul style="list-style-type: none"> Orientation of RWSS engineers in TSC operational aspects using agreed JDs and revised guidelines
	<ul style="list-style-type: none"> Need to augment capacity of RWSS to address quality issues in both sanitation and water and to respond to water quality-associated problems arising post-testing 	<ul style="list-style-type: none"> Provide technical support to RWSSO to map Fluoride problem and to identify solutions for mitigation in three identified districts Nuapada, Khurda, Nayagarh (?) Identify most vulnerable areas affected by salinity and iron and prepare a menu of technical options with action plans Provide support to RDD in developing Quality Assurance teams for toilets and for on-the-job refresher training of masons
	<ul style="list-style-type: none"> Inadequate manpower for water testing at sub-district level 	<ul style="list-style-type: none"> Support creation of capacity at Sub-Division level (to complement current state capacity) and to create capacity for water testing at Block level especially in already identified quality-affected areas
4. Supply chain for toilet	<ul style="list-style-type: none"> Weak or non-existent supply chain to respond to sustained demand 	<ul style="list-style-type: none"> Assess current systems for servicing demand for toilets and feasibility of drawing private sector/ SHGs into the supply chain Establish supply network for home toilets in 2 districts and provide them with technical support
5. Monitoring and evaluation	<ul style="list-style-type: none"> Monitoring limited to construction of water and sanitation facilities 	<ul style="list-style-type: none"> Systems for concurrent monitoring of use of toilets developed in 2 districts in technical collaboration with LSHTM team Develop District report Cards for TSC to be used by District Collectors in DWSC meetings
	<ul style="list-style-type: none"> No system for monitoring hygiene behavior 	<ul style="list-style-type: none"> Negotiate with RDD on budget allocation for monitoring hygiene behavior (using agreed 4-5 indicators) from TSC program budget Establish and test system for monitoring using Health/ICDS network Document feasibility and cost
	<ul style="list-style-type: none"> No data on cost of intervention 	<ul style="list-style-type: none"> Develop cost norms for WASH interventions for using as advocacy tool

Aspect	Gap analysis	Interventions recommended
6. Knowledge management	<ul style="list-style-type: none"> No operational strategy to address WASH issues in serial diarrhea- endemic areas on sustained basis 	<ul style="list-style-type: none"> Desk research and field studies during monsoon to map areas reporting recurring diarrhea epidemic in 6 worst-affected districts in south-western Odisha Identify predisposing factors and prepare plan to address
	<ul style="list-style-type: none"> Technical solution for fluoride and severely saline/iron affected areas not in place 	<ul style="list-style-type: none"> Review past work done to address salinity and iron in state and assess scope of intervention necessary to address the current state of the problem Desk review followed by rapid assessment of current state of fluoride mitigation technologies adopted in the country in Rajasthan and Andhra Pradesh including costs

Annex 2: List of persons contacted:

During the visit to Bhubaneswar (22-26 February, 2012) the following persons were contacted:

DFID/TMST:

1. Ms Supriya Patnaik, DFID State Representative, Odisha
2. Dr Alison Dembo Rath, Team Leader, TMST
3. Mr Gourishankar Mishra, WASH Specialist
4. Ms Birajlaxmi Sranagi, Social Development Specialist, TMST
5. Mr Debojit, Communication Specialist, TMST

RD Department/ SWSM, GoO:

1. Mr S.N. Tripathy, Principal Secretary, Rural Development Department, Govt of Odisha
2. Mr B. Mohapatra, Chief Engineer, RWSS
3. Mr P.B.Rout, CE, OSWSM-cum-Director, WASSO
4. Mr Rabi Das, Technical Advisor, CCDU
5. Ms Sikha Naik, Technical Advisor, SSHE, OSWSM
6. Ms Tuhina Roy, Consultant, IEC, OSWSM
7. Mr Dipak Pradhan, Consultant, M&E, MIS, OSWSM

UNICEF:

1. Mr Brecht Mommen, WASH Specialist
2. Mr Praveen More, WASH Officer
3. Ms Lopamudra Tripathy, Communication for Development Officer

State Institute for Rural Development

1. Mr Saroj K. Dash, Deputy Director,
2. Dr Benudhar Rout, Librarian

Others:

1. Dr B.B.Samanta, member, OSWSM
2. Mr Mangaraj Panda, United Artists Association (telephone interview)