

Patterns of WASH Services in Rural Andhra Pradesh

Community's Perspectives and Insights from Rapid Assessment

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FOREWORD

Quality and nature of Water, Sanitation and Hygiene (WASH) service delivery in rural Andhra Pradesh has considerable diversity. As part of initial phases of the WASHCost project, WASSAN conducted a “rapid assessment” to develop a quick understanding of various dimensions of WASH service delivery in rural Andhra Pradesh.

The focus was mainly to “amplify” the voice of the rural communities and bring their concerns into “lime light”. The process of enquiry largely aimed at understanding the experiences, insights, opinions and data bases of the rural communities. The book is organized into several sections to highlight the perceptions of the community.

WASSAN did not make “special” efforts to “triangulate” the data generated from this field level enquiry. One can argue that the data base (particularly on investments and costs) is completely erroneous. Notwithstanding the doubts and ambiguity related to the data generated from community level interactions and participatory processes, WASSAN believes that this data base has a particular value. This value comes from the respect towards people’s knowledge and experiences. The rapid assessment clearly communicated that “messages” are right, while the “numbers” could be wrong. We are sure that learned readers of this book would certainly appreciate this dimension of the book.

Apart from WASSAN team, several other resource persons (community level and staff of other NGOs) participated in this process. In limited number of cases, representatives of local government and department also participated in the field work. This report is a collective output from this field level investigation and exploration. WASSAN team sincerely thanks CESS team, IRC team and representatives of Rural Water Supply and Sanitation Department and community members for providing this opportunity to WASSAN team.

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INTRODUCTION

Water, Sanitation and Hygiene (WASH) services are an important part of life style in urban and rural context. In Andhra Pradesh, there are a large number of situations where the level and quality of WASH services differ. There are wide variety of reasons for these varied levels of WASH services. It is important to understand and appreciate these reasons and factors. It is also important to understand the “knowledge base and perceptions” of communities in terms of costs involved in WASH service delivery. For facilitating this process, a rapid survey was conducted in selected villages of the state, with the following objectives.

Purpose of Rapid Assessment

- To understand and assess the life cycle of various WASH interventions in rural areas of Andhra Pradesh and draw broad lessons from these case studies.
- To understand the practices and concerns of communities related to WASH services and their costs.
- To understand various dimensions of accessibility of WASH services
- To conduct an informal and comparative assessment of WASH services from the sample villages against selected parameters

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Sample, Categories and Field Work

This rapid assessment of WASH services coincided with institutional mapping process of WASHCost project. Field work was conducted in 21 selected habitations from 8 districts. (For the categories of villages selected refer to Table No – 1). Based on the information, support and advice from local government departments and NGOs, the villages were selected from 8 districts. A team of two to three persons (men and women) spent about two days in each village to understand the time lines, infrastructure facilities, investments and situation of the villages in terms of WASH services. Data related to investments and operation & maintenance was collected to the extent possible from local sources (villagers; Gram Panchayat office and local RWSS office, whenever possible).

AVAILABILITY OF WASH FACILITIES – TIME LINE, INVESTMENTS AND CONDITION

Availability of WASH Services in rural context is influenced by various factors, including availability of physical infrastructure itself. In this section, the availability of drinking water and other facilities is analyzed in a systematic manner. From the data generated from field work (mainly time lines and investment details), broad trends are derived to understand the situation of WASH Services in the selected villages.

Infrastructure Facilities for WASH Services – Time line of Technologies and Coverage:

Drinking water facilities are available in all the sample villages. The time line of drinking water facilities broadly followed a particular trend in all most all the sample villages. The initial phase had open wells. These open wells were collectively dug by the communities. In some cases, the memory regarding the history of these open wells is not clear. Over a period of time, hand pumps, provided by the Rural Water Supply and Sanitation Dept/Panchayati Raj Engineering Department, made an entry into the village. The communities utilized both hand pumps and open wells for some time. With increased use of *groundwater* (as a result of electrified bore wells), the yield from open wells and hand pumps reduced slowly. The bore wells and piped water supply entered the villages, during this stage. Over Head Storage Reservoirs/ Ground Level Storage Reservoirs with motors, pipe line and bore wells became a package of interventions in several villages. Stand posts and house hold water tap connections were available to the communities during this phase. In some villages, groundwater became a scarce resource and open wells, hand pumps and even piped water supply schemes also became dysfunctional. Issues like contamination, fluorosis became more visible and prominent in both water-rich and water-poor villages. This situation led to the establishment of “multi village schemes”, which covered a cluster of villages. A surface water body (reservoirs, tanks, streams, canals) is used as the main source and an elaborate system for lifting, treating, storing and supplying water is setup. From the reservoirs of

multipurpose schemes, drinking water is transported over hundreds of kilometers to reach homes.

Table No - 1: Profile of Sample Habitations for Field Work

Sl. No.	Name of habitation	District	Population	Main Specialty of the village
1	Saduvandla Pally	Anantapur	623	Single Village
2	Nadimpally	Anantapur	461	Satya Sai Seva Trust facilitated MVS
3	Kalagamudram	Anantapur	2821	Satya Sai Seva Trust facilitated MVS
4	Tummalapedda thanda	Anantapur	978	Single Village
5	Basireddy Pally	RR District	900	Ongoing Watershed
6	Rangapur	RR District	800	Ongoing Watershed
7	Ibrahimpur	RR District	1000	Single Village
8	Dadithanda	RR District	180	Single Village
9	Nazeerabad	RR District	726	Completed Watershed; Single Village and Tribal
10	Budlapur	RR District	3000	Ongoing Watershed; Single Village and Tribal
11	Hanumangandi Thanda	RR District	1000	Ongoing Watershed; Single Village and Tribal
12	Bondada	West Godavari	10004	Single Village
13	Jakkaram	West Godavari	2014	NGO Facilitated
14	Vattipalli	Nalgonda	3000	Fluorosis
15	Pedadevula Palli	Nalgonda	8000	Pollution
16	Sarangi	Srikakulam	38	Tribal
17	Dhonubai	Srikakulam	631	Tribal
18	Ghangadevala Palli	Warangal	1270	Total Sanitation Campaign
19	Mambapur	Medak	804	Total Sanitation Campaign
20	Patwarigudem -	Khammam	350	Sector Reforms Program
21	Bramhanapalli -	Khammam	400	Sector Reforms Program

The sample villages reinforced this general picture and trend of the state. This trend also indicated that open wells, hand pumps, piped water supply (form the same village or part of a network of villages) are all available to the villagers now. Some of these facilities are dysfunctional owing to source depletion and/ or poor maintenance.

The infrastructure facilities for drainage and individual sanitary latrines were also analyzed in the selected villages. The trends observed in terms of availability of physical infrastructure for drinking water and environmental sanitation in the sample villages are given below (for details see *Table No – 2*).

The summary statements from this field analysis are briefly presented here

- Open wells are no more the common source for drinking water. The functionality of open well as a source is limited to water-rich villages.
- The investments on hand pumps are also relatively reducing. The number of hand pumps that were added in the last eight years is not necessarily adding to the facilities.
- The number of dysfunctional hand pumps is also growing, thus the new investment is merely replacing the dead investment.
- The number of persons per hand pump is much higher (>400 persons/ pump) than the standard norm (250 Persons/ Pump).
- Majority of the villages shifted to piped water supply schemes (17 out of 21) during or after 2000. While some villages have expanded their facilities, some villages had these facilities only after 2000.
- 50% of sample villages have Individual Sanitary Latrines. But the coverage within the village is limited (Range: 10% to 30% of families). Public Toilets are available in limited number of villages (2 out of 21).
- Drainage lines have an important role in maintaining environmental sanitation. About 60% (12 out of 21) of the villages have drainage lines. After 2000, only one village has newly established the system. The remaining 11 villages expanded the existing drainage system and facilities.

WASH Services and Investments

The Common Information Framework (CIF) of WASHCost project has identified various dimensions of costs of WASH services. However, the current analysis is largely limited to capital investments and O&M costs. The relevant methodologies and tools need to be evolved for comprehensive analysis of various “COSTS” as per CIF. One could consider this current cost analysis as a pre-cursor to the comprehensive cost analysis of WASH services.

Table No - 2: Time Line for Drinking Water, Environmental Sanitation Facilities in Selected Villages

Sl. No.	Parameter	Before 2000	After 2000
1	No of Hand Pumps	101	146 (Including 101 old Hand Pumps). 49 are presently not functional (Jul 2008)
2	Persons/Hand Pump	247	264, as 49 Hand Pumps are dysfunctional.
3	Coverage by Hand Pumps	4 villages did not have even a single Hand Pump	6 villages did not get any new Hand Pumps during this period
4	Open Wells	16 open wells were functional in six villages	No new open wells were dug after 2000. This is a clear indication of deep groundwater aquifers. Out of a total of 47 open wells, 31 are not functional now.
5	Piped Water Supply Schemes	13 out of 21 Villages had this system. 8 Villages did not have this facility.	Five Villages had this facility for the first time during this period. Four villages have expanded their existing facilities under piped water supply during this period. Nine villages did not expand their existing capacities. Three villages continue to have "No Tap" in their village.
6	Public Toilets	Only Five villages out of 21 had public toilets.	2 of the villages with these facilities expanded them during this period. One village had this facility for the first time during this period.
7	Private Toilets (ISL)	Six villages (out of 21) had these facilities.	Three new villages had these facilities during this period. While 4 villages expanded their earlier facilities. Nine villages do not have any individual sanitary latrines even now.
8	Drainage Facilities	11 villages had drainage facilities out of which 2 villages are totally dysfunctional.	12 Villages had drainage facilities during this period. Of these, eight villages have expanded the earlier facilities. 8 Villages did not have any drainage facilities.

The investments on water and sanitation related infrastructure and maintenance of the same is divided into two time zones.

- Investments made before 2000: Some of the investments were made long back and the data is not clearly available. Even if this data is available, the amount has to be estimated at current values. Without getting into this complex economic analysis, an insight is generated to understand the investments made on various types of interventions.
- Investments made after 2000: The data for this period is relatively recent and is available from most of the villages. This also gives the picture of recent technologies opted by RWSS Department/ Gram Panchayat in providing the WASH services to the villages.

The investments are divided into Capital and Operation & Maintenance. Though maintenance is on annual basis, such data is not available from several villages. So the total expenditure on maintenance was obtained for analysis.

The investments are analyzed using a set of following standard indicators.

- o Total Investment on a particular intervention (e.g.: Hand pumps)
- o Average Investment per village
- o Average Investment per unit
- o Average Investment per person

The analysis brought various dimensions of investments – range, number of villages that made such investments, investments on functional and dysfunctional units, and so on.

The analysis is presented in the form of tables (Table No – 3, 4, 5 and 6), which indicate the time lines of the investments. The analysis is made for both capital and O&M investments.

Table No – 3: Time Line for Capital Investments for Drinking Water

Sl.	Parameter	Before 2000	After 2000
Capital Investments – Hand Pumps			
1	Total Investment on Hand Pumps	<ul style="list-style-type: none"> • Rs 12,98,480 on digging 101 hand pumps. On an average Rs. 12856 /Pump was the investment. However, 28% of the total investment is presently not useful (July 2008) as some of these hand pumps became dysfunctional. • Since the hand pumps were established at various points of time (Before 2000), depending on the time of its installation, the unit cost ranged from 4000 Rs/Hand Pump to 31500 Rs/ Hand Pump. 	<ul style="list-style-type: none"> • Rs. 15,43,450 was the total investment on digging 45 hand pumps during this period. However, out of the total investment, 45% of investment is not useful presently (July 2008) as some of these hand pumps are dysfunctional. • The unit cost of each hand pump ranged from 9500 to 100750 Rs./ Hand Pump (as per the information of the villagers). The average unit cost is 34299 Rs/hand Pump. The unit cost of functional Hand Pump is 29481 Rs/ Hand Pump and unit cost for dysfunctional Hand Pump is 43031 Rs/ Hand Pump.
2	Investment Per Person	<ul style="list-style-type: none"> • This indicator also has a wide range of values, depending on the time of installation of the hand pump and total dependent population on a particular hand pump. • The investment made on hand pumps is 33 Rs/Person, for the entire population of the sample villages. • Investment is 24 Rs/Person in case of functional Hand Pumps and 9 Rs/Person in case of dysfunctional Hand Pumps. 	<ul style="list-style-type: none"> • Investment made on hand pumps is 100 Rs/Person, for the entire population of the sample villages. • If the unit cost of functional hand pumps is taken separately, it is 57 Rs/Person, while the corresponding value for dysfunctional Hand Pumps is 133 Rs/ Person.

