KNOWLEDGE COMMUNITY
ON CHILDREN IN INDIA

SUMMER INTERNSHIP PROGRAMME 2005
UNICEF INDIA

SCHOOL SANITATION & HYGIENE EDUCATION IN KARNATAKA

Abhishek Shirali
Master of Arts (Economics)
Centre for Economic Studies & Planning, JNU

Amit Saraogi
Master of International Affairs
School of International Policy & Affairs, Columbia University

Maitreyi Menon
Master of Social Work
Delhi School of Social Work

Sonalini Khetrapal Singh
Master of Public Health
Mailman School of Public Health, Columbia University

CONTENTS

Abbreviations and Acronyms	
ANM	Auxiliary Nurse Midwife
ARWSP	Accelerated Rural Water Supply Programme
AWW	Anganwadi Worker
BDO	Block Development Officer
BRC	Block Resource Coordinator
CEO	Chief Executive Officer
CRC	Cluster Resource Coordinator
CRP	Cluster Resource Person
CRSP	Central Rural Sanitation Programme
DDWS	Department of Drinking Water Supply
DIET	District Institute of Education and Training
DPEP	District Primary Education Programme
FGD	Focus Group Discussions
GoI	Government of India
GoK	Government of Karnataka
HPS	Higher Primary School
ICDS	Integrated Child Development Scheme
IEC	Information Education Communication
IRC	International Resource Centre
LPS	Lower Primary School
MDG	Millennium Development Goals
MoHRD	Ministry of Human Resource Development
MoRD	Ministry of Rural Development
MYRADA	Mysore Resettlement and Development Agency
NGO	Non Government Organization
PHED	Public Health Engineering Department
PR&RD	Panchayati Raj & Rural Development
PRA	Participatory Rural Appraisal
PRI	Panchayati Raj Institutions
RGNDWM	Rajiv Gandhi National Drinking Water Mission
SDMC	School Development and Monitoring Committee
SSA	Sarva Shiksha Abhiyan
SEARO	South East Asia Regional Office
SSHE	School Sanitation and Hygiene Education
SHG	Self Help Groups
SVYM	Swami Vivekananda Youth Movement
SWSM	State Water and Sanitation Mission
SWASTHH	Sanitation and Water at Schools Towards Health and Hygiene
TSC	Total Sanitation Campaign
UNICEF	United Nations Children's Fund
WHO	World Health Organization
ZP	Zilla Panchayath
ZPED	Zilla Panchayath Engineering Department

Acknowledgements

We would like to express our gratitude to UNICEF for providing us with an opportunity to work on key developmental issues as well as to the Society for Developmental Studies who gave us the required logistical support for our case study. We would also like to thank Dr.Vinay Lall, Mrs.Stuti Lall and Mr. Ajay Suri, for their support. We would like to specially mention our facilitator, Ms. Farah Ahmed for giving us valuable inputs and support without which, this case study would not have been possible.

We would like to acknowledge the support and assistance given to us by Ms. Ramya Subramanium, Ms. Sae-Ryo Kim, and Ms. Malti Gandhi for the duration of the internship. We would also like to thank Ms. P. Amudha from the UNICEF India Country Office, who so kindly enlightened us about the project being implemented in Karnataka. The support given to us by Ms. Sukanya Subrahmaniam in Karnataka, who helped us assess the ground level situation on water and sanitation in Tumkur, is also greatly appreciated. We would also like to thank Ms. Radhika Srinivasan, who briefed us about the linkages between education and water and sanitation, for taking the time to interact with us.

We would also like to extend our appreciation to all the Officials of Zilla Panchayath in Mysore as well as the Block Level Officials in Tumkur. We would particularly like to thank Mr. Venugopal and Ms. Saraswati in Mysore as well as Mr. S. Siddeshwar in Tumkur for taking out time for us, and patiently answering all our queries. We would like to express gratitude to all the persons whose names we may have inadvertently left out in our report. Without the support and encouragement of all the people mentioned, and not mentioned, this report would not have been be possible.

1. Executive Summary

Though water & sanitation has figured in the plan documents since 1951, the emphasis has been more on water rather than sanitation. The first real programme, which emphasized on the use of toilets, was the Central Rural Sanitation Programme (CRSP), which was launched in 1986. However, though coverage levels increased, they did not increase substantially. It was also found that though toilets had been constructed, they were being used for storage and other purposes.

The Total Sanitation Campaign (TSC), which was restructured as a demand driven and participatory programme, was launched in 1999. An integral component of this programme is the School Sanitation & Hygiene Education (SSHE) programme. This programme focuses completely on school children and tries to inculcate in them better hygiene practices. It was also felt that since children more receptive and resilient to new ideas, they can question existing practices in the household and become agents of change within their families and communities. The new long-term behaviours acquired due to increased knowledge would be more sustainable and it would be a step in the right direction to the fulfillment of UNICEF's goal, which is to have healthy, well-informed children.

This research therefore has been undertaken to:

- Determine the roles of Hardware and Software in raising levels of awareness within the SSHE programme.

- Determine the adequacy of Monitoring and Evaluation mechanisms as well as the coordination between various participating agencies

The SSHE programme envisages the construction of toilets in all types of government schools i.e. primary, higher primary, secondary and higher secondary. It has made stipulations for separate toilet units for boys and girls. The hardware component under the scheme is comprehensive, covering hand washing facilities, sanitation services and drinking water. Further, the programme provides for construction of a baby friendly toilet in each Anganwadi (Government & Private). There are also some technical design specifications that are suggested to be adhered to in the construction of toilets such as leach pit toilets and use of rural pan, etc.

Given the problem of water scarcity that has cropped up in the state in the last few years, the design for construction of toilets needs to be carefully chosen. The design selected should be cost-effective and adaptable to rural settings. There are several designs available to suit rural situations. The Government of India has suggested the use of leach pit toilets with a rural pan that has a steeper gradient than the conventional pan for schools and baby friendly toilets for anganwadis.

However, in 89% of the schools visited the rural pan was not employed. The rural pan helps conserve water as against the conventional city pan. Recognizing the scarcity of water in the region, not using the rural pan can critically impede the sustainable use of these toilets. To ensure long-term sustainability, the Government should make the use of rural pan mandatory.

Within the schools visited in the two districts, viz. Mysore and Tumkur, the target coverage does not indicate that the sanitation facility is adequate for the student populace. To examine adequacy we incorporated a question on waiting time for use of toilets in our questionnaire. Majority of the respondents said they did not have to wait longer than 5 minutes. For lack of any

verifiable data, it would be difficult to state if the waiting time was less because of sufficient toilets or because lots of students went defecating in the open. The ratio of toilets to user was 1:184 in the case of Tumkur and 1:86 in the case of Mysore. We believe these ratios are quite dismal and particularly the ratio for Tumkur is disquieting and needs attention for corrective action. This ratio is also seen to be incongruous when compared to ministry of health's norm of 1:100. Consequently, in future, decision-making on the number of toilets to be constructed should be undertaken keeping in view student strength rather than a standard norm of one toilet each for girls and boys per school.

To guarantee a clean school environment for healthy living there is need for proper wastewater drainage system and garbage disposal pits. Disturbingly, 67% of the sample schools did not have a garbage disposal pit. Further, for the lack of any disposal facility in the village, the garbage was thrown behind the school compound wall. We also witnessed pools of stagnant and grimy wastewater right outside the school compound that were breeding grounds for mosquitoes. However, 22% of the schools visited are engaged in building compost pits to convert garbage into manure, which they use for the school garden These schools should be linked with other schools by regular exchange of students such as the cabinet ministers to provide an avenue for sharing of this best practice.

However the mere provision of facilities does not produce the desired outcomes. "Software" aspects must accompany "hardware" to produce optimal health benefits. "Software" may be described as those activities that aim to promote conditions at school and practices of school staff and children which help to prevent water and sanitation-related diseases. In schools, hygiene education aims to promote those practices that will help to encourage healthy behaviour in the future generation of adults. The combination of facilities, correct behavioural practices and education bring about a positive impact on the health and hygiene conditions of the community as a whole.

75% of the teachers were convinced that the most effective way to disseminate knowledge on good hygiene practices was through special projects because it engaged the child to a greater extent, much more than textbooks. These have played a significant role in raising levels of awareness in children with regard to hygiene and sanitation. However, it is important to note that while we were in the field we observed, that the children, when asked to identify simple pictures like soap and the nail cutter, were not able to do so. It was also observed that most of the games looked very new, the inference of which could be that they were not used regularly. This was further substantiated by the fact that the children did not seem familiar with the games or the way they were played.

We are of the view that the software programmes must maintain the momentum they have gained. At the same time the following points need to be addressed to improve the implementation quality:

- Involve authorities before starting a study so they feel it is 'theirs';
- Train teachers to prepare their own tools and ask them to join in planning a (shared) sanitation project;
- Establish networks of communities in which schools and community groups can stimulate each other.
- Improvement in database especially with regard to health data. Under-5 diarrhoea – case reporting, ORS use and ORT practice, case management etc should be monitor.
- Encourage community contribution in training

IEC on maintenance and an upgradation of toilets is needed so as to make people aware of the technology provided to them.

The success of any developmental intervention, in terms of sustainable impact and behavioral change requires the coordinated efforts of all stakeholders in the development sector, including the communities. The TSC programme has many participants by way of various government departments as well as various members of the non-governmental sector. There are many governmental departments, at the grass root level, involved in the process of both management & implementation.

However, it seems that coordination levels seem to differ greatly between the two districts. There seems to be a problem in the understanding regarding roles and responsibilities, especially in Tumkur. This would obviously imply that there are delays in delivery of inputs, which hamper the implementation of the programme. There has to be a clearly defined framework of roles and responsibilities, which makes all actors in the project more accountable. Such a framework would lead to better implementation of the project, a more timely delivery of inputs and hence it would prevent cost overruns and encourage a better resource utilization.

In order to have an effective and universal coverage of water and sanitation facilities in rural areas, there is a need to ensure proper follow up and regular monitoring of the various schemes. This task becomes more important in the light of increasing coverage across the country. It would be difficult to ensure same consistency on the issue of monitoring. The main objective of the project is to enable sustained replication, and build up of enduring infrastructure. This calls for a cohesive institutional framework with appropriate inter – sectoral linkages right from the state level to the district level. Dynamic partnerships at various levels, including the state, district, block, and village are required.

Even though some knowledge gaps exist within the project, we feel that the Mysore model has the potential to be replicated. The model is based on the principle of changing the sanitation practices of communities by sensitizing people about the impact of lack of sanitation on health. The community is then motivated to change its behaviour patterns and seek the introduction of sanitation facilities without external subsidy, which will ultimately lead to improved health and self-esteem. The success and sustainability of this model is based on the principle that once good hygienic practices are adopted, people generally do not go back to practicing unhygienic behaviour. Rather, they opt for superior options as and when they can afford them. The model emphasizes community empowerment and strong institution building.

The most important condition of success relates to Information, Education and Communication (IEC). This was based on the principle of Teacher to Child, Child to Parent, and Parent to Community (TCCPC) system of hygiene messages. All the factors responsible for success of this model can be easily replicated in other TSC districts with local modifications to suit area specific needs.

2.Introduction

2.1 Background and Evolution

Water supply and sanitation has been a part of the national agenda since the conception of the first five-year plan in 1951-1956. But, the focus over time has essentially been more on water supply and less on sanitation. Thus, in the year 1986, the Government of India (GOI) launched the Central Rural Sanitation Programme (CRSP), under the Ministry of Rural Development. This initiative managed to expand coverage but met with failure in getting the rural population to inculcate good sanitation habits and use of sanitation facilities. In 1999, CRSP was restructured to make it more demand responsive and participatory, community based programme and re-launched as the Total Sanitation Campaign (TSC). Thereafter School Sanitation became the primary intervention and the emphasis was on Information, Education and Communication (IEC) for demand generation, hygiene education, and capacity building. Involvement of Panchayati Raj Institutions (PRI's), Parent-Teacher Associations (PTAs) and NGO's became a major component of the TSC implementation. Overall, SSHE has been given prominence in TSC, which recognizes the role of children in absorbing and popularizing new ideas and concepts. This programme, therefore, intends to tap their potential as the most persuasive advocates of good sanitation practices in their own households and in schools. The SSHE under the umbrella of TSC is picking up momentum steadily and is being implemented across the country.

2.2 The role of UNICEF

UNICEF in partnership with IRC, Netherlands and the GOI had initiated the School Sanitation and Hygiene Education (SSHE) programme emphasizing both on hardware and software components. Both GOI and UNICEF have played a major role in the evolution of SSHE in India. They realized the importance of school sanitation as a key area of collaboration recognizing that improved hygiene practices and clean school environment are contributing factors in ensuring that children can enjoy an acceptable standard of health. This collaboration first manifested itself in the year 1992 in Mysore district of Karnataka State with the objective of covering 20 schools with sanitation and hygiene facilities. The School Sanitation and Hygiene Education project in Karnataka now covers over 1600 schools in eight districts.

Water supply is also a key factor in the success of sanitation. The linkages between programmes like Accelerated Rural Water Supply Programme (ARWSP) and Swajaldhara that were being implemented through Department of Drinking Water Supply (DDWS) have also strengthened the SHHE programme by making adequate provisions of water supply in schools.

Proper coordination between its different components that are water supply, sanitation, health and hygiene education is essential to the success of the SSHE programme. TSC has been putting such efforts in leading and integrating inter-sectoral coordination to maximize the water, sanitation and hygiene education coverage in schools.

2.3 The Importance of Hygiene, Education and Water in Schools

Realizing the importance of hygiene, education, water and sanitation in schools, when the countries of the world came together to reduce poverty, they pledged to reduce the proportion of people without access to safe drinking water and basic sanitation by half while formulating the Millennium Development Goals. Government of India is working towards achieving these goals earlier than 2015 and is also committed to eradicate the menace of open defecation by 2012.

The dynamics of water and sanitation are multidimensional and inter-sectoral. This can be gauged from various perspectives.

- Health Perspective: Inadequate sanitation facilities and lack of clean water can make children sick. The promotion of sanitation facilities and behaviours can dramatically affect the number of deaths from diarrhoeal diseases in children under five.

- Education Perspective: *Education and health are inseparable*. Nutritional deficiencies, diarrhoea and other water borne infections affect school participation and learning. Hygiene education among children leads to an overall improvement in their health.

- Gender Perspective: School dropout rates and low literacy levels especially among adolescent girls can be attributed in part to lack of adequate sanitation and hygiene conditions in schools.

- Sustainability Perspective: The linkages between water, sanitation and education for improved health of children need to be institutionalized. The process for this would have to be carefully handled. The focus should be on elementary education, decentralized planning and capacity building through district specific plans.

- Future Impact Perspective: The linkages between this triad of hygiene education, clean water, sanitation and good health would have a positive impact on future generations.

Children are more receptive and resilient to new ideas. They can question existing practices in the household and become agents of change within their families and communities. The new long-term behaviours acquired due to increased knowledge would be more sustainable. It is a step in the right direction to the fulfillment of the goal of UNICEF, which is to have healthy, well-informed children.

2.4 Objectives of the Total Sanitation Campaign

- Accelerate sanitation coverage in rural areas
- Adopt a demand driven sanitation approach through awareness creation and health education
- Access to sanitation facilities and promote hygiene education and sanitary habits
- Promote cost effective and appropriate technologies in sanitation
- Eliminate open defecation to minimize risk of contamination of drinking water and food
- Convert dry toilets to pour flush toilets, and eliminate manual scavenging practice, wherever in existence in rural areas.

2.5 Objectives of the School Sanitation and Hygiene Education Programme

- Focus on attitude and behaviour change and on child friendly designs
- School based monitoring of use and behaviour change with the help of teachers as facilitator and motivators
- Inter-sectoral planning at district and below
- Involvement of local government leaders
- Programme delivery structure and reporting systems
- Regional training centers as monitoring institutions

2.6 Case Study Objectives

This research therefore has been undertaken to:

- Determine the roles of Hardware and Software in raising levels of awareness

- Determine the adequacy of Monitoring and Evaluation mechanisms as well as the coordination between various participating agencies

Experience shows school sanitation is not only about building child-friendly facilities. The mere provision of services will not guarantee sustainability over a period of time, be it within school or at households. There must be a recognized need for water as well as sanitation. To improve the sanitation environment of schools and to ensure benefits from safe and clean facilities, behavioural change is needed.

Schools are an integral part of a community. Involvement of community in school sanitation and hygiene activities increases the effectiveness of the programmes. It also promotes the sense of ownership within communities to sustain the school systems for operation and maintenance, particularly so where effective local government is unable to provide such services. Sanitation promotion therefore needs to focus on messages that capture the attention of the target audience, motivates them to change existing behavioural practices and adopt new ones which would be beneficial to their health and well being. The research undertaken is an effort to fill knowledge gaps related to factors influencing the sustainability of changes in hygiene behaviour in different districts.

3.Methodology

Before embarking on our field trip to Karnataka, we organized meetings with various individuals (See Annexure 3) so as to understand the official perspective on the School Sanitation programme being implemented in India as well as the specific features of the projects being implemented in Karnataka. These interactions led us to conclude that we had to assess the hardware as well as the software aspects of the various programmes being carried out in the districts of Karnataka and look at their implications. It was also quite clear that the existence of various Monitoring and Evaluation processes as well as their adequacy for the sake of project sustainability would have to be assessed.

Before proceeding to any of the villages in Karnataka, we visited officials at the state level agencies (See Annexure 3) who are involved in the School Sanitation programme. Here we were apprised of the severe water scarcity in Karnataka and the limitations it imposes on the implementation of the sanitation programme. The research team analyzed the knowledge gaps that exist in the project and suggest suitable recommendations. We feel that these recommendations, if implemented, would definitely contribute towards the sanitation programme achieving higher levels of awareness.

3.1 Methodology used during fieldwork

Fieldwork for the above project was carried out in Karnataka for duration of six days. A total of nine villages in the districts of Tumkur and Mysore were visited so as to suitably analyze them on the basis of our objectives.

The villages in Tumkur district were selected on the basis of UNICEF's interventions in these areas. However in Mysore, the villages were randomly selected reflecting both impact and outcomes. This random approach was also used while selecting the interviewees. Research was carried out in 9 lower and higher primary schools and one Anganwadi in Tumkur and Mysore. 79 children, 26 households and 12 teachers responded to questionnaires. These covered a range of issues to ascertain the availability of toilets, their upkeep and utility, the knowledge of good hygiene practices, the availability of clean water, the incidence of water borne diseases etc. The analysis of the questionnaires has been done in the subsequent pages.

District	**Number of Blocks**	**Villages covered**	**Total Number of Respondents**		
			Children	**Teachers**	**Households**
Tumkur	1	4	19	6	12
Mysore	3	5	60	6	14
Total	4	9	79	12	26

3.2 District Maps

Mysore

Tumkur

3.3 Techniques used during fieldwork

1. **Resource Map:** One of the more common PRA techniques, it was used quite extensively during the field trip to assess the availability of resources in the respective villages. It helped us to come to the conclusion that in all villages, especially those in Tumkur, water scarcity was a problem, which needs to be looked into immediately.

2. **Focus Group Discussions:** Focus Group Discussions were carried out with various sections of the community. Such formal as well as informal FGD's helped us to cross check and validate data that we may have received from other sources.

3. **Semi Structured Interviews:** Semi structured interviews were conducted, which allowed for a focused, conversational, two-way communication. These interviews allowed us to understand the problems of the interviewees, their aspirations and their priorities.

4. **Open-ended Questionnaires:** The questions in the questionnaire were framed while keeping the various research objectives in mind. A majority of the questions asked were indirect in nature so as to get a correct picture of reality in the villages that we visited.

5. **Participatory Observations:** The team, at all points of time, observed the various aspects of village life in progress. Many of these observations allowed us to refine our understanding about the situation regarding water and sanitation that exists in these villages.

6. **Secondary Data Collection:** For the purpose of further analysis as well as assessing the possibilities of replication, we received secondary data from the officials we met in New Delhi and Karnataka.

3.4 Problems faced

Communication: The language barrier turned out to be a hurdle that the team found extremely difficult to overcome. The translators used for the duration of our visit were either government officials or schoolteachers and hence we were apprehensive about the accuracy of the translation that we received.

Time Constraints: As mentioned earlier, we visited nine villages during our field visit. However this is an extremely unrepresentative sample size. It is also uncertain about how representative these schools themselves were. The findings of this case study should therefore be taken as only suggestive of the impact of the various projects implemented in these two districts since extrapolation from such a limited sample would be risky.

4.Project Findings – Hardware

The hardware component focuses on covering hand washing facilities, sanitation services and drinking water. Further, the programme provides for construction of a baby friendly toilet in each Anganwadi (Government and Private). There are also some technical design specifications that are suggested to be adhered to in the construction of toilets such as leach pit toilets and use of rural pan, etc.

For the purpose of our case study, we have covered 9 lower and higher primary rural schools and 1anganwadi in Mysore and Tumkur districts of Karnataka. We attempted to assess the status of hardware against the goals set out under TSC and SSHE. At present construction of toilets is being undertaken by both UNICEF and the Sarvya Siksha Abhiyan (SSA) under the auspices of the state education department. The construction work for the UNICEF led scheme has been entrusted to Nirmithi Kendra, an agency of the government working in partnership with the Zilla Parishads. We identified useful indicators (see Annexure 1, Tables 1-4) against which we analyzed some key issues with regard to hardware, as given below.

4.1 Are sanitation facilities adequate?

- Toilets and urinals in schools
    - Access to toilets
    - Separate toilets for girls and boys
    - Ratio of toilets to children
    - Toilet design
- Hand washing facilities
- Waste water drainage system and garbage disposal pits
- School protection walls
- Water and storage facilities in schools

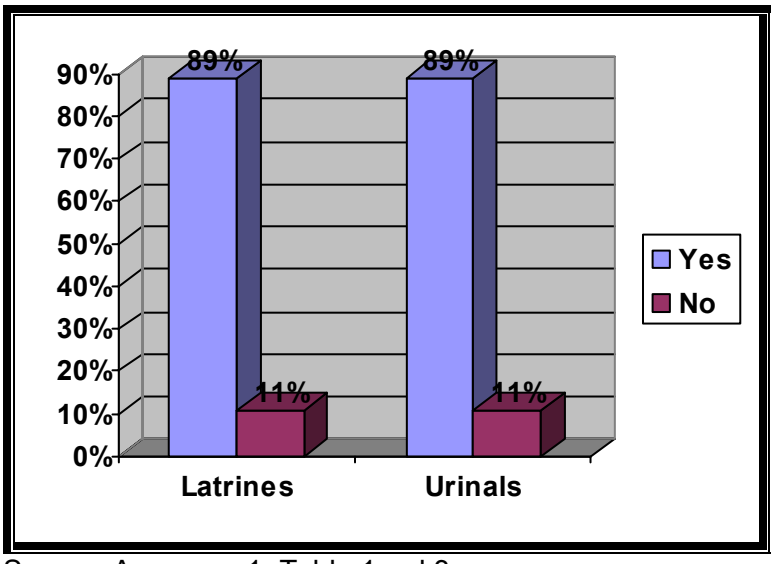
4.2 Are they used and well maintained?