Table No – 3 Contd...

Sl.	Parameter	Before 2000	After 2000
Capital Investments – Hand Pumps			
		<ul style="list-style-type: none"> The values ranged from 0.5 Rs/ Person to 558 Rs/Person in the sample villages, in case of functional hand pumps. The corresponding value in case of dysfunctional hand pumps had a similar range - 3 Rs/Hand Pump to 789.5 Rs/ hand Pump. 	<ul style="list-style-type: none"> The values ranged from 7 Rs/ Person to 610 Rs/Person in the sample villages, in case of functional hand pumps. The corresponding value in case of dysfunctional hand pumps had a range of 17 Rs./Hand Pump to 412 Rs/hand Pump.
3	Investment Per Habitation	<ul style="list-style-type: none"> This indicator also has a wide range of values, depending on the time at which the investment was made. This value ranged from 9500 Rs/ Village to 223200 Rs/ Village. Out of 21 sample villages, only five villages had more than Rs 100000 investment. The average investment on Hand Pumps is 76381 Rs/ Village. Considering the number of functional units, the average investment is 71614 Rs/ Village. The investment on dysfunctional units is 36750 Rs/Village. 	<ul style="list-style-type: none"> This indicator also has a wide range of values. This value ranged from 10000 Rs/ Village to 605800 Rs/ Village. Out of 21 sample villages, only four villages had more than Rs 100000 investment. The average investment on Hand Pumps is 102897 Rs/ Village. Considering the number of functional units, the average investment is 61068 Rs/Village. The investment on dysfunctional units is 172125 Rs/Village.

Table No – 3 Contd...

Sl.	Parameter	Before 2000	After 2000
Capital Investments – Open Wells			
4	Total Investment on wells	<ul style="list-style-type: none"> Rs 4,94,500 was the total investment on digging 41 wells. On an average 12061 Rs/well was the investment. However, out of the total investment, 19% of investment is presently not useful (July 2008) as some of these wells are dysfunctional. Since the wells were established at various points of time (Before 2000), the unit costs ranged from 700 Rs/well to 61000 Rs/ well. 	<ul style="list-style-type: none"> There is no investment on wells after 2000
Capital Investments – Hand Pumps			
5	Investment Per Person	<ul style="list-style-type: none"> This indicator also has a wide range of values, depending on the time of digging of the well and total dependent population on a particular well. The investment made on wells is 24.72 Rs/Person, for the entire population of the sample villages. The investment is 107.39 Rs/ Person in case of functional wells and 6.06 Rs/Person in case of dysfunctional wells. The values ranged from 0.56 Rs/ Person to 40 Rs/Person in the sample villages, in case of dysfunctional wells. The corresponding value in case of functional wells had a wide range - 14.93 Rs/ per person to 605.56 Rs/per person. 	<ul style="list-style-type: none"> There is no investment on wells after 2000

Table No – 3 Contd...

Sl.	Parameter	Before 2000	After 2000
6	Investment Per Village	<ul style="list-style-type: none"> • This indicator also has a wide range of values, depending on the time at which the investment is made, from 2100 Rs/ Village to 183000 Rs/ Village. • Out of 21 sample villages, only two village had more than Rs 100000 investment. • The average investment on well is 10521 Rs/ Village. • Considering the number of functional units, the average investment is 64416 Rs/Village. The investment on dysfunctional units is 9818 Rs/Village. 	<ul style="list-style-type: none"> • There is no investment on wells after 2000
Capital Investment - Piped Water Supply Systems (Over Head Tank, Motor and Pipe Lines)			
7	Total Investment on Over Head Tanks based piped water supply schemes	<ul style="list-style-type: none"> • Rs 10900677 was the total investment on constructing 18 Over Head Tanks (OHTs) including motor, pipeline. On an average 605593 Rs/OHT was the investment. • Since the OHTs were constructed at various points of time (Before 2000), the unit costs ranged from 25000 Rs/OHT to 2950000 Rs/ OHT. 	<ul style="list-style-type: none"> • Rs. 52,70,448 was the total investment on constructing 15 Over Head Tanks based system (including motors pipeline). On an average 3,51,363 Rs/ OHT was the investment. • The unit cost of each OHT ranged from 20000 Rs./ OHT to 20,27,348 Rs./OHT (as per the information of the villagers).
8	Investment Per Person	<ul style="list-style-type: none"> • This indicator also has a wide range of values, depending on the time of construction of the OHT and total dependent population on the particular system. • The investment made on OHT is 387 Rs/Person, for the entire population of the sample villages. 	<ul style="list-style-type: none"> • Investment made on OHT is 243 Rs/Person, for the entire population of the sample villages. • The values ranged from 85 Rs/ Person to 651 Rs/Person in the sample villages

Table No – 3 Contd...

Sl.	Parameter	Before 2000	After 2000
		<ul style="list-style-type: none"> The values ranged from 23 Rs/ Person to 3486 Rs/Person in the sample villages. 	
9	Investment Per Village	<ul style="list-style-type: none"> This indicator also has a wide range of values, depending on the time at which the investment is made. This value ranged from 25,000 Rs/ Village to 2000000 Rs/ Village. Out of 21 sample villages, 11 villages had more than Rs 100000 investment. The average investment on OHT is 5,65,012 Rs/ Village. 	<ul style="list-style-type: none"> This indicator also has a wide range of values. This value ranged from 20,000 Rs/ Village to 20,27,348 Rs/Village. Out of 21 sample villages, nine villages invested more than Rs 100000. The average investment on OHT is 4,39,204 Rs/ Village.

Table No - 4: Time Line for Operation and Maintenance Cost - Drinking Water

Sl.	Parameter	Before 2000	After 2000
1	O & M Investments on Hand Pumps	<ul style="list-style-type: none"> Rs 147180/- was the total investment on maintenance of 81 hand pumps. This is the total investment made for O & M in the life cycle of these Hand Pumps. On an average 1817 Rs/Pump was the investment for O & M. Only Nine villages (out of 21) made investments on O & M of hand pumps. On an average 16353 Rs./ Village was the O & M investment in these nine villages. 8 Rs/ Person was the budget spent on O & M in these villages on hand pumps. 	<ul style="list-style-type: none"> Rs. 12000/- was the total investment on maintenance of 14 hand pumps. This is the total investment made for O&M in the life cycle of these hand pumps. On an average 857 Rs/Pump was the investment for O & M purpose. Only four villages (Out of 21 villages) made investments on O & M during this period. On an average 3000 Rs./ Village was the O & M investment in these four villages.

Table No - 4: Contd..

Sl.	Parameter	Before 2000	After 2000
1	O & M Investments on Hand Pumps	<ul style="list-style-type: none"> • Interestingly, there was no investment on O & M, on dysfunctional Hand Pumps (11 Nos) 	<ul style="list-style-type: none"> • 1.5 Rs/Person was the budget spent on O & M in these villages. • Only one village made investment on dysfunctional hand pumps, during this period.
2	O&M Investments on Open Wells	<ul style="list-style-type: none"> • Rs 28,100 was the total investment on maintenance of 17 wells. This investment is the total investment made for O & M in the life cycle of these wells. • On an average 1653 Rs/Well was the investment for O & M. • Only five villages (out of 17 that have wells) made investments on O & M of open wells. • On an average 5620 Rs./Village was the O&M investment in these five villages. • 6.5 Rs/Person was the budget spent on O&M in these villages for open wells. 	<ul style="list-style-type: none"> • No investments were made on open wells during this phase in any of the sample villages.
3	O&M Investment on Piped Water Supply Schemes	<ul style="list-style-type: none"> • Rs 1201677/- was the total investment on maintenance of 5 Piped Water Supply schemes in five villages. This investment is the total investment made for O & M in the life cycle of these schemes. 	<ul style="list-style-type: none"> • Rs 215448/- was the total investment on maintenance of 5 Piped Water Supply schemes in five villages. This investment is the total investment made for O & M in the life cycle of these schemes.

Table No - 4: Contd....

Sl.	Parameter	Before 2000	After 2000
		<ul style="list-style-type: none"> On an average 240335 Rs/ Scheme was the investment for O & M. Only three villages (out of 15 that have piped water schemes) made investments on O & M. 70 Rs./ Person was the budget spent on O & M in these villages for piped water schemes. 	<ul style="list-style-type: none"> On an average 43090 Rs/ Scheme was the investment for O & M. Only five villages (out of 15 that have piped water schemes) made investments on O & M. 14 Rs/Person was the budget spent on O & M in these villages for piped water schemes.

Table No - 5: : Time Line for Capital Investments on Environmental Sanitation and Hygiene

Sl.	Parameter	Before 2000	After 2000
1	Capital Investment on Drains	<ul style="list-style-type: none"> Rs 1317400/- was the total capital investment for constructing drainage lines in 10 villages. Only 10 villages (out of 21) made capital investments on drainage lines. Remaining 11 villages did not have these facilities. On an average 131740 Rs./ Village was the capital investment in these 10 villages, for drainage lines. 88 Rs/ Person was the budget spent on establishing the drainage lines in these 10 villages. 	<ul style="list-style-type: none"> Rs 2829170/- was the total capital investment for constructing drainage lines in 9 villages. 12 villages (out of 21 villages) made capital investments on drainage lines. Remaining nine villages did not have these facilities. On an average 235764 Rs./ Village was the capital investment in these 12 villages, for drainage lines. 133 Rs/ Person was the budget spent on establishing the drainage lines in these 12 villages.

Table No - 5: contd...

Sl.	Parameter	Before 2000	After 2000
2	Capital Investment on Individual Sanitary Latrines (ISL)	<ul style="list-style-type: none"> Rs 813800/- was the total investment made on individual sanitary latrines in four villages. On an average 203450 Rs/ Village was the investment on individual sanitary latrines in these villages. Only Four villages (out of 21) made investments on ISL. 63 Rs/ Person was the budget spent on establishing ISL (Considering the total population of these four villages). 	<ul style="list-style-type: none"> Rs 263100/- was the total investment made on individual sanitary latrines in seven villages. On an average 37586 Rs/ Village was the investment on individual sanitary latrines in these villages. Only seven villages (out of 21) made investments on ISL. 14 Rs/ Person was the budget spent on establishing ISL (Considering the total population of these seven villages).
3	Capital Investment on Public Toilets	<ul style="list-style-type: none"> Rs 147150/- was the total investment on public toilets in four villages. On an average 36788 Rs/ Unit/ Village was the capital investment for creating public toilets. Only four villages (out of 21) made investments on public toilets. 11 Rs/ Person was the capital expenditure for creating public toilets in these four villages. 	<ul style="list-style-type: none"> Rs 558150/- was the total investment on public toilets in two villages. On an average 279075 Rs/ Unit/ Village was the capital investment for creating public toilets. Only two villages (out of 21) made investments on public toilets. 269 Rs/ Person was the capital expenditure for creating public toilets in these two villages.