- Physical condition of toilets
    - Door, Latches, Ventilation and Lighting
    - Cleanliness of toilets
- Use of soap for hand washing

4.1.1.1 Access to Toilets

Results in this sphere are very encouraging. By and large the construction of school sanitation facilities is as per schedule and in step with the national and state policy. Overall coverage in respect of construction of toilet complexes in schools in Tumkur and Mysore districts is about 90% as reported to us by the Block Resource Coordinator and the Project Officer of the Water and Sanitation cell at the Mysore Zilla Parishad respectively. Nearly 89% (see Figure 1 below) of the sample schools had functioning toilet facilities. Of the 9 schools visited, there was one instance where we observed children going outside in the open for defecation. On examination we ascertained there was only one toilet in this school and that too was locked for want of repairs and water shortage, demonstrating non-usage. It may be kept in mind though that; the toilet could have been locked for use by teachers and not repair. However, 4 new toilets were under construction in this school. Observations also showed that in some schools, in spite of urinal facilities, urinating in the open is practiced.

Figure 1: Access to Toilets and Urinals in Sample Schools

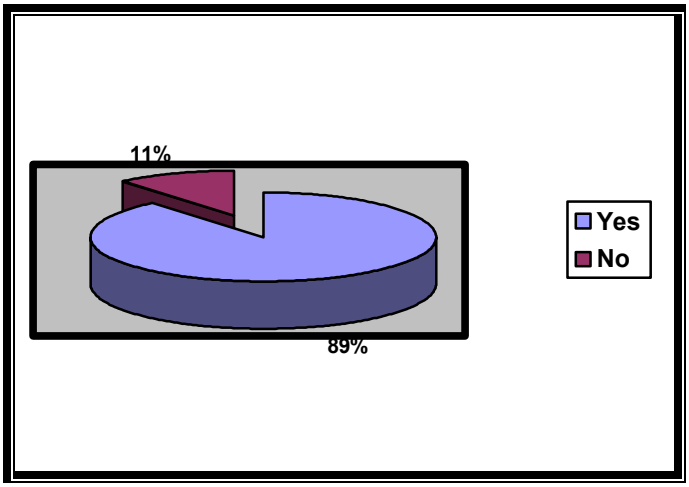


Source: Annexure 1, Table 1and 3

4.1.1.2 Separate toilets for girls and boys

In all schools visited, there were separate toilets for boys and girls barring one where there was only one toilet. As mentioned earlier, 4 new toilets were being constructed. Thus, on the face of it, provision of separate toilets does not seem to be a concern in the two districts. Furthermore, separate toilet for girls and boys is well incorporated in the design of toilet complexes. The issue here is not of provision but to see if separate use is enforced in practice.

Figure 2: Separate Toilet for Boys and Girls



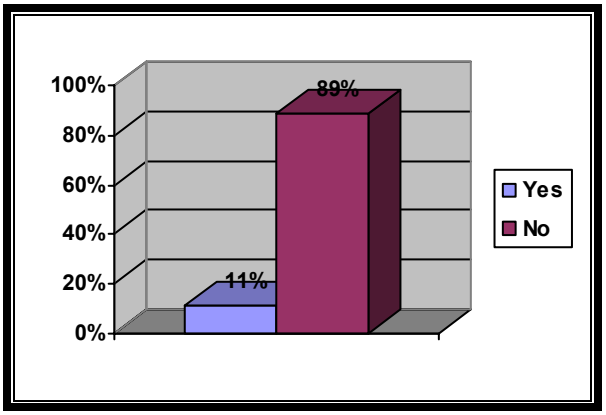
Source: Annexure 1, Tables 1 and 3

4.1.1.3 Toilet design

Design for construction of toilets needs to be carefully chosen. The design selected should be cost-effective and adaptable to rural settings. There are several designs available to suit rural situations. The Government of India has suggested the use of leach pit toilets with a rural pan that has a steeper gradient than the conventional pan for schools and baby friendly toilets for anganwadis. In all the schools visited the toilets were leach pits.

However, in 89% (see Figure 3 below) of the schools the rural pan was not employed. The rural pan helps conserve water as against the conventional city pan. Recognizing the scarcity of water in the region, not using the rural pan can critically impede the sustainable use of these toilets. To ensure long-term sustainability, the Government should make the use of rural pan mandatory.

Figure 3: Use of Rural Pan

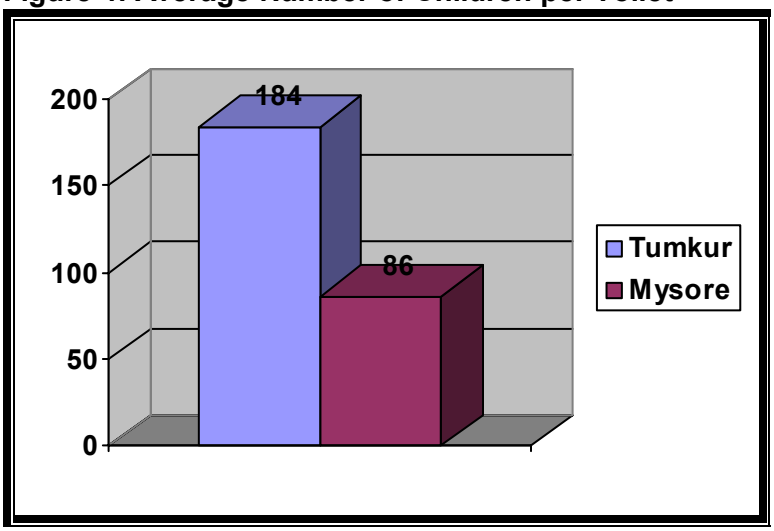


Source: Annexure 1, Tables 1 and 3

4.1.1.4 Ratio of toilets to children

The target coverage does not indicate that the sanitation facility is adequate for the student populace. Thus, to examine adequacy we incorporated a question on waiting time for use of toilets in our questionnaire. Majority of the respondents said they did not have to wait longer than 5 minutes. For lack of any verifiable data, it would be difficult to state if the waiting time was less because of sufficient toilets or because lots of students went defecating in the open. The ratio of toilets to user was 1:184 in the case of Tumkur and 1:86 (see Figure 4 below) in the case of Mysore. We believe these ratios are quite dismal and particularly the ratio for Tumkur is disquieting and needs attention for corrective action. This ratio is also seen to be incongruous when compared to ministry of health's norm of 1:100. Consequently, in future, decision-making on the number of toilets to be constructed should be undertaken keeping in view student strength rather than a standard norm of one toilet each for girls and boys per school.

Figure 4: Average Number of Children per Toilet



Source: Annexure 1, Table 6

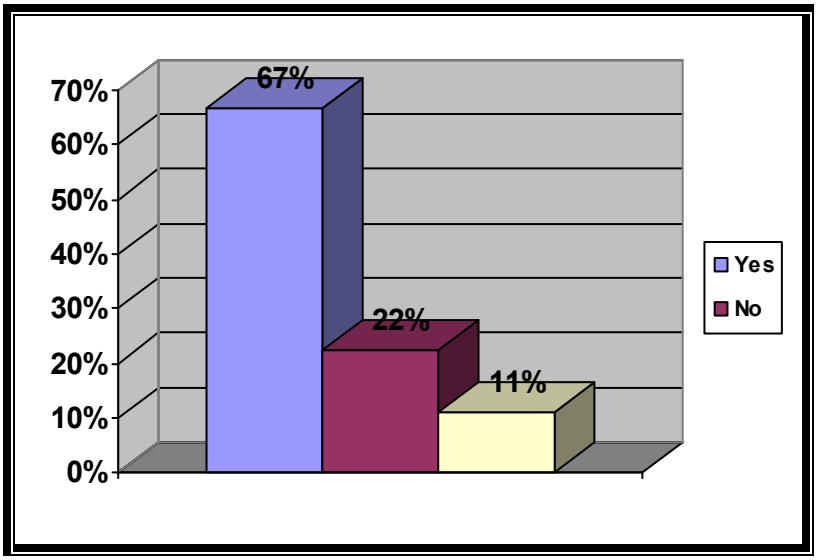
4.1.2 Hand washing facility

Under TSC, as part of the toilet complex design, a tap for hand washing is provided outside the toilets. In 22% (see Figure 5 below) of our sample schools there was no tap for hand washing outside the toilet and in 11% schools the taps were non-functional requiring repair. On examining, we learnt plumbing repairs were delayed due to lack of funds.

In order to circumvent this quandary, clear responsibilities in respect of operations and management of sanitary facilities must be assigned and matched with suitable funds to carry them out effectively. In case of villages with strong tradition of Self-Help Groups, such groups could be granted contracts for repair and maintenance of school infrastructure including sanitation facilities. This would help members of such groups generate sustainable means of livelihood while the problem of timely repair would be addressed. This would also be a low cost alternative for the schools saving them meager funds even as it retains ownership of services and income from it within the community.

As of now no part of the fund is earmarked for repair and maintenance of sanitary facilities. In the process, the insignificant amount of fund that is received gets utilized for upkeep of the classrooms as that takes precedence over sanitary facilities.

Figure 5: Hand Washing Facility

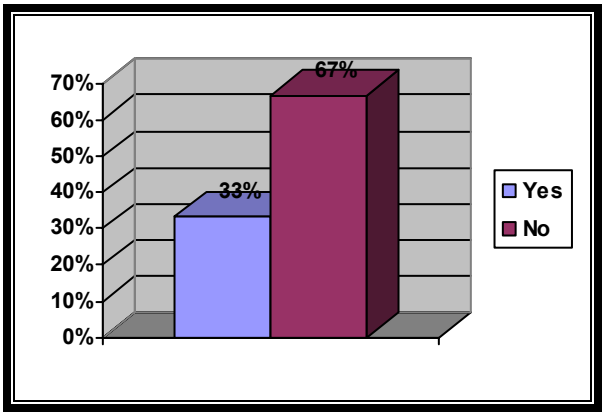


Source: Annexure 1, Tables 2 and 4

4.1.3 Wastewater drainage system and garbage disposal pits

To guarantee a clean school environment for healthy living there is need for proper wastewater drainage system and garbage disposal pits. Disturbingly, 67% (see Figure 6 below) of the sample schools did not have a garbage disposal pit. Further, for the lack of any disposal facility in the village, they throw their collected garbage behind the school compound wall. We also witnessed pools of stagnant and grimy wastewater right outside the school compound that were breeding grounds for mosquitoes. However, 22% of the schools visited are engaged in building compost pits to convert garbage into manure, which they use for the school garden These schools should be linked with other schools by regular exchange of students such as the cabinet ministers to provide an avenue for sharing of this best practice.

Figure 6: Presence of Disposal Pits in Schools

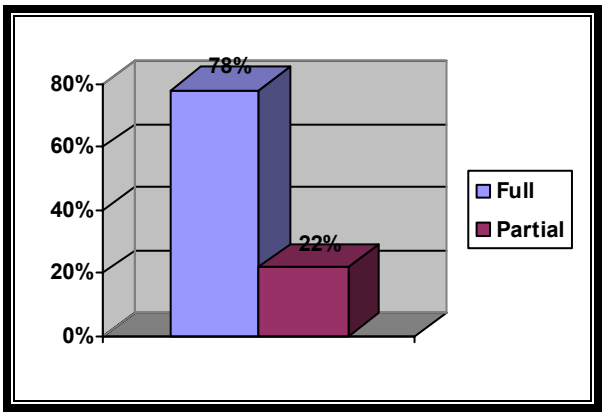


Source: Annexure 1, Tables 1 and 3

4.1.4 State of school protection walls

Protection wall was seen to be partial in 22% (see Figure 7 below) of the schools that we visited, of which 11% had barbwire fencing and the other 11% was entirely open from behind. The need for full protection wall needs to be re-emphasized to counter any vulnerability to encroachment and vandalism of sanitation facilities after school and during vacation. The construction of these protection walls could also be contracted out to SHG's.

Figure 7: Presence of School Protection Wall



Source: Annexure 1, Tables 1 and 3

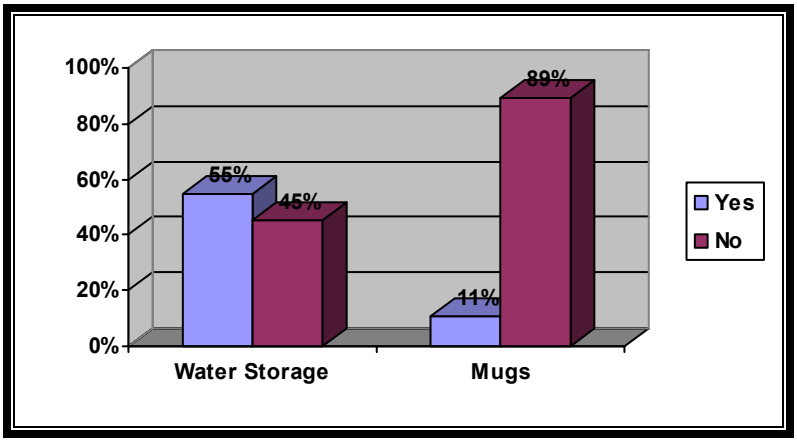
4.1.5 Availability of sufficient water and storage facilities in schools

4.1.5.1 Availability and storage of water for use in toilets

There was adequate supply of water in the schools for use in toilets during our visit. The primary source of water supply in the schools was bore well/ hand pump. In most cases there was also an overhead storage tank. Even though water was available, we are dubious about its use in toilets. In 45% (see Figure 8 below) schools there was no evidence of water storage inside the toilet and in 89% (see Figure 8 below) sample schools there was no provision of mugs to pour water to clean after defecation. In the absence of mugs it would be difficult for small children to pour water from large buckets and they would contaminate the water by immersing their hands in it.

Nevertheless, the school and the state officials notified us that the region does experience scarcity of water, during certain months of the year as a result of erratic rainfall and groundwater depletion in recent years. Pioneering techniques such as rainwater harvesting and groundwater recharging has been tested on a pilot basis here.

Figure 8: Storage of Water and Presence of Mugs in Toilets



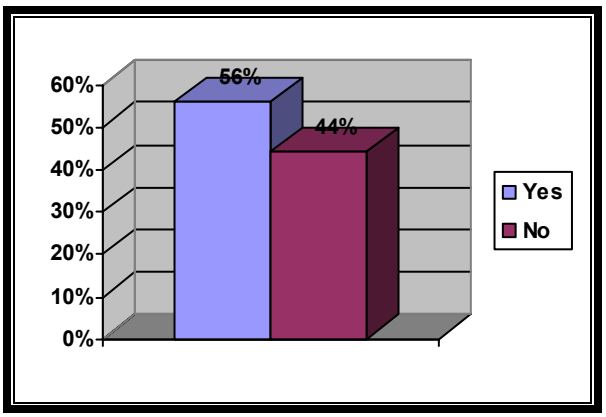
Source: Annexure 1, Tables 2 and 4

4.1.5.2 Availability of safe drinking water

With consultation with Zilla Parishad officials, we were made aware that if the water source is a hand pump, water is typically considered safe for drinking. Based on this information, it would be prudent to conclude there was no safe drinking water in 45% (see Figure 9 below) of sample schools since they did not have hand pumps or they were not functional and there was no other method employed to purify water. In order to further validate this premise, through our questionnaire for children we tried to ascertain the number of children diagnosed with water borne diseases in the last one year. About 17% respondents in the two districts said they had suffered from water borne ailments in the last year. In 22% schools there was also a routine for children to bring their own drinking water from home.

For lack of any tools to check purity or secondary data we are unable to comment expansively and decisively on the quality of water. However, we were informed there is some incidence of fluoride and arsenic content in water, if the boring of the hand pump is not done 250 ft below ground.

Figure 9: Availability of Safe Drinking Water



Source: Annexure 1, Tables 1 and 3

4.2.1 Physical condition of toilets

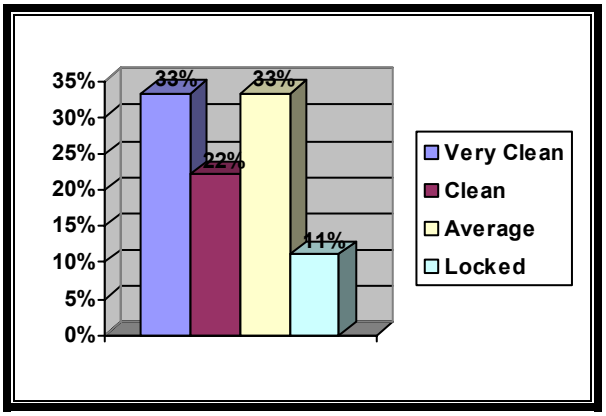
4.2.1.1 Doors, Latches, Ventilation and Lighting

We found the toilet doors to be in good working condition in all sample schools. The toilets were well ventilated but there was no electrification. There were latches in all toilets that we inspected. However, these latches were of sub-standard quality. During the rainy season, these were prone to getting rusted and would become difficult to operate, especially by children. This compromises the privacy aspect for the girl child. Moreover, they had sharp edges making them hazardous for use by children. Height of these latches also may not be appropriate in some cases for lower primary children.

4.2.1.2 Cleanliness of toilets

In about 33% (see Figure 10 below) of the sample schools the toilets were very clean whereas in another 33% (see Figure 10 below) cleanliness was average. In more than 75% of the sample schools children clean the toilets themselves. No system of rotation is adopted and only some chosen students from the school cabinets are required to clean the toilets. This responsibility should be assigned to all students on a rotational basis so all students are practically trained in the practice of good hygiene. Further, they should be encouraged to maintain a date-wise spreadsheet that could be hung in the toilet and each time a student cleaned the toilet she could sign on it. This would instill a greater sense of responsibility besides augmenting their personal interest in hygiene. The children could also be encouraged to submit monthly requests, complaints and suggestion regarding toilet paraphernalia for replenishment.

Figure 10: Cleanliness of Toilets



Source: Annexure 1, Tables 2 and 4

4.2.2 Use of soap for hand washing

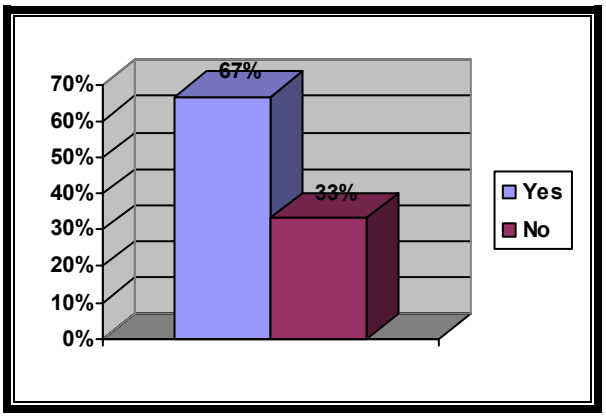
Of the sample schools, 33% (see Figure 11 below) had no hand washing soap. Of the ones that had, most had soap that was not available next to the hand washing tap and also looked new. We found that in all but one school there was only, one soap. One soap among 100 children at the least does not augur well for good hygiene promotion.

These episodes of rehearsed performance in the use of soap are an illustration of failing efforts in software development and implementation. The children may be competent to verbally spell out the benefits of using soap for hand washing. However, the habit is not entrenched in them so much so that washing hands after defecation would come naturally to them. Consequently,

the training of trainers requires re-engineering, to infuse a belief in the payback of good hygiene practices among the teachers first.

In fact we would not hesitate to point out that we did not find presence of soap even in the toilet complexes of the Zilla and Taluk offices as well as other well meaning NGO's disseminating the efficacy of hand washing with soap to the community at large.

Figure 11: Presence of Soap in School



Source: Annexure 1, Tables 2 and 4

5. Project Findings - Software

However the mere provision of facilities does not produce the desired outcomes. “Software” aspects must accompany “hardware” to produce optimal health benefits. “Software” may be described as those activities that aim to promote conditions at school and practices of school staff and children which help to prevent water and sanitation-related diseases. (UNICEF and IRC 1998). In schools, hygiene education aims to promote those practices that will help to encourage healthy behaviour in the future generation of adults. The combination of facilities, correct behavioural practices and education bring about a positive impact on the health and hygiene conditions of the community as a whole.

This study focused on certain ***key software issues*** such as:

- Key players imparting training with respect to hygiene education
- Methods used in building awareness
- Specific training given to the parents by teachers about hygiene education
- Effectiveness of the curriculum with respect to Hygiene Education
- Existence of basic hygiene practices in the community

The following ***indicators*** **were used** to assess the software:

- *Training* focusing on knowledge in relation to better hygiene and sanitation habits Teachers’ training is a key issue, which is usually forgotten or left out due to financial constraints.

- *Level of awareness:* By assessing the degree of understanding the various target groups had about the poor health affects of water and sanitation.

- *Incidence of water borne diseases*- This indicator helps to identify if the number of people in the community that have been infected with water borne diseases.

- *Availability of water*-The construction of toilets is to a large extent guided by the availability of water.

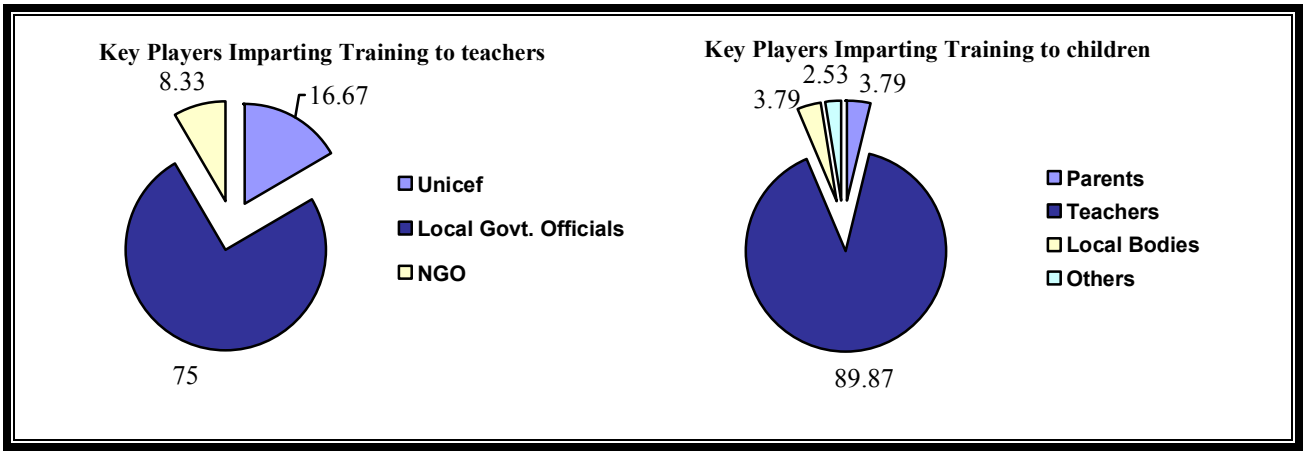
- *Enrolment*-This reflects the increase od decrease of enrolment if a particular school. If the school has no provision for drinking water or has no toilets, children would go back to their homes to drink water or use the toilets and would not return. Thus there are high dropout rates among children where there is a lack of toilet facilities.

5.1 Key players imparting training with respect to hygiene education

From the figure below it is apparent that the key players in imparting training with respect to hygiene education to teachers have been the Local Government officials. Local govt. officials are responsible for training in 75 percent of the cases. Out of the 12 teachers interviewed, at least 6 felt strongly about the lack of follow up to their training. It was pointed out that after the initial 3-day training conducted at the implementation of the scheme, no further steps were taken to ensure an effective follow up. Interestingly, two of the new teachers that had been posted to the schools, of which one had only recently joined, and no training had been imparted to her.

As is evident from Figure 12, teachers are the main source of information and key players in imparting training to the children. They constitute about 90% of the various avenues open to children for learning. Interestingly only 3.79% was attributed to parents. Thus, it is evident that teachers training is a key component and needs to be monitored closely to ensure the success of the project.