Table No 6: Total and Average Investments on Drinking Water and Sanitation Facilities in Selected Villages

Sl. No.	Item	Category	No of Villages for which data is available related to this facility and/or this facility exists	No of Villages for which the data is not available for this facility and/or this facility does not exist	Total No of Villages.	Total Investment made so far in the relevant villages	Average Investments made so far per Village
1	Hand Pumps	Capital	18	3	21	2582350	143464
		O & M	9	12	21	151950	16883
2	Open Wells	Capital	15	6	21	466400	31093
		O & M	5	16	21	28100	5620
3	Piped Water Supply Schemes	Capital	18	3	21	12931500	718417
		O & M	9	12	21	3919625	435514
4	Public Latrines	Capital	4	17	21	144050	36013
		O & M	0	21	21	0	0
5	Private Latrines	Capital	7	14	21	347850	49693
		O & M	0	21	21	0	0
6	Drainage Lines	Capital	13	8	21	3108317	239101
		O & M	2	19	21	34000	17000

Towards Understanding WASH Costs from Community’s Perspective- Some Lessons from Field Work:

The field work and case studies of various villages gave useful insights into the process of estimating costs of WASH services and understanding of communities on this theme. Some of these insights also provided useful lessons for developing methodologies for estimating various dimensions of costs of WASH services.

Sources and Reliability of Data: The interactions with community on the physical infrastructure (time lines and investments) gave a broad direction of the issues. If right persons are not part of these interactions, relevant and reliable data may not be available (particularly financial investment related data). It is important to interact with village level functionaries such as President/ Sarpanch; Village Secretary; committee members who are active in WASH sector. If this data is not obtained from these functionaries/

local records, the community level data cannot be verified. The RWSS Department maintains data bases at local level on various types of capital investments made. It is important to cross check the data available from village/ communities with the data from these formal sources. This triangulation of data requires formal involvement of RWSS Department. However, it is also important to get the “perceptions” of the local communities (village leaders; users of various facilities; promoters; excluded communities) on various dimensions of WASH services. This “data” is not generally available from the formal sources. So a combination of data sources (formal and community based) is important for understanding the costs of providing WASH services.

Maintenance and Operation Related Costs: The data on this agenda is fairly weak at community level and also from the department. The nitty-gritty of the maintenance is lost due to the poor quality of data on this agenda. The local institutions have limited information on maintenance. There are several informal processes and costs that are incurred in maintaining the facilities. However, these are not well documented in most of the cases. It is important to evolve and fine tune participatory tools to throw light on these processes and derive costs of maintenance of these facilities.

Process of Enquiry: The WASH services change with the level (Community to House Hold to Personal), depending on the local dynamics and role of individuals at each level. Each level has the potential to generate considerable “data” on WASH service’s related costs. This process of enquiry requires considerable facilitation skills, conceptual understanding and documentation abilities. It is also important to develop methods for generating, consolidating and analyzing the data on such issues.

ACCESS RELATED CONCERNS

Rapid Assessment of WASH service delivery clearly indicated that the coverage of habitations (by provision of necessary facilities by RWSS department) does not mean that all families in the habitation are accessing the WASH services. Some of the factors that enhance the gap in accessibility and use of WASH services are indicated in the following statements. Each statement gives a particular situation, which highlights a particular dimension of WASH service provision. In retrospect, all these factors may seem to be fairly familiar. However, familiarity breeds indifference to such issues. Indifference can negate the very existence of these factors and issues. The real challenge for WASHCost project is to integrate these hidden concerns. There were several little untold but obvious points which came out during the mapping sessions, focused group discussions and the process of lifecycle analysis. Some of the problems were unique to a village and some common to all. Some of the statements that emerged are as follows:

Access Related Issues - Drinking Water Facilities

- Several of the hand pumps yield fluoride contaminated water. The officials say that the people know the difference and avoid them. However, women say they use water from all the hand pumps. (Vattipally)
- Several areas where the water is fluoride contaminated receive water through Multi Village Schemes (MVS) as a solution to the problem. However, due to regular power failure they are forced to draw fluoride contaminated water from the hand pumps. (Vattipally)
- The poorer section of the village lives at a distance from the main village. They have to walk long distances on an undulating terrain to collect water from a hand pump. Since the distance to the MVS stand post is further away they avoid it altogether. (Vattipally)
- Majority of the families that belong to higher income group, who can afford, have direct connection to their homes or very conveniently the public post is located just near their home. (Peddadevulappali)
- During the rainy season the problem of industrial contamination increases as the water from the sewers mixes with the well water. (Peddadevulappali)
- Safe drinking water is provided at the rate of Rs. 2 per 12 liters of water. (Jakkaram)
- Even though the fee is nominal there are still several people who can't afford it regularly. They are from the Backward Caste (BC) and a few from Other Caste (OC) and Schedule Caste (SC). They collect water from the public drinking water post. (Jakkaram)
- In the rainy season the quality of water deteriorates. (Bondada)
- Some sections of the village said that "out of 15 hand pumps drinking water from 5 pumps is not good" while some questioned "Water is not in good condition, why do they sanction so many hand pumps?" (Dhonubai & Sarangi)
- Out of despair and due to delays by the Panchayat in repairing the hand pumps, families within the neighborhood had to repair them with their own contribution. (Dhonubai & Sarangi)
- Due to limited number of functional hand pumps/ drinking water sources disputes often break out while collecting water. (Dhonubai & Sarangi)
- The access to water at schools is also an issue. As the school has a single room, children are frequently affected by common diseases. The school also doesn't have basic needs, such as drinking water, toilets and other facilities. (Dhonubai & Sarangi)

- The families belonging to Scheduled Tribe said that they had to pay money (Rs.200 per each family) for the extension of water connection to their area. None of the families in the main village had to pay money for this purpose and they opined that the Panchayat installed the connection. (Budulapur)
- Some of the women who work as labourers said: “when more water is required we collect it from the nearest hand pump. But the water from these hand pumps is brown and murky.” (Budulapur)
- “9 borewells were dug in this area but are of no use as all of them failed. The only source of water is the well that is at a distance and the water that is occasionally provided at the common taps.” (Budulapur)
- The families living at the further end of the village have to travel longer distances to collect water from the well. In several homes one of the major chore of the girl child is to collect water either form the tap or the well. (Budulapur)
- One of the women commented: “The hand pumps are just namesake and the water is salty. The water from the tank is sufficient but some times it has worms as the tank is not frequently washed. Water is available from the taps when there is power. When there is no power we have to use the hand pumps. I don't mind paying extra Rs. 10 if the water is provided regularly.” (Ibrahimpur)
- “Only when there is power the single tap in the village provides water. Obviously, there are fights over water.” (a woman from Dadithanda)
- People of Saduvandlapalli are still dependent on hand pumps for drinking water. As the tank is never cleaned nor bleaching powder added this water is used for other requirements.

Access Related Issues – Sanitation Facilities

Where open defecation is part of normal life and not given a second thought, discussion on the subject is a challenge. People don't refer to this as their priority. Of late the government is promoting construction of toilets and drainage lines with provision of subsidies and incentives (Under Total Sanitation Campaign and other schemes). Further, as the population is increasing, absence of open land for defecation, lack of privacy for women, discomfort and so on are coming into focus.

- A woman said “The drains constructed are of no use. The drains get clogged and give out putrid odour. Due to lack of proper drains we are not able to construct toilets.” (Ibrahimpur)
- For regular use of toilets water should be available. There is no guarantee that water would be available every day. (Ibrahimpur)

- Several of the women said that due to lack of space near their homes it is not possible for them to construct a toilet even if subsidy is provided. (Budulapur)
- An old woman stated: “We have toilets, but they are not used.” (Sarangi)
- Some said: “there are no awareness programs on health and hygiene in the village and villagers do not necessarily link the toilets with health.” (Sarangi)
- Gangadevalapally has achieved Open Defecation Free status. This was possible due to the decision of the Panchayat that “every person should use individual latrines and not defecate outside.”
- The villagers of Peddadevulapalli agree that they are facing several problems due to open defecation. However, there are no adequate facilities for maintaining sanitation in the village and people still prefer open defecation.
- Due to haste in implementation of subsidy programme several (nearly 150 Nos.) toilets were constructed. However, only 20 remain today. (Kalasamudram)

A WINDOW TO THE WORLD

These case studies are like a window to the world outside. They bring glimpses of the reality in rural areas with all its complexities and simplicities. They project various dimensions of access, control, availability and non-availability of WASH services and of lives of rural communities.

Case Study No. 1

By the rule.....

Name of the Village: Gangadevipally ¹

District: Warangal

In village after village water is scored higher by the people when compared to sanitation and hygiene. Sanitation and Hygiene is the last thing on the minds of the people in several villages as they had to strive hard even for basic amenities such as water and food. However, there are some villages that have taken up the issues of sanitation and hygiene and worked on them. One such village is Gangadevipally of Gesugonda mandal in the district of Warangal. The village presently has a population of 1270 with 367 families. The village has 16 committees overseeing all the activities in the village.

¹ For further information regarding the village you can visit their website <http://www.gangadevipally.org>

Initially several households in the village had their own well from which they would draw water. However, due to increased extraction, and resulting decrease in the groundwater level all the wells, except one, went dry. And everyone had to collect water from this one well, which resulted in water shortage.

When Mr. K. Rajmouli (present Sarpanch) went to the neighboring village for the water tank inauguration, he came to know that it was contribution to the village from "Bala Vikas" organisation. On further enquiry he found out that the organisation would implement such activities even in his village provided they contribute 15% of the amount. This news was shared with the villagers and they agreed to contribute the 15% for the construction of a water tank in their village.

Water rules:

Once the decision was made they formed a committee and appointed a leader. To get the 15% contribution they collected Rs. 500/- from each of the 160 families. Apart from this several people came forward to help in the construction of the water tank and then pipeline system. The construction of the 90,000 liter capacity tank was completed in 1993 costing a total amount of Rs. 4,50,000/-. The tank motor and the pipelines were contributed by the "Bala Vikas" Organisation. After the construction of the tank they organized an awareness campaign to promote the culture of private taps. An amount of Rs. 1000 was charged for installation of one private tap connection. 85 homes applied for private taps and an amount of Rs. 53,000² was collected. Apart from the initial installment the house holds also have to pay a monthly maintenance fee of Rs. 30.

In order to meet the increased requirements of water with the increased population the village decided to construct another Water Tank with the support of Bala Vikas Organisation in the year 1998. The total amount spent for the construction of the second tank was Rs. 500,000 out of which 15% was contributed by the villagers. This time the deposit for private taps was Rs. 6000 along with a monthly maintenance fee of Rs. 30. The water was initially supplied thrice a day. However due to inefficient use this supply was reduced to once a day from 6 am to 9 am. During summer season when the requirement for water is more the water is released twice a day. At present there are 201 functioning private tap connections and 14 public taps.

² Since several who applied for the private taps were below the poverty line and could not pay that amount in cash they compensated that amount by contributing the equivalent time and labour for the construction.

For efficient collection of maintenance fee 18 groups were appointed with each group being given responsibility for a particular area of the village. As a result there is high transparency in contributions; each and every household knows how much the other families contributed. Awareness campaigns were conducted on water usage and drinking water.

For the proper functioning of these systems and to see that no one misuses the water that is being supplied several levies were imposed on each of the tap owners. If the households have guests/ relatives visiting them they have to pay an extra amount of Rs. 50 per month. Each private tap owner is responsible to see that no weeds or plants grow around the tap and that the area around it is kept clean. Otherwise a fine would be imposed.

When the villagers realized that their water has excess fluorine they suggested construction of a defluoridation plant for which they again received the support of Bala Vikas with the 15 % contribution from the people. The total cost of the plant was Rs. 400,000 and the contribution from the villagers was Rs. 50,000. However, looking at the enthusiasm of the village this amount was returned, which was used for developmental activities of the village.

The maintenance and operation of the plant is taken care by Bala Vikas. The operation is such that each family is provided with two cans (12 liter cans) of water per day and for which each family pays a monthly sum of Rs. 60. In case a family requires extra water it can pay an extra amount of Rs. 2 and buy a can of water.