Figure 12: Key players imparting training



Source: Annexure 2

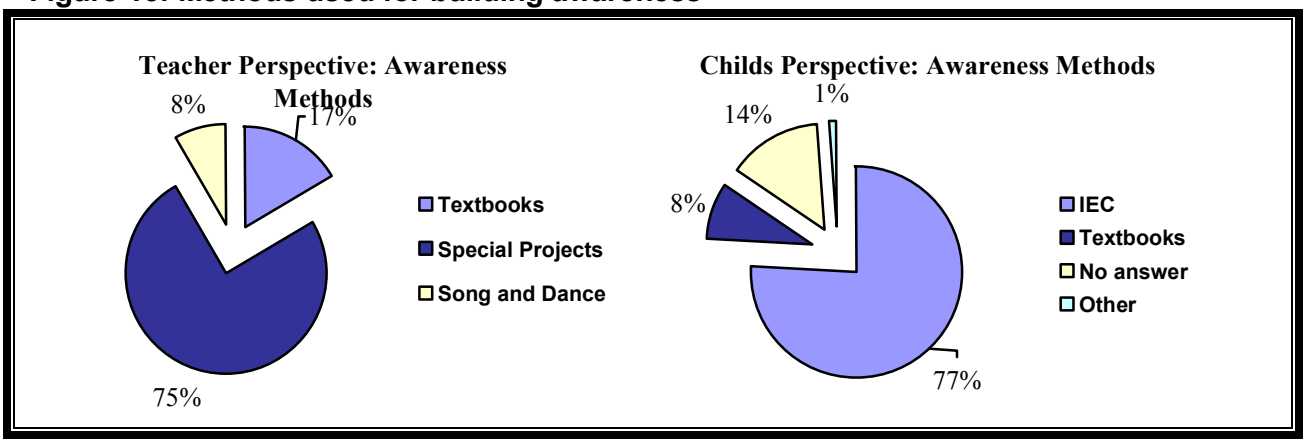
5.2 Methods used in building awareness

Teachers were of the view that special projects like posters, design models and a variety of games played a significant role in generating awareness in children with regard to hygiene and sanitation. The survey showed this to be as high as 75% in the schools visited as against textbooks, which contributed only 17%. Song and dance ranked third with a mere 8%. The teachers were convinced that the most effective way to disseminate knowledge on good hygiene practices was through special projects because it engaged the child to a greater extent, much more than textbooks. (Figure 13)

A majority of the children, when asked about how they became aware of issues like hygiene and sanitation felt that the IEC approach was their major source of awareness building. The children also were of the view that only 10% of the knowledge they had gathered was through textbooks with IEC constituting 77%.

However, it is important to note that while we were in the field we observed that the children when asked to identify simple pictures like soap and the nail cutter were not able to do so. It was also observed that most of the games looked very new, the inference of which could be that they were not used regularly. This was further substantiated by the fact that the children did not seem familiar with the games or the way they were played.

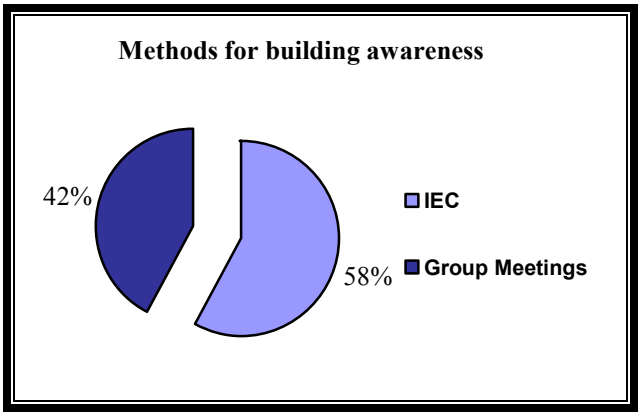
Figure 13: Methods used for building awareness



Source: Annexure 2

Within the Community (Figure 14), IEC contributed 58% in generating awareness in children, however, judging the advantages of hygiene and sanitation with group meetings come a close second with 48%. This would lead one to believe that the community is familiar with such issues and uses IEC as the principal way of communicating it to children. However, on observing the data more closely it is apparent that in Mysore 100% of the awareness is being generated through IEC activities whereas in Tumkur only 8.33% of the awareness is attributable to IEC. Interestingly a 91.67% of the awareness in Tumkur is being generated through group meetings. Thus, although the awareness has infiltrated down to the community in Mysore, this is not the case in Tumkur. However we need to keep in mind that because of our small sample size consisting of only 26 households, our findings could be biased.

Figure 14: Methods used for building awareness within the community



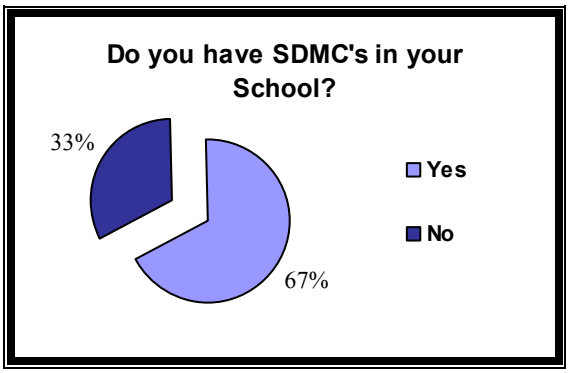
Source: Annexure 2

5.3 Existence of School Development and Management Committees

School Development and Management Committees (SDMC) function on the philosophy of decentralization and constitute of twelve members. They function as the local agency implementing all the work in schools and act as custodians of all the funds transferred from the state government, UNICEF and the TSC via the District Primary Education Programme. Funds for installing water systems are directly transferred to SDMC's. Experience shows that the existence of strong linkages between the parents and teachers is essential for the overall

development of the child. Data collected indicates the presence of SDMC's in 67% of the schools. In fact, in Mysore they exist in 100% of the schools.

Figure 15: Existence of SDMC's

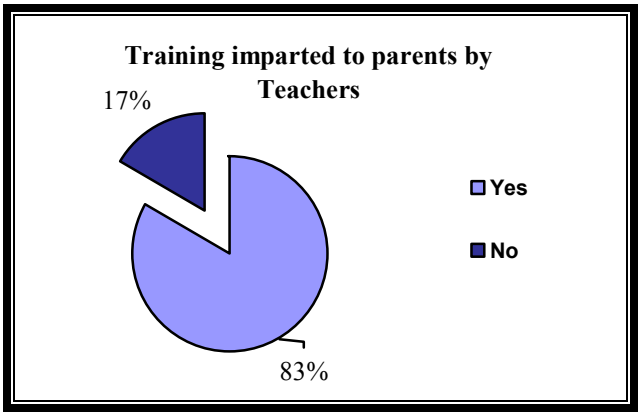


Source: Annexure 2

5.4 Training given to the parents by teachers about hygiene education

Teachers are also effective in imparting training to parents on good hygiene practices. Our data reveals that 83% of the parents received training from the teachers (Figure 16). We viewed this as an extremely positive sign. In Mysore this was as high as 100% as against 66.6% in Tumkur. This difference between Tumkur and Mysore is clearly indicative of the fact that the programme is still in its initial stages in Tumkur and has not completely infiltrated the community. We recommend that one volunteer per village could visit houses which would help to map the needs and identify and address the gaps.

Figure 16: Training imparted to Parents

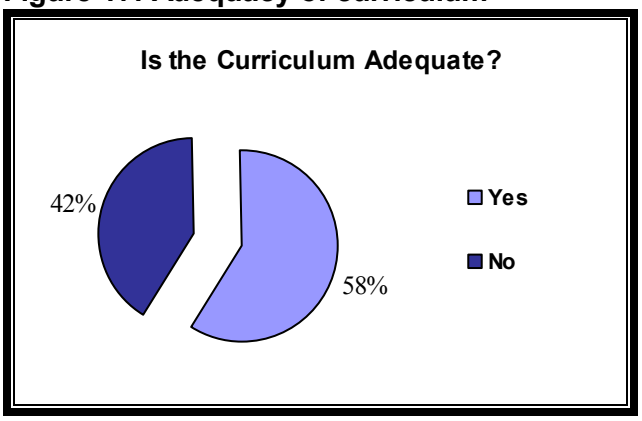


Source: Annexure 2

5.5 Adequate curriculum with respect to Hygiene Education

While analyzing data on the adequacy of the curriculum to hygiene education, 58% of the respondents to the questionnaire, who were teachers, felt it was adequate (Figure 17). Further analysis revealed that in Mysore 100% of the respondents felt it was adequate, while in Tumkur the corresponding figure was an abysmal 16.6%

Figure 17: Adequacy of curriculum

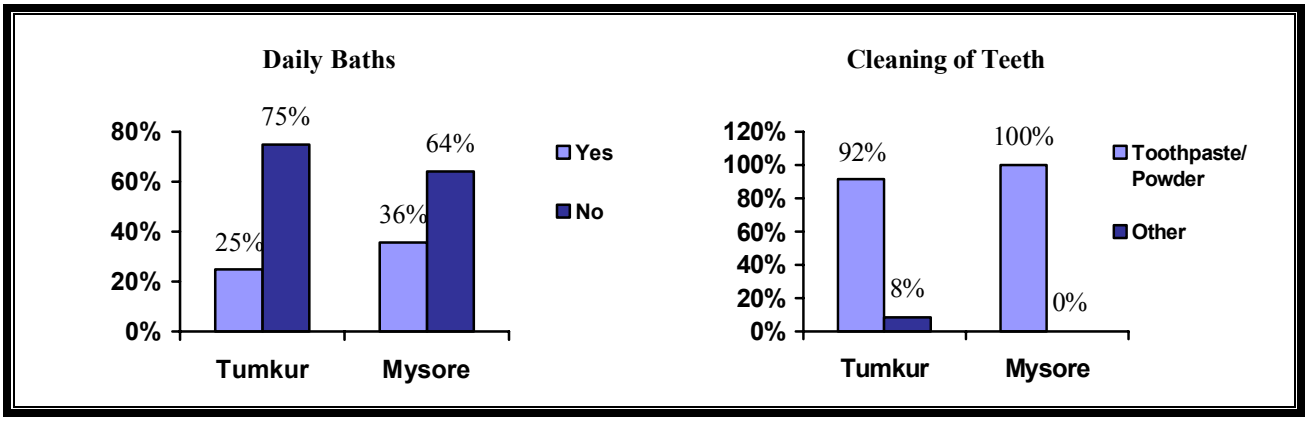


Source: Annexure 2

5.6 Existence of basic hygiene practices in the community

While questioning households regarding their basic hygiene practices like having a daily bath or brushing their teeth the scores were fairly high. They were in fact in some instances e.g. daily baths, higher for Tumkur (75%) in comparison to Mysore (64.2%).

Figure 18: Basic hygiene practice

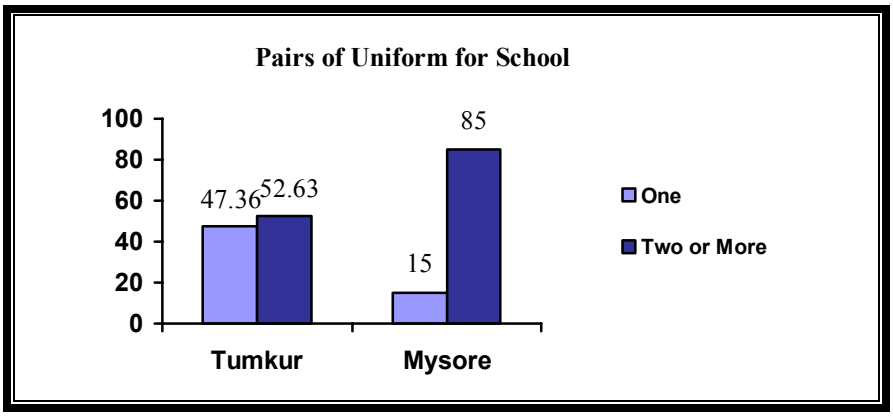


Source: Annexure 2

5.7 Hygiene Practices in Children

It was also apparent that a majority of the children had more than one pair of uniform. In Mysore this percentage was as high as 85%. A clean uniform was a priority for many of them. This was assumed to be an indicator of clean hygiene habits of the children as well as their parents.