Open Defecation Fee

The village water committee has taken extra care and conducted sanitation and hygiene awareness programs so as to increase the use of individual latrines among the villagers. The Panchayat took a decision that 'every person should use individual latrines, bathrooms and not defecate outside.' This was implemented in the village with strict rules and heavy fines against open defecation. One of the measures is cutting off water supply to that individual and if they want it back they will have to pay the whole deposit sum of Rs. 6000. Every home now has its own Individual sanitary latrine. The vigilance committee collect Rs. 500/- as fine / penalty for mis-using of ISL. Now everyone uses the latrines. This is partly because it has become a habit and also because no one want to pay such fines. Today there are 248 individual and public latrines in the village. The villagers feel that with regular water supply they are able to follow sanitation systems.

Personal hygiene has also become a habit. The water they drink is pure and treated water. To keep the village clean and green each home is given a plant. It is must for each

house hold to take care of the plant, otherwise fines will be levied. Some may think that such rules and regulations are really harsh but several also find it necessary for the well being and development of the village.

The drainage outlets of all households in the village are connected to the drainage lines. All drains are connected to the main drainage. Gram Panchayat maintains the drainage system. Cleaning of drains is done on weekly basis. The village got Nirmal Gram Puraskar Award in 2004.

Value matters:

- Time and energy is saved as water is readily available, paving way for further development.
- As water is available it makes following sanitation and hygiene practices much easier.
- The schools of the village are also taking extra measures to inculcate healthy hygienic practices among the children.
- When high amount is collected people expect better service. As a result the committees are effective in providing good service.

Case Study No. 2

Wash services by Grama Vikas Committee

Name of the Village: Jakkaram

District: West Godavari

Jakkaram is one of the villages, where WASH Services were jointly facilitated by Gram Panchayat; Grama Vikas Committee and Byrraju Foundation. Now, households in Jakkaram Gram Panchayat are getting purified water for drinking purpose from the Non R.O. System. The water is being treated using the Ultra Violet Technology in the Non R.O. system. The Grama Panchayat provides water through OHSR to all households either through private tap connection and/ or public tap connection. It is also promoting dustbins for safe disposal of household solid waste. The appointed scavenger not only cleans the roads but also cleans the dustbins on regular basis. The solid waste is being safely disposed outside the village. A series of awareness programmes in the village were conducted on safe disposal of solid waste material as well as usage of toilets. The villagers have very good water, sanitation and hygiene facilities and they are following good hygiene practices in the village. Grama Panchayat Jakkaram received Nirmal Gram Puraskar award on December 8, 2008 for efficiently providing and maintaining WASH

Services in the village. The process of WASH services provided in Jakkaram Gram Panchayat jointly by Gram Panchayat and Byrraju Foundation is as follows:

Drinking Water System

Initially, the households living in Jakkaram were dependent on five tanks for drinking and domestic use. One tank, located in the middle of the village, was totally dedicated for drinking purpose only. Generally women carry the water from this tank for their household purpose. However, rich families hire watermen to fetch drinking water for them. At that time five open wells were dug out by individuals for domestic purpose in the village. The adjoining households/ families used to draw water from these wells. The quality of water degraded over a period of time and became salty. Hence none of the households were using the water from these open wells. Again the households started depending on tanks for water. But, in rainy season the tank water gets contaminated because of floods.

In 1998, Gram Panchayat constructed Over Head Tank (OHT) with a capacity of 40,000 liters along with one sump with 40,000 liters capacity; one water filter bed of 50,000

liters capacity and two water filters with 25,000 liters capacity each. The OHT and Water Filters were constructed very near to the tank that was used for the drinking purpose. A pipeline was laid from canal to tank for filling

Profile of Jakkaram	
Population	2014
Households (Nos) (SC=50; BC=250; BC@=150; OC=200)	650
Area (in acres)	657.69
Wards	10
Primary Schools	2
PHC	1



Fig-1: Sarpanch receiving Nirmal Puraskar Award

the tank with water during summer. The water from the tank used to be first filtered in filter beds and then lifted to OHT. From the OHT, the water is distributed to all parts of the village through pipelines. For construction of OHT, GLSR(s) and laying of pipeline Gram Panchayat mobilized Rs. 20 lakhs of funds from Accelerated

Water Supply Scheme (ARWSS) of Rural Water Supply and Sanitation (RWSS) Department in 1998.

The distribution pipeline system was laid in the village with 207 private tap connections and 18 public stand posts. The majority of the households accessing from public stand posts are from the Backward Caste (BC) and a few people from Other Caste (OC) and Schedule Caste (SC). The households receive water from these taps twice a day i.e., in the morning at 7 am and in the evening at 4 pm. Rs.1500/- was the initial deposit for getting household connection and Rs.10/- was fixed as water tax per family/ month in 1998. Now, this has been revised to Rs.2100/- and Rs.30/-, respectively.

The entire system is being maintained and operated by obtaining funds from different sources such as MP Funds, MLA Funds, Collectors Special Funds, Housing Funds, Swajaladhara Funds, calamities funds and the revenue generated through house tax, water tax, lands etc. Under O & M, the following expenditure is incurred: payment of salaries, repairs of pipeline, motor and starter repairs, water treatment materials, generator

Cost of Infrastructure established in 1998	
OHT	Rs. 5 lakh
Pump house	Rs. 1 lakh
3 nos., of motors with 7.5 hp	Rs. 1 lakh
Electricity connection	Rs. 1 lakh
Supply pipelines for 3.5 km	Rs. 2 lakh
Filter beds	Rs. 5 lakh
Sump (GSLR)	Rs. 5 lakh

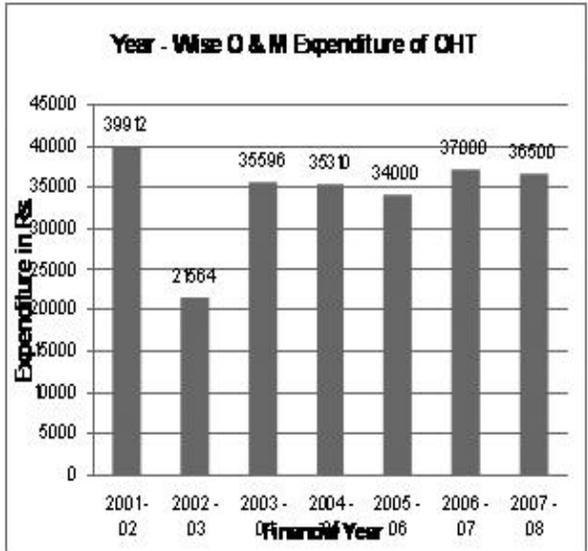


Fig-2 Lifting water from Surface Tank to Overhead Tank

maintenance etc. The engineers of RWS are providing continued support in managing the O and M of OHT system by preparing estimations, timely addressing of complaints, etc.



Fig-3: Gram Sabha

Facilitation of WASH Services in Jakkaram jointly by Gram Panchayat and Byrraju Foundation

Byrraju Foundation adopted Jakkaram village on August 15, 2002. As per the norms of Byrraju Foundation, the Grama Vikas Committee was formed with 18 members from local village leaders. At the same time, Byrraju Foundation conducted a study to understand the situation of water, sanitation, hygiene, etc. This study revealed that the water used for drinking purpose was un-safe and that majority of the people were suffering from water born diseases; etc. Initially, Byrraju Foundation promoted a medical health center and provided services on collection of nominal fee. Later it provided infrastructure facilities like computers, printers, TV, etc. to the local schools. The organization has taken up awareness programmes on water, sanitation and hygiene aspects among the community. It also promoted the water purification plant for providing safe drinking water in the village with the support of Gram Panchayat.

Grama Vikas Committee formed according to the norms of Byrraju Foundation meets once in every month for reviewing the WASH services and to provide necessary support to gram panchayat in efficient delivery of these services. The Grama Vikas Committee functions as per the guidelines of Byrraju Foundation. The following are the

Monthly Income and Expenditure of Water Purification Plant

Particulars	Amount	Particulars	Amount
Sale of Water	12,000	Salaries of two staff	4500
		Filters	1200
		Electricity
Total	12,000	Total	6,000
		Profit	6,000

interventions undertaken on water, sanitation and hygiene aspects jointly by Byrraju Foundation; Grama Vikas Committee and Gram Panchayat.

Supply of Purified Water

Medical Health Center found that the majority of the diseases were due to consumption of contaminated water. Hence the members of Grama Vikas Committee and Gram Panchayat approached Byrraju Foundation for providing treated drinking water to the people in the village. The Byrraju Foundation suggested that the households

should contribute either in kind and/ or cash for sustaining involvement and interest of people and local self governance institutions in establishment of water purification plant in their village.

The Grama Vikas Committee took the lead role and collected the contributions from households. The Gram Panchayat gave place for construction of plant and also orally agreed to pay the electricity charges. Thus, the water purification plant was added to the existing system of water supply in the village on May 11, 2007. Water purification plant takes water from GLSR(s); purifies the water through ultra violet technology in NRO system and supplies the same in 12 liter cans. Households, that can afford, are paying Rs.2/- for 12 liters can and using this water only for drinking purpose. This purified water is also being door delivered at the rate of Rs.2.50 per 12 liters can.

The water purification plant is being jointly maintained by the Byrraju Foundation and the Grama Vikas Committee. Byrraju Foundation contributes an amount of Rs.15,000/- per month for operating and maintaining of water purification plant. So far, there are two major incidents related to maintenance of these facilities - the electrical motor (1 hp capacity) got burnt three times and the sintex water tank (3000 liters capacity) got broken. Initially, the demand for water was only 360 liters / day. Presently, the demand reached to 4000 liters / month in summer (from hospitals and neighboring villages) and 2000 liters / month in non-summer (from schools, hospitals and households). The



Fig-4: Awareness Programmes on Sanitation

Cost Sharing in Establishment of Plant	
Byrraju foundation	Rs. 2.5 lakh
Peoples contribution	Rs. 6.0 lakh
Gram Panchayat allotted land for plant	

plant can produce 1000 liters / hour and the production cost is only 7 paisa/ liter. The staff appointed for operation and maintenance of the plant are educating the community through door to door campaigns and conducting area wise meetings on safe potable water.

Additional Infrastructure and Expansion

Additional pipeline was laid for 5 kms in 2005 with a cost of Rs.5 lakhs from MP Lads funds for covering additional area. For providing water continuously even in the summer, Gram Panchayat constructed pump house at Bondada canal and installed electrical motor. An 800 mts pipeline was laid from Bondada canal to water tank for lifting the water.

Gram Panchayat mobilized Rs.4.5 lakhs of funds from Collector's special fund. A 10 HP capacity AC Generator was also purchased with the corpus funds of gram panchayat for overcoming the electricity supply problems in providing water continuously. In Magadandi SC colony, which is part of Jakkaram Gram Panchayat, about 20 houses were constructed under Indiramma Housing Scheme. These houses do not have water facility. Hence, pipeline was laid to Magadandi for providing water by maintaining equal pressure. For laying this pipeline Grama Panchayat mobilized funds from RWS (Rs.2.5 lakhs) and Indiramma Housing Scheme (Rs.2.5 Lakhs). Thus they reached to 204 household connections and 18 public stand posts, covering the entire Gram Panchayat.



Fig-5: Awareness Programmes on Sanitation



Fig-6: Construction of ISLs with support of Panchayat and Byrraju foundation

REFLECTIONS

Accessibility: Households are accessing water through OHT for domestic use. About 210 households are having connections; and the rest of the households are fetching water from 18 Public Stand Posts. Moreover, a few households are accessing purified water made available at affordable price from the treatment plant jointly established by Byrraju Foundation and Gram Panchayat.

Quantity and Quality: The water from tank is being filtered using filter beds and then distributed through OHT system. The water is being supplied to households twice in a day through OHT for more than one hour each time. In addition; Byrraju Foundation has door delivery system for supplying the purified water at the rate of Rs.2.50 for 12 liters can. However, the households also can access water from plant. The treatment plant frequently checks the water quality that is provided through OHT and treatment plant and takes precautionary measures.

Strain on Women: Before construction of OHT system, women used to carry water in pots for household purpose by spending more than three hours in a day. Now they are getting piped water. Hence strain on women is negligible.

Complaint Redressal: Appointed qualified and trained persons for operating OHT System. Households make complaints to this operator whenever households find damages/leakages. These complaints would be addressed in couple of hours by the technician.

Sustainability Measures: Following measures are taken up for sustainability: (1) Collecting Rs.30/- per month as water charge from each household having connections. (2) Households can get connections by depositing Rs.2100/-. (3) Books of accounts are maintained for the maintenance of OHT systems, and (4) Planning for de-siltation of tank.

Local Leadership: Grama Vikas Committee (GVS) formed with 18 members (15 men and 3 women) and Village Organization (VO), (formed with members of 30 self help groups) are playing lead role in addressing the village level problems. VO and GVS also played the role of monitoring committee in controlling open defecation in the village. The rest of the local leaders support this committee.

Situation of Sanitation and Hygiene

The situation of Sanitation and Hygiene was like many other coastal villages in Jakkaram:

- open defecation was the predominant practice followed by households;
- no system for collection and disposal of household waste (solid material); and
- the villagers were suffering from water born and endemic diseases.

This situation continued for quite some time.

Improvement of Sanitation and Hygiene

Initially, Grama Panchayat constructed forty individual

sanitary latrines. Over a period of time, ISLs were given by Grama Panchayat for 100 families that could afford sanitary latrines in their premises. In order to minimize the problem of open defecation, the gram panchayat supported 221 households under ISL and TSC (Total Sanitation Campaign) schemes. In this process, Byrraju Foundation also supported 200 households with Rs.500/- for construction of Individual Sanitary Latrines. Thus sanitary facilities i.e., toilets were provided to all households in Jakkaram. The community has been enlightened by Byrraju Foundation and Gram Panchayat on usage of ISL(s), safe disposal of solid household waste, hygiene etc through location wise meetings and door to door campaigns. The Village Organization (federation of women self help groups) and Gram Vikas Committee played the major role by acting as a monitoring committee in controlling the open defecation.

Two households couldn't afford money for construction of latrines even with the support of Byrraju Foundation and Gram Panchayat. The representatives of Village Organization, Gram Vikas Committee and Gram Panchayat warned them on open defecation and suggested that they take up construction of ISLs. But these households did not comply.



Fig-7: Safe Disposal of Garbage



Fig-8: Children in Awareness Programmes

Then the representatives of Gram Panchayat and Gram Vikas Committee approached the local police to which they responded positively. The local police visited these households and suggested them to cooperate with gram panchayat in village development. They were warned by the police that if they do not cooperate with gram panchayat and defecate openly that a police case would be booked against them. Then the households stopped open defecation and used neighbours toilets. Now, they are planning to construct toilets in their houses either with the support of gram panchayat and/ or Byrraju Foundation. The gram panchayat is also planning to construct the public toilets in this location for the benefit of these families.

Meanwhile, four **drains** were constructed with the funds of state finance commission and eleventh and twelfth finance commission. All these four drains have a common outlet because these drains are built in a network mode. As a result of this arrangement, the waste water in these drainage lines reaches a common point in the village. The Gram Panchayat appointed two persons (one man and one woman) for cleaning the drains on weekly basis. The sweepers of Gram Panchayat apply bleaching powder and also spray insecticides in drains for preventing mosquito breeding and minimizing the endemic diseases in the rainy season. These drains are important contributing factors for maintaining the cleanliness and health standards in the village. The staff appointed for cleaning the drains also collects the **household solid waste** and disposes it safely on regular basis.

Due to the increased awareness about healthy habits and cleanliness everyone is conscious of the practices that go into keeping up **personal hygiene** such as washing their hands before eating and after defecation, wearing slippers when they go outside or to the bathroom, cleaning their homes and bathrooms with disinfectant regularly. This awareness about healthy habits and cleanliness is being imparted through the schools also.

Conclusions

It could be concluded that initially Grama Panchayat provided poor quality WASH Services due to lack of awareness. But the partnership of Community in the form of Grama Vikas Committee, Grama Panchayat and Byrraju Foundation (NGO) paved the way for providing the improved quality of WASH service in Jakkaram Village. The trainings organized by Byrraju Foundation motivated the community as well as the representatives of Gram Panchayat in making available purified water for lowest price; providing clean water through OHSR; following safe disposal of solid waste and waste water; adopting best hygiene practices; promotion of greenery; optimal utilization of funds; etc. in the village. Due to the continuous trainings, community including children gained knowledge on various themes and this in turn helped the gram panchayat for

maintaining perfect sanitary and hygiene conditions in the village. The villagers also witnessed that the intensity of water born and endemic diseases such as cold, cough, headache, fever etc decreased due to purified water. At the same time, there are few households from SC and BC communities which can't afford buying purified drinking water on a regular basis. Hence they are collecting water from the public stand post, which needs to be addressed. From, this case history, one could learn that how the private and public partnership helps in getting improved quality WASH services. This resulted in the village getting the Nirmal Gram Puraskar Award.

Case Study No. 3

Woes of water

Name of the Village: Vattipally

District: Nalgonda

Andhra Pradesh ranks second in the Indian states with area affected by fluoride poisoning. About 50% of the area is affected by some form of fluoride poisoning³. Nalgonda is one of the poorest and most drought-prone districts of Andhra Pradesh. It is also one of the districts that suffers from high fluorine content in the water. The groundwater has 10 to 12 parts per million (ppm) of fluoride in contrast to a maximum permitted level of 1.5 ppm.

The village of Vattipally near Mariguda is one such example. In this village the fluorine level varies from 4-9 ppm. All the 15 hand pumps in the village yield only fluoride contaminated water. Due to this nearly 600 people are suffering from acute problems, ranging from mild disablement to total disability. Every villager invariably carries the signature mark of dental fluorosis.

To tackle this problem, in the year 2000, concerned citizens of Mariguda mandal formed an organisation called Fluorosis Vimukthi Porata Samithi (Struggle for Liberation from Fluorosis). They first submitted an appeal to the High Court, which led to a survey of the water in Nalgonda by the Health department officials. After this survey the level of fluorine was quantified along with the number of people affected by fluorosis in the district of Nalgonda.

The village of Vattipally previously was under the No Safe Source (NSS) category and

³ Kumar, Vinod and Singh, Bhupinder, 2007: "Fluoride in Drinking Water and Fluorosis" ECO services International.

they receive water from Multi Village Source (MVS) under the Krishna Water Supply Scheme. This scheme was initiated in the year 2006. Prior to this they had to buy water (supposedly of a better quality) from the neighboring village at the rate of Rs. 5 per pot of water (of about 20 liters). However, only comparatively well off families could afford this, the rest adjusted with whatever quality of water that was available.

Out of the earlier attempts of providing safe water, some failed while some are still functional. In the year 2001 a scheme for domestic filter was introduced which used active alumina candle sticks for defluoridation of water at household level. However, this scheme did not prove to be viable. The candle sticks of these domestic filters had to be cleaned and changed once in every 15 days, which was not done regularly.

In the year 2002 with the requisition from the Fluorosis Vimukthi Porata Samithi, Sri Rama Trust constructed a defluoridation plant (capacity of about 2500 liters of water per hour) and a over head tank of 2000 litres capacity in the village that provides free and safe drinking water for all (twice in the day - in the morning and evening). The land for the construction of this plant was donated by one of the villagers. The neighboring villagers also collect water from this plant. The operation and maintenance of this plant is under taken by the Sri Rama Trust.

To drink or not to drink ...

The village has 15 functional hand pumps, which are used only for washing and for the animals. Out of these 15 hand pumps six were installed in the Schedule Caste (SC) colony and are being used exclusively by these people. Water from most of these hand pumps contains very high levels of fluorine. The women complained that the water in the wells and hand pumps is not good for health. They get headaches and after prolonged use "legs and hands won't work and we can't walk freely."

The costs for the hand pumps and the wells along with the maintenance are borne by the Panchayat. The community does not contribute or pay any taxes for the water collected. As there is no reliable water source, several tanks were constructed for storage. After the implementation of MVS scheme most of the tanks are connected to the MVS pipeline.

The pipeline from the MVS scheme is connected to 4 reservoirs (storage tanks). Each tank has 4 taps and another 2 taps are directly connected to the pipeline. The reservoirs are of varying capacity. The largest reservoir is of 60,000 liters. There is a stand post near the School that receives water form the MVS scheme. There is also an electric bore well connected to one of the larger tanks from where water can be collected. The water from the MVS is provided for one hour every morning (7:00 am to 8:00 am) and

evening (from 4-5 pm). However, this is dependent on the availability of electricity. If there is no power then there is no water and they have to depend on hand pumps and wells. The women said that they daily require a minimum of 4 pots of water for drinking and cooking purpose of the family and about 30-40 pots for washing, bathing, etc. The requirement of drinking water is higher in case of farmers as they have animals as well. The drinking water is also provided by the Sri Rama Defluoridation Unit. People collect water from the unit.

The public taps from MVS are centrally located and there are no private connections. There are no complaints from the women as there is enough water. They also hope that the younger children will be healthier due to the availability of better drinking water and will not carry the mark of dental Fluorosis.

The drainage issue

In the village 3 drains were constructed (in 1988, 1997 and 2000). According to the community members the drains are all clogged and require cleaning to be effective. There is no one to clean the drains. The Sarpanch says that the drains are functional. However, the wastewater gets accumulated near the garbage dump.

Approximately 10% (about 40 households) of the population has individual latrines. These were constructed mostly during the Telugu Desam government when a subsidy of Rs. 750 along with 2 bags of rice was provided. Some of them were constructed under the Janma Bhoomi scheme implemented during that time. Due to lack of awareness some of the latrines constructed are not put to use. To a large extent, open defecation is still being practiced. When going out for defecation the villagers wear slippers and occasionally wash their hands.

Value matters

- In terms of health they had to pay a large price as several people became crippled due to prolonged consumption of water with high level of fluorine.
- One woman severely affected by flourosis has taken courage and contested an election.

Case Study No. 4

Dare to Breathe.....

Name of the Village: Peddadevulapalli

District: Nalgonda

Some of the problem habitats in Andhra Pradesh are also due to the pollution caused by Industries that exist in their neighborhood. One such witness to pollution caused by industry is a village called Peddadevulapalli of Tripuraram Mandal in Nalgonda District. Though several claim that factory has nothing to do with the water in the village, the people of the village beg to differ in this context. At present Peddadevulapalli is fairly big with about 1400 families.

At a distance of about half a kilometer to Peddadevulapalli there is a pharmaceutical factory. The factory was constructed in the year 1985 and since then has provided employment to nearly 50% (approximately 1500-2000) of the village population. About 70% of the population is indirectly benefiting from the presence of the Pharmaceutical factory. Since the establishment, there has been a considerable influx into the village of people working at the factory.

Peddadevulapalli village had 5 wells, which were dug in the year 1940. These wells were a good source of water to the village for about 40 years. In the recent years about 9 bore wells were added as a resource base for water. Everything was fine in the village until the factory began in 1985. Within 3 to 4 years all the water in the wells and bore wells got polluted with the effluents from the factory.

Protesting this defilement of water, people of the village demanded safe drinking water. As a result nearly 50% of the village was employed in the factory and pipeline for safe water was provided. This supplies water for 1 hour in the morning and 1 hour in the evening. Each home has its own private connection for water supply. The source of water is from the Sagar project which is supplied through a GLWST. Apart from the private water connections a well was also dug by the factory. The water from this can be accessed by the people of the village when needed. All these costs were borne by Dr. Reddy's labs and the entire system is also maintained by them.

According to the Sarpanch the village seemed to be epitome of cleanliness with good sanitation. He said: "There is no water problem as the factory has provided drinking water facility to every house. During my tenure they provided Rs. 50,000 for filter bed system. We also don't have any drainage problem."