Figure 19: Number of Pairs of Uniform



Source: Annexure 2

5.8 Recommendations

We are of the view that the software programmes must maintain the momentum they have gained. At the same time the following points need to be addressed to improve the implementation quality:

- Involve authorities before starting a study so they feel it is 'theirs';
- Train teachers to prepare their own tools and ask them to join in planning a (shared) sanitation project;
- Establish networks of communities in which schools and community groups can stimulate each other.
- Improvement in database especially with regard to health data. Under-5 diarrhoea – case reporting, ORS use and ORT practice, case management etc should be monitor.
- Encourage community contribution in training
- IEC on maintenance and an upgradation of toilets needed for making people aware of the technology provided to them. Many did not know what to do if the pits get filled

6. Project Findings – Institutional Coordination

6.1 Institutional Setup

The Total Sanitation Campaign, as mentioned earlier, is a restructured and a reformulated version of the archaic Central Rural Sanitation Programme (CRSP), which was formulated in the mid 80's. Programme formulation took place in partnership with the National and the State Government and the implementation plan, which was formulated in consultation with the PHED of the respective state governments, was carried out through the district administration.

The success of any developmental intervention, in terms of sustainable impact and behavioral change requires the coordinated efforts of all stakeholders in the development sector, including the communities. The TSC programme has many participants by way of various government departments as well as various members of the non-governmental sector. There are many governmental departments, at the grass root level, involved in the process of both management & implementation.

At the National Level, the Rajiv Gandhi National Drinking Water Mission (RGNDWM), Department of Drinking Water Supply (DDWS) primarily supports and implements the project. The DDWS, formed in 1999 under the Ministry of Rural Development (MoRD) is the nodal department in Government of India, which provides scientific, technical, and financial assistance to the states in the drinking water and sanitation sector.

The DDWS supports the School Sanitation and Hygiene Education (SSHE) programme through the Rural Water Supply programme & TSC, both of which are national level programmes. It also co-ordinates with departments such as the Department of Elementary Education & Literacy and the Department of Women & Child Development (both in MoHRD), Ministry of Health & Family Welfare, Ministry of Tribal Affairs, Ministry of Social Justice & Empowerment, as well as the Sarva Shiksha Abhiyan (SSA), The coordination mechanism is effectively seeking to dovetail various development inputs which are critical for the success of the programme.

At the state level, in Karnataka, the Panchayati Raj & Rural Development Department (PR&RD) is the nodal agency for both management & implementation of the programme. However at the district level, the Zila Panchayat (ZP) undertakes the management as well as the implementation of the programme. The District Level Implementation committee, which is headed by the CEO of the ZP, guides the programme. In the case of Mysore, the nodal officer for the implementation of the TSC is known as the Project Coordinator. The Water & Sanitation and the Education Department of the UNICEF state office in Hyderabad gives both technical and logistical support to the State Government. The implementation committee has representatives of various departments, including the following:

- Zila Panchayat Engineering Department (ZPED)
- Department of Education
- Department of Health
- Department of Women and Child Development
- Department of Social Forestry
- Department of Horticulture
- Department of Information and Publicity

As mentioned earlier, the success of the project is highly dependent on the inputs of various departments and close coordination among various agencies. Though these departments are represented in the District Level Committees in both the case study districts, Mysore and Tumkur, their levels of involvement varies between the two districts. The outcome of the Project would be highly dependent on the capacity of the district level implementation team.

Under the SSA programme, a significant role has been envisioned for the SDMC. Construction within the school compound, including toilets and hand pumps is supposed to be carried out by the SDMC's. In both districts, however, the Nirmithi Kendra's, a sub-section of the ZPED, have constructed a significant proportion of the toilets. The implementation was preceded by a community awareness generation campaign on the project and the components were designed in consultation with community members and school management, including the location of these facilities. This participatory process, it is felt, would help in spreading awareness about the advantages of sanitation and hygiene among the community as well as instill a sense of ownership among them.

6.2 Role of the NGO

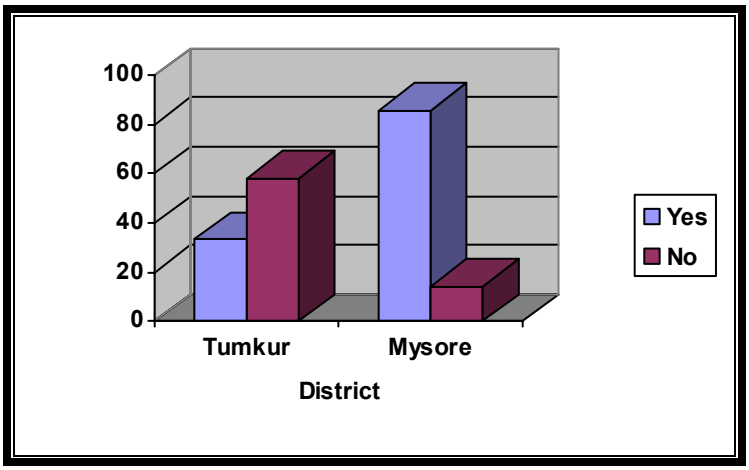
Some NGO's, such as the Mysore Resettlement and Development Agency (MYRADA) and Swami Vivekananda Youth Movement (SVYM), have played a significant role in implementing various project component. MYRADA, for example, has constructed over 50 schools, developed gardening and other infrastructural facilities as well as constructed toilets in many schools around Mysore district. In addition, they have also motivated various Self-Help Groups (SHG's) in various villages to undertake construction of toilets in the village.

The NGO's have not been very successful in implementing the Project at the household level. On interviewing villagers in both the districts, it was found that in Tumkur, only 25 percent of the respondents had household toilets. The access to individual toilet facilities was better in Mysore at 35 percent. However, there was a sampling bias in favour of the households from the upper strata of society. Keeping in mind that most of the poor in the village did not have toilets, the access rate in the district would be lower than that reflected by the primary data here.

In spite of this not so encouraging statistic, we are of the opinion that using NGO's for community mobilization is the right approach. NGO's are roped in into such projects because they tend to have better outreach than government agencies. They can help in effectively raising awareness levels substantially and act as catalysts to create a movement around sanitation and hygiene promotion.

The involvement of NGO's has helped in raising awareness levels in Mysore. Though all our interviewees, without exception, had soap at home, the extent of usage differed between the two districts. While only 33 percent of those in Tumkur used soap after defecation, this figure was significantly higher in Mysore at 85 percent. It is possible that the low awareness levels in Tumkur, as compared to Mysore; in spite of both being 'old' SWASTHH districts could be attributed to the low participation of NGO's in project implementation in Tumkur. However the high awareness levels in Mysore could also be attributed to higher pre-project social capital, which could explain why SWASTHH seems to be more of a success in Mysore and not Tumkur.

Figure 20: Use of Soap After Defecation (Households)



Source: Annexure 2

6.3 People Centric? Maybe Not

On interaction with the block level officials in Tumkur as well as ZP officials in Mysore, we realized that there seems to be a huge gap between the national level goals, as are set out in TSC, and the local level goals. Even though national policy is set out in an all-encompassing manner, it fails to take care of the cultural, socio-economic and demographic diversities across the and hence the implementation of the project is hampered from the beginning. In spite of TSC supposedly adopting a bottom-up method, it still retains some of the characteristics of a top down approach. TSC had looked to adopt a more people centric approach by way of being more demand driven. Better sanitation facilities did not seem to be a priority for the villagers we interacted with seems to indicate that this people centric approach has not really yielded much success. Some villagers did not even seem to be willing to pay for the household toilets, believing it to be the responsibility of the GP.

However, one has to keep in mind that there is a financial aspect to the entire issue of construction of household toilets. The apparent failure of the people centric approach could be explained considerably by the fact that the installation of a household toilet costs Rs 2200 with the government offering a subsidy of only Rs 500. Hence it is highly likely that the pace of construction of household toilets would increase considerably if they had access to easy credit. The government should look to set up village level micro finance mechanisms to provide access to easy credit to the villagers, or more appropriately through some SHG in the village, which could undertake construction activities as well.

6.4 How to Improve Coordination

All projects, targeting the rural population and trying to bring about behavioral change, have to try and achieve coordination between all involved departments. The critical component of most sanitation related schemes is to raise public awareness regarding basic hygiene and the issue needs to be targeted from all possible angles so as to achieve the desired results. The various departments, which look at the various facets of the project, need to achieve better coordination levels with each other so that project implementation takes place in the required manner and as envisaged.

The institutional setup in this case has diverse actors at various levels. In light of this fact, concerted efforts are required for coordination between various departments. The coordination levels have to be improved significantly in both districts, though more in Tumkur than Mysore, so as to achieve better service delivery, especially at the village level. There has to be definite knowledge regarding the roles of each department as well as a sincere effort to optimize the use of resources.

6.4.1 Private-Public Partnerships

To promote a greater level of coordination between the actors in the project, private-public partnerships could be encouraged. Such collaborations generally tend to fill policy gaps and can help in the process of project implementation in line with local goals and objectives. However there should be careful deliberations on the roles to be assigned to the private agencies. There are certain activities, which can be better carried out by the public sector because of the technical competence of its officials, economies of scale and the capacity to integrate various other development components through budgetary resources. However, when the partnership is formulated, care should be taken to ensure that no parallel service delivery mechanism gets established but capitalize on the competitive advantages of the private sector. The possibilities of such partnerships should be definitely looked into because these would certainly lead to improved service delivery and hence faster realization of project goals and sustainable outcomes.

6.4.2 Better Accountability Framework

Yet another problem at the institutional level, which seems to hamper effective service delivery, seems to be the weak accountability among the various participating departments. This lack of accountability was more apparent in Tumkur, more because of the incidence of missing hardware, than in Mysore. It was quite common for us to discover missing taps or buckets in Tumkur, which was certainly not the case in Mysore. On questioning the teachers as well as the headmaster of these schools, there was no clarity as to who would repair the taps or replace the buckets. This lack of knowledge implies that repairs would be delayed until there was clarity regarding which agency would be undertaking the repair. The lack of accountability and clarity regarding roles could be highly detrimental to the success of the project. For the lack of a tap or a latch in the toilet, which is not taken care of immediately, the School Sanitation programme might suffer a setback. The establishment of a better accountability and transparency framework should be looked into immediately and should be accorded priority status.

7. Project Findings – Monitoring and Evaluation

Monitoring and Evaluation are increasingly being recognized as indispensable performance management components and require specific tools like indicators to assess progress and impacts, which are vital to ascertain whether projects and programmes are meeting their development objectives.

Monitoring and Evaluation plays a central role in programme implementation and management. This calls for a distinction between the two, while monitoring is a continuous assessment of project; evaluation is a periodic assessment of the performance, efficiency and impact relative to the stated objectives. They are important for:

1. The implementers at the state, district and community levels.
2. Providing important feedback, so as to allow the develop new strategies
3. So as to enable modification of ongoing projects to adapt to changing circumstances

In order to have an effective and universal coverage of water and sanitation facilities in rural areas, there is a need to ensure proper follow up and regular monitoring of the various schemes. This task becomes more important in the light of increasing coverage across the country. It would be difficult to ensure same consistency on the issue of monitoring. The main objective of the project is to enable sustained replication, and build up of enduring infrastructure. This calls for a cohesive institutional framework with appropriate inter – sectoral linkages right from the state level to the district level. Dynamic partnerships at various levels, including the state, district, block, and village are required.