Apart from the above, the factory also provides for a village development fund of approximately Rs. 600,000⁴/year. However, the details and exact figures of the utilisation of this fund are not known. The villagers say that only a small amount out of this fund is used for village development and the remaining amount is pocketed by the village leaders.

Two sides of a coin...

The villagers, particularly the women, had a different picture to reveal which is in contrast to the one given by the Sarpanch.

During the rainy season the problem is severe as the polluted drain water from the factory contaminates the drinking water and the entire village suffers from a range of diseases. The animals are also at the receiving end, and several die after drinking water from the drain. Another complaint is that when they use well water they get body itches.

Due to the increased information and constant exposure about the effects of polluted water along with increased levels of education most of the villagers are aware that they have to filter/ boil water before consuming it. Several of them filter water regularly and boiling of water is not a general practice.

The effluents from the factory were earlier let out into the open land. Only after several complaints and discussions the effluents are now collected and disposed elsewhere. Whenever a crop fails due to the contaminated water, compensation is paid to the farmer according to the amount earned by the neighboring farm.

The larger problem...:

The villagers said that the drains and sanitation is a larger problem. There are only 4 drains in the village which are not cleaned on a regular basis. There were several instances where people fell down in these drainage lines and got injured. The villagers made several complaints to the authorities regarding this. The officials visited the village 3-4 times but no action was taken. The villagers also pointed out the drainage problem in the market place. The area around the water taps is not cleaned. The tank is also not being cleaned.

During the rainy season water collects everywhere and there is no proper drainage. These puddles become breeding grounds for mosquitoes.

⁴ (Rs. 48= 1\$)

Only 10% of the families have individual latrines. During the Telugu Desam government an amount of Rs. 750 along with 2 kilograms of rice was sanctioned as subsidy for the construction of toilets. Some families constructed toilets under this scheme. However, majority prefer open defecation. There is a realization that this practice is resulting in several problems. Several do not wear slippers while going out for defecation nor wash their hands after defecation.

As several people are now educated they are aware about cleanliness and are practicing personal hygiene to a certain degree. They clean and wash their homes and clothes regularly. As most of the men and women are employed both leave for work and only the aged stay at home to take care of the little ones. Some of the women said that mothers with young babies come to work in the factory with their children and feed them there itself without following hygienic practices.

The villagers stated that the children suffer a lot, particularly due to the fumes and pollutants that come out of the factory. Because of this pollution they are facing a range of problems such as fever, cough, dryness of the throat, headache, heart problem, etc.

These facts and details were revealed through group discussion, PRA methods and conversations. They wanted their problems to be told to the outside world. However, they did not want their names to be mentioned for fear of penalization. They did not want anything written against the factory. The villagers are highly dependant on the factory for the free water supply and the employment. Since their lands are already heavily polluted there is nothing they can do with it.

Value Matters

- The quality of water that they are consuming is questionable resulting in higher medical bills.
- The piped water supply to their door steps is quite regular.
- Water in every bore well and well in a radius of 200 hectares surrounding the village is polluted and not fit for drinking.
- The effluent stream that emerges out of the factory flows into the close by water bodies and low lying areas with obvious results.
- Some years ago about 200 sheep died within a short span of time, another time 3-4 buffaloes died as a result of drinking polluted water. Whenever such an incident occurs they are paid compensation.

- One of the villagers, whose bore well is at a high level and not relatively polluted, is paid Rs. 4000/month by the factory.
- The fumes that come out of the factory several times results in people fainting because of the strong odour. The investigative team which was in the village only for two days felt difficult to cope with the smell.
- The factory intentionally releases a pleasant smelling perfume to mask the smell of the toxic fumes.
- The relatively well off in the village send the pregnant women and little children to another village or their relative's home due to the fear of the impact the pollution might have on the children.

Case Study No. 5

Water from Above

Name of the Village: Bondada

District: West Godavari

Bondada is in Kalla mandal of West Godavari district. This village has a population of about 10,000⁵, with about 1,200 families. The village covers an area of about 1562 acres. The supply and maintenance of the water is done by the gram panchayat.

Water from above

The village has 2 Over Head Storage Reservoirs. One was constructed during 1981-85 with a capacity of 40,000 liters. The cost of this tank was about Rs. 20 lakhs inclusive of the pump house, sump, filter, motor, etc. The funds for this were provided by the RWSS. This tank provides water through a network of pipelines connected to about 200 private taps and 40 public taps. Over the years the village grew and so did the water requirement due to which a second OHSR was constructed in the years 2004-2006. This is of 1,50,000 liters capacity. The second OHSR provides water to 250 private taps and 30 public taps. The cost of the second tank along with 4 kilometer pipeline, 30 public and 250 private taps was Rs. 1,570,000 and was funded by the RWSS under the Swajaldhara programme. Apart from the tank, a sump and additional pipeline, etc. were also constructed with different funds. For getting private connection, the household has to deposit Rs.200/- and pay Rs.30/- per month as water charges.

⁵ Caste wise break up: Schedule Caste-392, Schedule Tribe- 66, Backward Caste and others-9546

The over head storage reservoirs provide treated drinking water regularly to the entire village. The water is supplied twice a day: in the morning at 7:00 am and in the evening at 6:00pm. Apart from the centralized treatment each family treat's water at their homes as well. During the rainy season the villagers take extra care and boil water before consumption.

For the maintenance of the Over Head Storage Reservoirs and pipelines the Gram Panchayat has provided for a senior and a junior fitter, who are paid monthly amount of Rs. 3000 and Rs. 2000, respectively.

Sanitation and Hygiene

The village has 700 Individual Sanitary Latrines (ISL) apart from which there is also a public toilet facility. The school has about 4 bathrooms. One of the school buildings is rented where the owner does not allow the children to use the bathroom. The **ayah** (maid) takes the children out for defecation.

The increased number of ISL is due to the continuous schemes and promotion of the construction of ISL since 1980's in three phases. The first phase of schemes provided Rs. 500 for the construction along with a latrine sheet of Rs. 260 to every beneficiary. In the second phase Rs. 700 was provided to each beneficiary. In the third round the Gram Panchayat is sanctioning Rs. 2,750 to every beneficiary who constructs an ISL. At present, under the Indiramma phase II scheme, 170 ISL's were sanctioned out of which 67 were already constructed and the remaining are under construction.

The village also constructed community latrines with a cost of Rs. 73,000, of which Rs. 43,800 was paid by the Total Sanitation Campaign and the remaining was covered under the seventh finance scheme/ eleventh finance scheme. The cost of construction of the latrines for the school was Rs. 20,000. However, due to lack of awareness, open defecation is still the practice.

The village has no **pucca** (cemented) drains. Drains were dug which collect waste water. Since there is no network of drains several households constructed their own pits for collection of waste water, which are regularly maintained. Gram Panchayat maintains the drains. Public awareness is lacking in the matters of hygiene.

Case Study No. 6

Watershed of Drinking Water

Name of the Village: Nazeerabad Thanda

District: Ranga Reddy

The hamlet of Nazeerabad Thanda is located on solid hard rock and had no luck in tapping groundwater. To provide a solution atleast in the agricultural sector they have taken up several watershed developmental activities. However, drinking water still remains a problem.

The village population predominately belongs to the Schedule tribe. Watershed activities were undertaken in this village since 1995. Under this program they constructed contour bunds on the hill to increase groundwater and also to decrease the land erosion. Several other natural resource management activities were also taken up. The women opined that watershed development works helped in obtaining labour wages and formation of a lake, but there is no change in the water level of the local well.

Water from stone

As the land is rock solid the hand pumps do not work. Testimony to this is the nine dysfunctional hand pumps that were installed. So the next best option for them was a well which is at a distance of about 1 km from the centre of the village. For several women who live on the farther side of the village it is an even more arduous journey to collect water. In each trip they can carry only 2 pots of water⁶, which takes from half an hour to an hour. In spite of knowing that the water is not clean, they are forced to use the same as they do not have any other option. Several people complain of stomach upset after drinking this water.

Apart from the well, the villagers also have both private and public taps of the piped water scheme. There are 60 private taps and 4 public taps. However, irregular power supply and low pressure denies them the convenience of the tap. For those living on the hill slope, water in their "private taps" is no more than a trickle. Most of the water can only be collected from the public taps. Women were concerned about the fights that break out near the public taps. One woman pointed out: "When there is no enough water fight breaks out among those who were waiting and could not collect water." Water that is received from the taps and the wells has to provide for all their requirements

⁶ Each pot of water approximately can hold 15-20 liters of water

(drinking, washing, bathing, etc). Some women complained that they wash their clothes once in 2-3 days. Otherwise they have to go down to the nearby lake for washing.

In the village it is the responsibility of the women to collect water, do domestic chores as well as work in the fields. It takes at least 2-3 hours every morning to collect water

and since the school is very far away, the woman's day begins very early. Again in the evening they have to spend about 2-3 hours to collect the water. Several times children are also involved to collect water.



The village has also employed a person for operating the piped water system. His salary is paid from the water charges collected from the individual house hold connections (Rs. 50 / 6 months).

No water therefore no latrine

Sanitation is not something that everyone is concerned when there is open space all around for open defecation. The number of Individual Latrines in the village is 31. However, they also pointed out that to use the latrine there has to be water.

Hygienic practices such as maintaining a clean home, sweeping it regularly, plastering it at intervals with cow dung paste and maintaining a clean environment around their homes are inculcated since childhood. The children are given first preference in giving bath and providing clean clothes. However, certain hygienic practices such as use of toilets, washing of their hands, wearing slippers when they go out, etc., are not followed.

They have 2 well-constructed drains that are connected to the latrines. Since the village is on a slope the water flows down and the drains are maintained fairly well.

Value matters

- In several of the households the girl child had to give up her education as the chores of the home and water collection were too much for a single person to handle.

Paid work for several women is out of question as they are forever waiting for power so as to rush to the queue to collect water. Thus the household incomes are reduced.

- Fights over water are one of the most common sights, particularly when there is not enough water for all.
- Several of the individual latrines that were constructed are used as storehouses as there is not enough water for their proper usage.
- To collect the water the women have to tread a path on an undulating terrain through the fields, which is not safe, particularly during the evening.
- The water quality is also not good thus contributing to problems such as stomach upset. And when one has an attack of diarrhea, running in and out for open defecation becomes a real problem.

Case Study No. 7

Making Connections

Name of the Village: Sarangi

District: Srikakulam

Sarangi of Seethampet mandal is a small tribal village with a total population of 38 people and 16 families and located on a hill top area since more than 30 years. The terrain of the area is hard rock making it difficult to tap groundwater.

This village has been facing water shortage problems since long. Their source of water has been a distant well constructed on a hill top in the year 1978 with the GDF. Taking a chance at tapping groundwater with the support of Tribal development funds in the year 1992-93 they installed a hand pump, which failed in the beginning itself.

Making connections

Water sources for the village are few and the choice for collection of drinking water is even more restricted. Their drinking water source is a well located near the neighboring village of Mukhoru Naidu Guda, at a distance of 3 kilometers from Sarangi. This well was constructed about 30 years ago by the Girijan Development Fund. The Health department regularly checks the water and treats it with chlorine tablets and bleaching powder. This well provides water to the village of Mukhoru Naidu Guda through a pipeline of 250 meters. Collecting water from this well has been an extremely arduous

journey and task for the women of Sarangi. When Sarangi wished for a pipeline opposition rang up from the village of Mukhoru Naidu Guda fearing their water supply will decrease.

The disheartened people of Sarangi approached a local NGO called ARTIC⁷ which has been working in the area especially on the development of tribal communities by providing training and capacity building for alternative livelihoods and thereby mitigating migration. ARTIC arranged for a discussion between the two villages and after 4 days of discussion the village Mukhoru Naidu Guda agreed to share the well water with Sarangi.