When we visited Mysore and Tumkur we examined monitoring and evaluation from the perspective of assessing whether the departments and the key partners were taking an active interest and carrying out their responsibilities in the school sanitation project. The assessment at the field level brought to light certain key issues, which have been analyzed below:

7.1 School monitoring system

EXPECTED	PRESENT STATUS
Empowerment of panchayath at district, block and village levels, and creation of SDMC were considered significant steps in devolution of power and authority, and hence they were expected to monitor the schools. School level monitoring system was expected to monitor the sanitary conditions that prevailed in the premises.	We observed that though the panchayath and the SDMC members have been given the authority to monitor the school sanitation project, their level of involvement is not as desired The school had no sanitation monitoring system. The headmasters in all the 9 schools, followed by the teachers committee were responsible for the overall sanitation of the schools.

Recommendations

- We would like to suggest that the teachers and the headmasters should not be the only ones held responsible for the maintenance of the facilities, because they have no control over the flow of funds. Therefore, block level meetings should be organized where the schools get a forum to discuss their grievances. Further the schools should be given a

larger maintenance fee, which would be sufficient for maintaining the facilities for a fixed period.

- We also suggest that the SDMC members and the gram panchayath members should meet the school administration more regularly. The SDMC members should also impart information on better hygiene practices to the members of the village and take on larger responsibility for the success of the school sanitation and hygiene practices; e.g. Involve the PTAs, children, religious groups, CBOs, education health and NGO personnel.

- The visits should be made on a regular basis, following which a record should be maintained which clearly states the purpose of the visit, duration of the visit, and observations and requirements of the schools, and follow up on the earlier problems of the schools.

7.2 Maintenance of school facilities

EXPECTED	PRSENT STATUS
It was the responsibility of the school authorities to ensure the maintenance of school facilities with the support of SDMC members, Panchayath bodies and the Block and Cluster resource persons.	In reality the schools are maintaining the school facilities using their own resources.
The SDMC members, the Panchayath and the BRC and CRP were to conduct visits at regular intervals.	The Cluster and the Block resource persons would come only once a year for inspection. We were also informed that the SDMC members would take months to repair a broken tap.

- Design Structure - In all the 9 schools we observed that the doors had sharp bolts, which could hurt the children. When we tried to lock the doors, the bolts were extremely tight and could not be moved by the children.

- Instruments – We observed that the taps in some schools were broken. The handpumps were not in a proper working condition; therefore the children had to apply a lot of effort to pump the water. We observed in schools that the ratio of number of toilets to the number of children was not proportionate. We came to this conclusion when we noticed that there were 7 schools that had more than 200 children studying and had only 2 urinals, and two toilets for boys and girls respectively.

- Operational Inputs – In the 9 schools that we visited, all had soap. However an interesting observation was that all the soap pieces looked new. When we asked the children the advantages of washing hands 60% of them were not aware.
  Further 60% of the schools did not have any mugs, buckets in toilets.

Recommendations

- Convergence has to be there between design structure, instruments and the operational inputs. If the toilets are not enough, or the doors cannot be bolted properly then,

maintenance of facilities becomes a major issue. Therefore, in order to instill in the students the importance of sanitation, certain basic facilities also must be established.

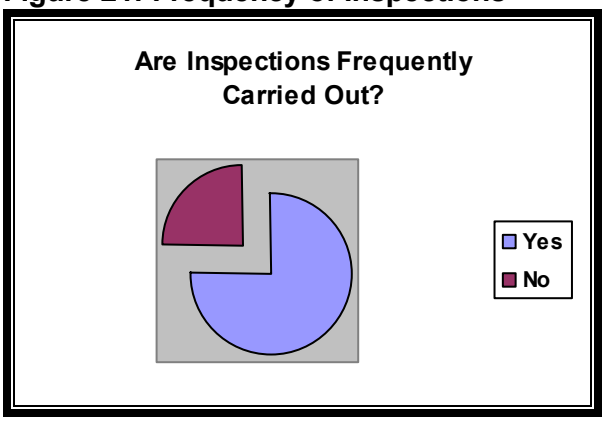
- We suggest that school authorities be given technical training on operation and maintenance of hardware components. This would make the school authorities more self-reliant.

7.3 Frequency of inspection

To get a better insight into the monitoring and evaluation aspects of water and sanitation, we questioned the various officials, whether the school was being inspected regularly.

EXPECTED	PRESENT STATUS
The institutions involved in different activities include the Gram Panchayath, Education Department, SDMC members, Teachers, BDO and other school sanitation and health committees. Most of these are supposed to coordinate with each other and monitor the facilities of the school.	Participation of the BDO and the community was minimal.
The BRC and CRP were expected come for inspection on a regular basis.	We learnt that the BRC and the CRP would visit the schools once in a year. We found that about 75% of the officials believe that the schools are being inspected regularly. Yet about 25% of the officials believe that the school facilities are not being inspected regularly.
The BRC and the CRP were expected to follow certain indicators that had been designed for the purpose of inspections in the school.	Though the indicators had been designed for the purpose of effective monitoring and evaluation, yet it had not been put into practice. Thus the officials were not following any set pattern of evaluation, which would have an impact on the school sanitation project.

Figure 21: Frequency of Inspections



Source- See Annexure 2

Recommendations

- For the success of the school sanitation programme, it is essential to establish an efficient Monitoring System. This should take place at all levels, starting with the district, block and village level.

- We suggest that a register is maintained to monitor the numbers of meetings that have taken place, as well as maintain a file of minutes of the meetings.

- We would also like to suggest that when the officials come for inspection they should use some sort of monitoring indicators that draw attention to whether school infrastructure is being well maintained by school authorities and whether it is in line with the school's requirements.

  Indicators:

  1. Is the toilet used?
  2. Is it smelly?
  3. Is the toilet floor clean?
  4. Is there water stored for use?
  5. Is there a toilet cleaning record?
  6. Presence of wall painting on the use of toilets?
  7. Is there water logging near the bore well?

  However though many monitoring indicators have been developed, most of them have not been put to practice. The need of the hour is therefore to develop uniform indicators for the entire state that would be used by the BDOs, CRPs, and other district level officials. Through this method the state would be able to quantify the water and sanitation situation in the state, and would further help to amend the schemes if necessary.

7.4 Funding pattern for school sanitation project

EXPECTED	PRESENT STATUS

The schools are supposed to get funds through the many schemes that have been launched by the government. E.g. SSA, TSC, SSHE, SDMC funds, panchayath funds and other water related schemes.	Most schools complained that they were not getting the funds on time, which as a result was having an impact on the success of water and sanitation project. About 60% of the Schools complained that to wait for months together to replace a broken tap.
It was expected that there would be greater accountability and transparency of funds.	However when we asked the school authorities to show us the accounts, most of the schools showed hesitance and reluctance to reveal the funding pattern and the total amount.
The teachers trained under hygiene education were also expected to get remuneration for that period.	We observed that the teachers were not even aware about this provision, of getting remunerated for this period, highlighting lack of awareness and ineffective monitoring and evaluation.

Recommendations

- Thus the need of the hour is to ensure greater transparency and accountability for the success of the school sanitation programme.
- It is also essential to ensure greater partnership between the districts and block level officials and the school authorities.
- We suggest that the monitoring system should keep a check on the flow of the funds, so that the funds are not exhausted, and used purposefully.
- We also feel that the school authorities and the teachers should be briefed about the many sources from where they can acquire funds. Furthermore the officials need to clearly demarcate the allocation of the funds specifically for hardware and software. This would help in maintaining a balance between the various components.

Thus we can see that there is a need to adopt a people centric approach. The people who are going to use these facilities also need to be consulted in terms of their requirements and demands. If a feeling of ownership can develop in the population, it would further ensure usage and maintenance. This would then seep down to the community from the school children.

8. Conclusion

The research team, while recognizing that both hardware and software are complementary to each other, looked to identify the various knowledge gaps that still seem to remain in the programme.

Even though some knowledge gaps exist within the project, we feel that the Mysore model has the potential to be replicated. The model is based on the principle of changing the sanitation practices of communities by sensitizing people about the impact of lack of sanitation on health. The community is then motivated to change its behaviour patterns and seek the introduction of sanitation facilities without external subsidy, which will ultimately lead to improved health and self-esteem. The success and sustainability of this model is based on the principle that once good hygienic practices are adopted, people generally do not go back to practicing unhygienic behaviour. Rather, they opt for superior options as and when they can afford them. The model emphasizes community empowerment and strong institution building.

The most important condition of success relates to Information, Education and Communication (IEC). This was based on the principle of Teacher to Child, Child to Parent, and Parent to Community (TCCPC) system of hygiene messages. All the factors responsible for success of this model can be easily replicated in other TSC districts with local modifications to suit area specific needs.

The role and services of Teachers, SDMC's, Gram Panchayaths, Block and Zilla Parishads in promoting good sanitation practices also needs to be recognized. Government of India needs to consider the introduction of incentive schemes to encourage communities and thereby involve them in the maintenance of a healthy environment.

Annexure 1: Hardware

District: Tumkur, Block: Sira
Total Number of Lower Primary Schools (LPS); Covered: 1
Total Number of Higher Primary Schools (HPS); Covered: 3
Total: 4

Table1: Availability of Infrastructure in Sample Schools in Tumkur

Name of the School	Toilets	Urinals	Design	Separate	Protection Wall	Waste Disposal Pit	Water Storage Tank	Borewell/ Hand Pump	Safe Drinking Water	Ladle	School Garden
Devarahally LPS	2	2	No rural pan	Yes	Partial with barbed wire fencing	No	Yes	No (only tap)	Yes	Yes	Yes
Pattanayakanahally HPS	1 (it was locked, 4 new were being constructed)	0	-	No	Partial with open back	No	No	Yes	Yes (children bring their own water)	Yes	Yes
Agrahara HPS	2	2	No rural pan	Yes	Full	Yes	Yes	Yes	Yes (children bring their own water)	Yes	Yes
Bevinahally HPS	2	2	No rural pan	Yes	Full	No	Yes	Yes (not functional)	Yes	No	No

Source: Primary Data Collected on the Field

Table2: Use and Maintenance of Sanitary Facilities in Sample Schools in Tumkur

Name of the School	Cleanliness of Toilet	Condition of Toilet Door	Condition of Toilet Latch	Ventilation	Lighting	Hand Washing Soap	Tap Outside for Hand Washing	Water Storage Inside the Toilet/ Mug	Toilet Cleaning Agent/ Brush
Devarahally	Very Clean	Good	Poor	Good	No	Yes (absolutely new)	Yes	Yes/ No Mug	Yes
Pattanayakanahally	Locked	-	-	-	-	Yes (not being used)	No	-	-
Agrahara	Very Clean	Good	Poor	Good	No	Yes (stored safely but not used)	Yes	No	Yes
Bevinahally	Average	Good	Poor	Good	No	No	No	No	No

Source: Primary Data Collected on the Field

District: Mysore
Total Number of Lower Primary Schools (LPS) Covered: 1
Total Number of Higher Primary Schools (HPS) Covered: 4
Total Number of Anganwadis Covered: 1
Total: 6

Table3: Availability of Infrastructure in Sample Schools and Anganwadi in Mysore

Block	Name of the School	Toilets	Urinals	Design	Separate	Protection Wall	Waste Disposal Pit	Water Storage Tank	Borewell/ Hand Pump	Safe Drinking Water	Ladle	School Garden
K.R. Nagar	**Arkere Koppal HPS**	2	2	No rural pan	Yes	Full	No	Yes	Yes	Yes	No	Yes
Hunsur	**Krishnapura HPS**	2	2	Rural pan	Yes	Full	Yes	Yes	Yes	Yes	Yes	Yes
	Kempammana Hosur LPS	2	2	No rural pan	Yes	Full	No	Yes	Yes (not functional)	Yes	No	Yes
H.D. Kote	**Pura HPS**	2	2	No rural pan	Yes	Full	Yes	Yes	No (only tap)	Yes	Yes	Yes
	Matkere HPS	2	2	No rural pan	Yes	Full	No	Yes	Yes	Yes	Yes	Yes
	Pura Anganwadi	0	0	-	-	No	No	No	No	Yes	No	N.A.