In the year 2008 a 230 meters pipeline was laid from the Mukhoru Naidu Guda to Sarangi with aid from ARTIC. The pipeline works on gravity system and is not dependant on the irregular electricity supply. Through the arrangement of a valve at the well they are able to release water thrice a day (Timings: 6-8 am, 12-2pm, 5-7pm) to the village of Sarangi. The cost of the pipelines and spare parts was Rs.20,000/-. This along with the maintenance is taken care by ARTIC. However, the people of the village contributed in the form of their labour and time for the construction.

The pipeline takes care of their drinking water needs and as for their other water requirement such as for bathing, washing they depend on a near by stream.

Sanitation? Hygiene???

Since there is so much of open land available open defecation is a common practice. There is neither a single public nor individual latrine.

As for cleanliness, such words as hygiene (*parishubrata* in Telugu) are not known and one of the women very innocently said: "We don't know any thing about hygiene." They sweep and clean their homes and wash their clothes regularly. But washing their hands after defecation is something they are still not habituated to.

The children are worried that if they wear slippers and go to school someone will steal them as they are left outside the class. They also complain that their teacher does not come regularly. They have no toilets and the ayah (maid) helps them go outside for defecation.

Value matters

- At the time of the study the area was struck by rampant malaria.

⁷ ARTIC - Appropriate Construction Training and Information Centre.

- The people of the village have now received training and know how to repair hand pumps themselves.
- There are several women's groups that are working actively.
- Lack of proper education is reflected in the ignorance about cleanliness.
- Lack of proper schools/ kindergarten in the area leads to continued lack of awareness on personal hygiene practices in addition to several other issues of development.

Case Study No. 8

Available and yet not available

Name of the Village: Dhonubai

District: Srikakulam

Dhonubai is a comparatively larger village in Seethampet Mandal. It is the gram panchayat's head quarter. When compared to Sarangi this village has several facilities, however, the basic problems are still the same.

In the village about 15 hand pumps were installed; however, only 3-5 of them are functional. With much effort of pumping, a trickle of brown water is what is available. This is the condition of several of the hand pumps that were provided over the years each new one replacing an older one. The quality of this water is also not good and not useful for drinking. Women take their bath and also wash clothes in the nearby stream.

The villagers collect drinking water from the ground level water tank (GLWT), which was constructed under Rakshita water supply plan. The tank has a capacity of 20,000 liters. The water is supplied through a series of public taps. But this is not working as motor and pump sets were not installed. For the inauguration they brought these temporarily from out-side. Sarpanch is a woman, but she is not aware of these issues.

Another source of drinking water is the taps that are present behind the school. The area around these taps has become so dirty that the school authorities are planning to take some action in this regard. There is a hostel that houses several children of the Schedule tribe who come from further interior villages.

One room - several uses

The bathrooms or latrines that were constructed in this area serve multi purposes: as latrines, store rooms, chicken shelter, etc. The reason several gave for the negligence of

these latrines is that they are not used to them. The Gram Panchayat estimates that it has spent up to Rs. 20,000 in subsidies for the construction of these latrines.

The school has latrines attached to it. However during summer vacations several people misuse them and dirty the place. So the school has decided to build a compound wall.

The village has 7 drains. However several of them are not functional and the water seeps into homes. These drains also provide a breeding place for the mosquitoes. Five of the drains run parallel to the road. The villagers voiced out several complaints about the condition of the drains. They are not cleaned and the garbage gets accumulated in them. GP has appointed staff for cleaning of the drains.

Value matters

- The adolescent girls have a hard time particularly during their menstrual period, during which they are treated as outcasts.
- Although there are several hand pumps the effort required to use them is high and the water obtained is not of good quality.
- Open defecation is an old habit and changing is hard unless there is a big push. The shaky infrastructure and non availability of water and latrines is not ideal for the change.
- Personal hygienic habits such as washing of hands after defecation are not taken seriously.

Case Study No. 9

Poor pay more

Name of the Village: Budulapur

District: Ranga Reddy

Budulapur is another village where watershed developmental activities were implemented. The village has 8 hamlets with a total population of 3,500. Budulapur alone has a population of 1,257 belonging to Schedule Caste, Backward Caste, Schedule Tribe, and others.

The village has 2 water tanks, one over head tank with 44 private taps and 17 public taps, 18 hand pumps, 2 jet pumps, and a well. The maintenance of these is under taken by the Gram Panchayat. Women from the poorer sections complained that as they were not getting enough water they put some money together and got a connection nearer to their homes. Five families had to pay Rs. 200 for one connection.

There are 2 water tankers of 30,000 liters and 40,000 liters capacity that supply water to the village. However, the availability of water from these taps is dependant on the electricity supply. Therefore when there is shortage, people shift to collection of water from the local hand pumps. However, the water from the hand pumps in several parts is of really bad quality (the colour of water is brown). This is the water they drink even without simple filtering. The reason they give is "by the end of the day we are too tired so we drink just what is available." Out of the 17 hand pumps that were installed in the village, presently only 5 are functional.

Along with the taps they have a jet pump near the school from where nearly the entire village collects its drinking water. Again this is dependent on the availability of electricity. The well is not in use anymore.

The woes continue

In the village 70 Individual Sanitary Latrines (ISL) were sanctioned out of which 21 were completed and only 13 are in use. The ISL's that were not completed are converted into store rooms or disassembled for construction material for homes. Presently, they receive Rs. 2,500 along with two bags of cement and 150 kilograms of rice for the construction of ISL's. In spite of this several stated that due to the lack of space around their homes they could not construct a toilet.

The villagers also complained that the main tank, which is supposed to supply drinking water, is hardly cleaned, despite the collection of monthly maintenance charges from them (Rs. 15/ HH). The question is, how many house holds pay this amount and how many don't?

There are 3 drains in the village and the women pointed out that they are not cleaned regularly. As a result, the drainage water overflows into the homes at the tail end of the drain. The president of the Self Help Groups in the village said, "The debris removed from the drains is piled next to the drains which ultimately goes back into the drain again."

Personal hygienic practices are followed. Apart from all self help groups in the village there are also groups for young mothers where they are taught how to care for their children. The village anganwadi teacher also facilitates several hygiene awareness campaigns in the village. However, such practices did not fit into the daily life of the poorer sections. They do not even boil or filter water even though they could see that the water is dirty. Their homes are so close together that there is no room to construct individual latrine and hence open defecation is the only option.

Value matters

- The poorer sections of the village pay more in terms of their health and also in terms of the money that they spend for water.
- The constraints of space and resources are something that is preventing them from constructing individual latrines, otherwise they do prefer the privacy.
- The irregularity in cleaning the drains causes accumulation of water in puddles which become breeding grounds for mosquitoes. Lately the villages are suffering from mosquito borne diseases such as Chicken Gunya, and malaria.

Case Study No. 10

When People are not involved

Name of the Village: Kalasamudram

District: Ananthapur

Kalasamudram is a village of Kadiri mandal in the district of Anantapur. This village is one among those that received water under the Sri Satya Sai Trust (SSST) multi village water scheme. The scheme was initiated in the year 1998 and the contract for the construction was taken up by Larson and Tubro (L&T). Several sub-contracts for maintenances and construction were made, the details of which are presently not available. Though provided free of cost, this project was not welcomed by all. Few hamlets of this village rejected the connection from SSST on grounds that they did not believe in the principles of the Trust.

Once upon a time a well existed...

For a long time the drinking water source for the village were three open wells, two of which are private and dug during the 19th century. The digging of these two open wells was a community affair with little compensation provided from the owner of the well. The cost for the first open well was around Rs. 500/- and the amount for the second well was paid through paddy. The second well worked for about 88 years. The third well which is the most recent open well was constructed in the year 1958.

The open-well functioned until the year 1963. After this a 4000 liter water tank was constructed and water from the well was pumped into the tank and supplied through a system of water taps. For an individual tap Rs. 60 is charged for installation. However, no one pays any amount for the maintenance of the water system in the village. Even the Sarpanch said that they were not collecting any charges from the villagers for so long and that they cannot start collecting the charges now. In the year 1988 an electric motor was fitted and the old pipelines were replaced by new ones.

The water is supplied to the taps once in a day. The pressure of the water is limited to just a trickle. As this water supply was not sufficient a new bore well was dug outside the village in the year 2002 and connected to the old water tank. Presently there are about 540 private and 15 public taps. However, the users per tap are 20 families.

There are about 7 hand pumps in the village provided between 1978 and 1995. However, presently four of these hand pumps need repairs and the remaining 3 are functional.

In the year 1998 SSST implemented a Multi Village Scheme through which water from the Sagar (water source) is supplied to a tank of 20,000 liters capacity. The total expenditure for the tank construction and pipeline was about Rs. 3,50,000/-. The entire amount was borne by the SSST. The maintenance of the tank is taken up by the RWSS. However, the funds for this maintenance come from SSST. The operation and maintenance of the structures is again sub contracted to L&T. The plant gives about 80 liters per person per day. This tank also provides water to Kadiri (near by town) and other villages also. All households got connection from the tank and they pay Rs.16/- to the Trust.

What happens when people are not involved?

In a sanitation drive the village gram panchayat constructed 150 latrines in the village. However, majority of these latrines are not in use. At present only 20 families are having toilets that are functional. Some of the latrines were dismantled and used as store rooms. The villagers complained about the lack of drainage system and the village is partly covered by it. Some families dug pits for the sewage, out of their own initiative.

As for cleanliness Gram Panchayat is supposed to hire persons to clean the village and drains regularly, which is not happening.

Case Study No. 11

On the Brink of Slipping back?

Name of the Village: Brahmanapally

District: Khammam

Brahmanapally is one of the minor Gram Panchayat with 400 families in Bonakal Mandal of Khammam District. Fifty years ago Brahmanapally was on the Northern side of the Vira river bank. In 1969, this village was severely affected by floods. In 1970, the then ruling congress government allotted 40 acres of land for the village on the Southern side of the river bank. Houses were also constructed for few families in the land allotted to them.

As these houses did not have adequate water facilities they used to fetch water from far away agricultural well(s). The government promoted four dug wells under Rural Water Supply Scheme for providing drinking water in the resettlement Brahmanapally. As the population increased the water was not sufficient to the villagers. Therefore, another two wells were dug in 1975 by R.W.S.S. The involvement of local leaders in this process was only notional.

Presently two wells (located by the side of Vira River and beside OHSR in the village) are not functioning and the rest of the four wells are functioning throughout the year. However, as the well water has fluoride content the households residing around the open wells use this water for washing clothes, cleaning vessels, etc.

In the year 1980, the RWSS installed three hand pumps in the village. During the installation the department did not consult with the villagers. According to the standard norms of the RWSS Department and requirement of water for the increased population the department installed 12 hand pumps in the subsequent years. Another three hand pumps were installed by Roman Catholic Missionary and one by Mr. (Late) G. Ramireddy (a freedom fighter) in memory of his wife. The later is to provide water facility during funeral ceremonies. In all there are 19 hand pumps in the village.

People residing in the village were suffering from many health problems such as joint pains, arthritis, dental complaints etc. The doctor who treated several people of Brahmanapally suspected that these diseases are due to the drinking water. He suggested that the villagers should get the water tested in the lab. The then sarpanch, Mr. K. Appaiah took the lead role and sent the water samples to the lab for testing. The test result indicated that the water contains fluoride; hence, not good for drinking purpose. Therefore, Mr. Appaiah approached the M.L.A. Mr. Venkateswara Rao and requested sanction of water tank to the village. Then Mr. Rao approached the RWSS department. The water tank was sanctioned and construction begun in the year 1998. The Tank was completed in the year 2000 with an expenditure of Rs. 2,00,000/-. The capacity of the tank is 60,000 liters and few public tap connections were given. Since then the villagers are using piped water supply. The water supplied to the overhead water tank is from two sources: Vira River and canal line under Bodipudi Srujana Sravanthi scheme. This canal line also supplies drinking water to few more villages in Bonakal Mandal.