Source: Primary Data Collected on the Field

Table4: Use and Maintenance of Sanitary Facilities in Sample Schools in Mysore

Name of the School	Cleanliness of Toilet	Condition of Toilet Door	Condition of Toilet Latch	Ventilation	Lighting	Hand Washing Soap	Tap Outside for Hand Washing	Water Storage Inside the Toilet/ Mug	Toilet Cleaning Agent/ Brush
Arkere Koppal	Clean	Good	Poor	Yes	No	Yes	Yes	No	Yes
Krishnapura	Very Clean	Good	Poor	Yes	No	No	Yes	Yes/ No Mug	Yes
Kempammana Hosur	Average	Good	Poor	Yes	No	Yes (not being used)	Yes (not functional)	Yes/ No Mug	No
Pura HPS	Average	Good	Poor	Yes	No	No	Yes	Yes	Only brush
H. Matkere	Clean	Good	Poor	Yes	No	Yes	Yes	Yes/ No Mug	Yes
Pura Anganwadi	No Toilet	-	-	-	-	No	No	-	-

Source: Primary Data Collected on the Field

Table 5: Cost and Timeline for Construction Work in Mysore

Project Detail	Financial Year	Entrusting Agency	Works Allotted	Works Completed	Under Progress	Not Started	Estimated Cost (Rs. in Lakhs)	Expenditure Incurred (Rs. in Lakhs)	
								2003-04	2004-05
Toilets in Mysore District	2002-03	Zilla Panchayath	851	825	20	0	170.20	117.00	50.00
Protection Wall in Mysore District (under all schemes)	2000-01 2001-02 & 2002-03	Zilla Panchayath	239	224	2	13	220.00	143.00	39.75

Source: Mysore Nirmithi Kendra Annual Report 2004-05

Table 6: Total Number of Children in Sample Schools

Tumkur		Mysore	
Devarahally	238	**Arkere Koppal**	218
Pattanayakanahally	348	**Krishnapura**	66
Agrahara	238	**Kempammana**	124
Bevinahally	462	**Pura**	216
		Matkere	235
Total	**1286**		**859**
Total No. Of Toilets	**7**		**10**
Average No. of Students per Toilet	**184**		**86**

Source: (Tumkur) Chart provided by the Block Resource Coordinator and (Mysore) http://nitpu3.kar.nic.in

Annexure 2: Database

	Number of Children
Mysore	**60**
Tumkur	**19**
Total	**79**

	NUMBERS			PERCENTAGES		
	Tumkur	**Mysore**	**Overall**	**Tumkur**	**Mysore**	**Overall**
Opinion About Hygiene						
Important	10	59	69	52.63	98.33	87.34
Not Important	5	1	6	26.31	1.67	7.54
Knowledge Imparted By						
Parents	2	1	3	10.52	1.67	3.79
Teachers	15	56	71	78.94	93.33	89.87
Local Bodies	1	2	3	5.26	3.33	3.79
Others	1	1	2	5.26	1.67	2.53
Waiting Time for Toilets						
Less than 5 mins	3	56	59	15.78	93.33	74.68
More than 5, Less than 10 mins	9	4	13	47.36	6.67	16.45
More than 10 mins	4	0	4	21.05	0	5.06
Toilet at Home						
Yes	5	13	18	26.31	21.67	22.78
No	14	47	61	73.68	78.33	77.21
Regular Hand Washing						
Yes	14	57	61	73.68	95	77.21
No	5	3	8	26.31	5	10.12
Opinion About Hand Washing						
Important	9	58	67	47.36	96.67	84.81
Not Important	10	2	12	52.63	3.33	15.18
Pairs of Uniform						
One	9	9	18	47.36	15	22.78
Two or more	10	51	61	52.63	85	77.21
Illness' in the Last Year						
Water-Borne\Based	7	7	14	36.84	11.67	17.72
Other	10	53	63	52.63	88.33	79.74

	Number of Teachers					
Mysore	6					
Tumkur	6					
Total	12					
	NUMBERS			**PERCENTAGES**		
	Tumkur	**Mysore**	**Overall**	**Tumkur**	**Mysore**	**Overall**
Years of Experience						
Less than 3	3	3	6	50	50	50
More than 3,Less than 5	0	1	1	0	16.67	0
More than 5	3	2	5	50	33.33	50
Training Imparted By						
UNICEF	1	1	2	16.67	16.67	16.67
Local Govt. Officials	4	5	9	66.67	83.33	75
NGO's	1	0	1	16.67	0	8.33
Children Trained Using						
Textbooks	1	1	2	16.67	16.67	16.67
Special Projects	4	5	9	66.67	83.33	75
Song & Dance	1	0	1	16.67	0	8.33
Existence of PTA's						
Yes	2	6	8	33.33	100	66.67
No	4	0	4	66.67	0	33.33
Knowledge Imparted to Parents						
Yes	4	6	10	66.67	100	83.33
No	2	0	2	33.33	0	16.67
Maintenance of School Facilities						
Yes	6	6	12	100	100	100
No	0	0	0	0	0	0
Inspection of School Facilities						
Yes	3	6	9	50	100	75
No	3	0	3	50	0	0
Receipt of Funds						
On Time	1	2	3	16.67	33.33	25
Not on Time	5	4	9	83.33	66.67	75
Adequate Funds						
Yes	1	2	3	16.67	33.33	25
No	5	4	9	83.33	66.67	75
Adequate Curriculum						
Yes	1	6	7	16.67	100	58.33
No	5	0	5	83.33	0	41.67

	Number of Households					
Mysore	14					
Tumkur	12					
Total	26					
	NUMBERS			**PERCENTAGES**		
	Tumkur	**Mysore**	**Overall**	**Tumkur**	**Mysore**	**Overall**
Main Source of Drinking Water						
Piped Water Supply	2	0	2	16.67	0	7.69
Hand Pump	4	13	17	33.33	92.85	65.38
Public Tap	3	0	3	25	0	11.53
Tanker	3	1	4	25	7.14	15.38
Time Taken to Get Water						
Less than 15 Mins	4	8	12	33.33	57.14	46.15
More than 15 mins, Less than 30 mins	4	5	9	33.33	35.71	34.61
More than 30 mins, Less than a hour	3	1	4	25	7.14	15.38
More than a hour	1	0	1	8.33	0	3.84
Household Toilet						
Yes	3	5	8	25	35.71	30.76
No	9	9	18	75	64.28	69.23
Is there Soap at Home						
Yes	12	14	26	100	100	100
No	0	0	0	0	0	0
Is it Used after Defecation						
Yes	4	12	16	33.33	85.71	61.53
No	7	2	9	58.33	14.28	34.61
Is it Used after Meals						
Yes	6	11	17	50	78.57	65.38
No	5	3	8	41.67	21.42	30.76
Teeth are Cleaned Using						
Toothpaste\Toothpowder	11	14	25	91.67	100	96.15
Other	1	0	1	8.33	0	3.84
Daily Bath						
Yes	3	5	8	25	35.71	30.76
No	9	9	18	75	64.28	69.23
Awareness Imparted Using						
IEC	1	14	15	8.33	100	57.69
Group Meetings	11	0	11	91.67	0	42.3
Illness' in the Last Year						
Water-Borne\Based	5	2	7	41.67	16.67	26.92
Other	7	12	19	58.33	83.33	73.07

Annexure 3: People Interviewed

1. Mr. Kamal Majumdar, Deputy Advisor, Rajiv Gandhi National Drinking Water Mission, Department of Drinking Water Supply

2. Mr. A.K. Sengupta, National Professional Officer, Sustainable Development and Environment Health, WHO

3. Mr. Shamshul Huda, Scientist, Environmental Health, WHO (SEARO)

4. Ms. P. Amudha, Program Officer Water and Sanitation, UNICEF ICO

5. Ms. Radhika Srinivasan, Consultant, Education Section, UNICEF ICO

6. Mr. K. Amaranarayan, Director, Department of Rural Development and Panchayati Raj Institutions, Government of Karnataka

7. Ms. Lizette Burgers, Section Chief, Child Environment, UNICEF ICO

8. Ms. Renu Gera, Project Officer, Child Environment, UNICEF Hyderabad

9. Ms. Sukanya Subrahmaniam, Programme Officer, Education, UNICEF Hyderabad

10. Mr. L.K. Atheeq, Director, KRWSSA

11. Mr. Hamid Ahmed, Deputy Director Operations, Jal Nirmal, KRWSSA

12. Mr. Ramesh, Officer, TSC, KRWSSA

13. Ms. Sathya, Communication and Capacity Development Unit, KRWSSA

14. Mr. Sham, Communication and Capacity Development Unit, KRWSSA

15. Dr. Rajkumar Khatri, IAS, State Project Director, SWASTHH

16. Mr. S. Siddeshwar, Block Resource Coordinator, Sira, Tumkur

17. Mr. PG Venugopal, Project Coordinator, Zilla Parishad, Mysore

18. Ms. Saraswati, Project Officer, Zilla Parishad, Mysore

19. Dr. Rajappa, Team Leader, HD Kote, MYRADA

20. Dr. MR Seetharam, Programme Head, Health Activities, SVYM

Annexure 4: References

1. Sey, Bannerjee et al, Creative Associates International, 2003: *Enhancing Educational Opportunities for Vulnerable People, Exploring UNICEF/SWASTHH for Support, A Rapid Assessment- Report to USAID/India*

2. Draft Report for SWASTHH Workshop, Ranchi, Jharkand, 2001: *SWASTHH-Planning & Teambuilding for SWASTHH in Jharkand and Bihar*

3. Lizette Burgers, Senior Adviser, UNICEF-India: *Background and Rationale for School Sanitation and Hygiene Education*

4. Khamal, Mendoza et al, IRC: *Participatory Education Activities for Children & Educators (PEACE), Joyful Learning on Hygiene, Sanitation, Water, Health and the Environment; A Source Book for Lesson Plans*

5. SSHE Global Symposium "Construction is Not Enough"; The Netherlands, 2004: *School Sanitation and Hygiene Education in India, Investment in Building Children's Future*

6. IRC & UNICEF: *School Sanitation and Hygiene Education, A Concept Paper*

7. Marielle Snel, Kathleen Shordt and Annemarieke Mooijman (Ed), IRC International Water and Sanitation Centre: *School Sanitation and Hygiene Education Symposium, The Way Forward: Construction is not Enough, Symposium Proceedings & Framework for Action*

8. www.un.org.in: *SWASTHH, A teacher-to-child and child-to-parent approach to health and sanitation in Karnataka*

9. Sylvian Giguere, Organization of Economic Cooperation & Development (OECD): *Local Partnerships for Better Governance*

10. Sumita Ganguly, Marielle Snel, Kathleen Shordt; IRC International Water and Sanitation Centre: *School Sanitation & Hygiene Education - India, A Resource Book*

11. Government of India, 2003: *INDIA: A Case Study– Related Best Practice or Lessons Learned in Water & Sanitation*

12. Motaleb, Beerling et al; 26th WEDC Conference, Dhaka, Bangladesh, 2000: *Water, Sanitation and Hygiene-Challenges of the New Millennium, Village Organizations become Development Partners*

13. Paper presented in the South Asian Conference on Sanitation, Dhaka, Bangladesh, 2003: *Towards Total Sanitation and Hygiene- A Challenge for India*

14. Agricultural Finance Corporation Ltd, 2005: *Mid Term Evaluation of Total Sanitation Campaign*

15. Manu Prakash, School Sanitation Consultant, DDWS: *Ensuring Water and Sanitation- The SHG Way: A Case Study of the Keeraplayam Experience*

16. NC Saxena, UNICEF India: *School Sanitation Programme in Andhra Pradesh and Karnataka – An Assessment*

17. Padmanabha Rao & Rama Rao, Ashoka Foundation: *Development through Education; An Integrated Approach*