Initially there were only few private and public tap connections which increased gradually in the village. Now there are 12 public stand posts and 80% of the households have individual tap connections. For a while there was no water problem in the village. Though the families paid the requisite deposit of Rs 600/ they never paid monthly user charges of Rs. 30/ to the Gram Panchayat. The panchayat clerk would go house to

house for the collection, but it was not more than 20%. As a result there was no sufficient revenue from water supply scheme to the Gram Panchayat. In this regard the Gram Panchayat also did not adhere to any rules and regulations. Mr. Rama Rao was appointed as waterman and he is paid Rs. 1200/- per month by Gram Panchayat.

In the year 2002 Mr. Rambabu, a young man of 30 years, was elected as Sarpanch. Mr. Babu studied the whole situation of the piped water supply system in the Gram Panchayat and made several efforts in increasing the revenues through the service of water supply. He conducted Gram Sabha in the village. During the meeting it was decided that for sustainable flow of water from water supply system, household tap connection would be given only to those families who pay the deposit and water charges to the Gram Panchayat. The water deposit was increased from Rs. 600/ to Rs. 800/. It was decided that if these charges are not paid then the private connection would be disconnected.

The water committee, as per the norms, was also formed in the village with the initiative of the Sarpanch. Sarpanch (who will be the Chairman), two ward members and two members from Self Help Groups were members of this committee. The roles and responsibilities of the water committee members are to take care of revenue from tap connections and resolve water related problems. All the committee members were involved without any discrimination of gender and position during the decision making process. The households did not pay water charges for private connections even after the announcement in the Gram Sabha. Therefore the water committee arranged for a *dandora* in the village and insisted that all families have to pay water charges on time without fail. The earlier dues were also collected very strictly. Even then many households didn't pay the charges. So as to set an example the private tap connections of two households, which had very high dues, were disconnected. These two households are of M Kishtaiah and Vasireddy Purushottam. While the other households would buy time or set future dates for payments, these two households were not willing to pay the dues. After this strict action by the Panchayat it resulted in not only the two households but also most all the households clearing their dues. An amount of Rs. 1,50,000/ was collected on a single day following the stringent action taken by the committee. This amount also included the water deposit charges collected from 15 households with illegal water connections. This shows the effectiveness of water committee in the village, because it could act strictly which the 'popularly' elected Sarpanch could not take. As a result every family started regular payment of charges, for which receipt is also given. By strict collection of the water charges the income to the Gram Panchayat increased. They saved nearly one lakh rupees in the bank and this money is used for maintenance of over head tank and water supply system.

Sanitary Conditions

In the year 2000, when Mr. Appaiah was the Sarpanch, under the "Total Sanitation Campaign" Gram Panchayat organized awareness camps. However, the villagers were not sufficiently motivated for construction of individual sanitary latrines (ISLs). Panchayat took a decision to motivate the people and the responsibility was given to the respective ward members. The ward members motivated many people to construct Individual Sanitary Latrines by conducting awareness programs like *Kalajatha* and rallies. The following slogans were catchy and caught the attention of the people:

"మరుగుదొడ్లు వాడుకోండి - స్త్రీల ఆత్మ గౌరవాన్ని కాపాడండి"
"మరుగుదొడ్లు వాడుకోండి - దేశ గౌరవాన్ని కాపాడండి"

During the same time the Government sanctioned Rs.2750/ per household for construction of individual latrines under TSC scheme and the households met the additional expenditure. About 100 households constructed individual latrines. After Mr. Babu became the Sarpanch in the year 2002, he took forward this work with much zeal. The number of households having ISLs reached 90% during his tenure. However, people were not using the ISLs because they were habituated to open defecation. Once again, the Gram Panchayat took decision to give this responsibility also to the ward members. With the continued encouragement of ward members, people are now using latrines. It took five years to achieve this success. For these achievements the village was selected for Nirmal Gram Puraskar for the year 2005, when Mr. Babu was the Sarpanch. This award was given in February 2008.

Gram Panchayat	Brahmanapally
Mandal	: Bonakal
District	: Khammam
Families	: 400
Castes	: OC, BC, SC & ST
Wells	: 6
Hand pumps	: 19
Over Head Tank	: 1
Public Stand Posts	: 12
Private Connections	: 80%
River	: Vira
Sanitary condition	
- ISLs	: 90%
- Drainages	: 4820 feet
Awards	: Nirmal Gram Puraskar in 2008

Drainages

In the 1970s there were no drainage connections in Brahmanapally. Later the government constructed few main drainage lines and extended this facility to the dominant section of the village. Under the "Total Sanitation Campaign" some more drainage lines were constructed. Presently the total length of drainage lines is approximately 1600 meters and the total expenditure incurred was Rs. 1,48,000/-. Unfortunately even now the entire village is not covered with drainage facilities. The SC colony has no drainage facility as this colony is in construction process since three years.

Hygiene

Anganwadis played an important role in creating awareness on health and hygiene in the village. There are two Anganwadi's in the village and in each Anganwadi there are nearly 20 children. The Anganwadi teacher teaches the children rhymes, alphabets, identification of objects through pictures (fruits, animals and objects) and others. Every day kichidi is given to children as part of mid-day meal program. The Anganwadi also provides pregnant women with food of 125 calories value for 25 days in every month. Every month health check ups are also organised for these pregnant women.

Every month there is a parents meeting in the Anganwadi. In the meeting the teacher tells them about healthy practices like washing hands with soap before and after taking meals, after defecation, taking bath daily and wearing clean cloths, cleaning their homes regularly. Special attention is given to women's problems, pregnant women and mothers about personal hygiene, health, child care and their diet. They make sure the message reaches to all the village women.

Learning to Work Together... Building a New Path

There were no means of transport from the resettled Brahmanapally. The villagers had to cross a 15 feet wide and very deep gorge if they had to go out of the village. The residents of Brahmanapally approached the Mandal Office for filling up of the gorge. Finally, this problem was solved with financial support from Roman Catholic Missionary (RCM) Church and *shramdan* by residents. It took two years for the villagers to complete this work. Then the subsequent governments laid the concrete cement road to the village with a total cost of Rs. 14 lakhs (Rs.6 lakhs during Congress Government; Rs.6 lakhs by Telugu Desam Party and Rs.2 Lakhs from MP LADS).

For the development of any village it has to undergo through various stages. Brahmanapally is the best example to show how the leadership plays an active role in the village development. The initiation was taken by Mr. Appaiah for tank construction and Mr. Rambabu in the formation of water committee for the sustainable revenue for operation and maintenance activities. Mr. Rambabu was Sarpanch, and chairman of the water committee till 2006, after which Mrs. Kistamma was elected as the Sarpanch. As Mrs.



Kistamma doesn't involve in any official activities, several of the earlier initiatives are likely to get stagnated. As there is a change in the leadership of water committee, the committee is almost dysfunctional now. There is a slow deterioration of systems and processes, which is evident from the poor and late collections of water charges. Is Brahmanapally on the brink of slipping back?

COMPARATIVE ANALYSIS OF WASH SERVICE DELIVERY IN SELECTED VILLAGES

While doing the rapid assessment of WASH service in sample villages, the team confronted with a variety of situations and experiences. While case studies of each village give an independent picture of these villages, this section makes a "comparative analysis" of 10 villages which belong to different categories of situations, in terms of their WASH service delivery. For doing this, the selected 10 villages were classified into three categories.

- Role Model Villages - Jakkaram; Gangadevulapally; Brahmanapally (3 Nos)
- Problematic Villages- Vattipally; Peddadevulapalli (2 Nos)
- General Villages - Sarangi; Bondada; Mambapur; Nazirabad tanda; Dhonubai (5 Nos)

A situational analysis of the above villages was conducted by the investigating team against the following parameters. The condition of each village (as per the following parameters) is presented in the Table No: 7. Comparison of situation in the selected

villages was conducted by "Score Card Method"⁸. Based on their insights generated from field work, the investigating team gave "scores" to the selected villages against the following parameters:

1. Accessibility
2. Quality of water supplied
3. Quantity of water supplied
4. Local Leadership
5. User Charges
6. Problems Solving Capacities
7. Efforts made for sustaining sources
8. Burden on Women



A broad understanding of this analysis is presented against each parameter in the subsequent parts of this section. The comparison is made against the three categories of villages, namely model villages; problematic villages and general villages.

Access

Access to water supply systems is an important consideration in the performance of WASH services. The access to water supply systems could range from "all households have private individual tap connections" to "the village did not have any water supply facility". This range was appropriately "scored" by the investigating teams.



In 2007 Secretary, Department of Rural Development, Mandal Development Officer and other senior government officers visited this village to understand the situation of environmental sanitation in the village. They presented a saree to Mrs. Venkayamma for keeping her home and surroundings clean and for growing kitchen garden by using waste water.

⁸ This process of scoring is largely based on "Community Score Card Method". However, in this case the scores were given by the investigating team, after the field work was completed.

Safe drinking piped water is available to all/ majority of households in the model villages. Local initiatives and support from local NGOs made a difference in these villages along

with Grama Panchayat or water committees. Water is available for a price.

Drinking water is not available to all families in Vattipally, a problematic village, due to bad design/ layout of the pipe line network and water tank. In Peddadevulappli, the drinking water is available to all families as the industrial group (that polluted local water resources) is supplying water to all families. But drinking water for livestock is not adequately available.

General villages that scored high points have better infrastructure facilities and majority of families in these villages have private tap connections. Grama Panchayat also established public stand posts in these villages to cover those families which do not have private connections. Irrespective of these facilities, there are still some uncovered families in these villages. There are also problems related to electricity failures and so on.

Quality of Water Supplied

Quality of water is an important consideration. Pollution, fluoride and other factors influence the quality of drinking water. It is also important that local institutions take responsibility of quality of drinking water, like testing water; cleaning the tank; protection of water sources, etc. If a village gets high score, this indicates that local systems are established for maintaining quality. If a village gets low score, this indicates that the village does not take care of its water quality.

Since the model villages have established water treatment plants, the quality of drinking water is maintained. Water tanks/ systems are cleaned regularly (once in 15 days).

Sanitation at the 'Core' -

There is a good practice of keeping the school and its surroundings clean. The teachers teach the students about health and hygiene practices regularly. To sustain the practices the school started "National Green Corps Committee" (NGCC). It was formed by the Government in the year 2006. In this committee there are five programs, they are: water, clean & green, electricity, sanitation and land. Committee members are from the 8th class. They are inspected by the drill teacher. Students are divided into teams as per their interest. The team members are responsible to perform their respective duties.

In the school they have toilets constructed by former Sarpanch Mr. Rambabu but presently they are not in use as there is no water facility. As a result, the teachers as well as the students are facing much inconvenience.

The villages in the problematic category get good quality drinking water as the local NGO/ industrial group supply them safe water (through piped network and treatment plant). However, for remaining purposes quality of water is still suspect.

In the villages under general category water tanks/ wells are not cleaned regularly. There is no system of maintaining water quality in these villages.

Quantity of Water Supplied

Quantity of water is dependent on duration of supply; distance between water point and individual families. It is also important to understand whether the families are getting 40 lpd as per standard norms. If a village gets high score (10), it means they are getting adequate water. If the score is low, then the villagers are not getting adequate water.

Adequate water is available in the model villages (for both drinking and domestic purposes). Drinking water is available on sale, while the domestic water is available through piped water schemes.

In Peddadevulapalli, the quantity of water available is fairly high. However, water for livestock is still a problem in this village. In case of Vattipalli, the water is not available in adequate quantities due to several reasons – location of water tanks (which is far away from scheduled and backward caste communities); frequent power failures; short duration of water supply.

Grama Panchayat is providing adequate water, in the general villages which got high scores. In remaining villages, the quantity is not adequate. Villages that got low scores have to depend more on public stand posts. The functioning of these public stand posts is not very efficient, leading to low quantity of water supply. Walking long distances is another constraint in getting adequate water supply.

Local Leadership

Irrespective of infrastructure and source related problems, local leadership plays an important role for ensuring better WASH services. Local leadership is manifested in the form of committees; influential persons; establishing systems for maintenance; collection of user fees, and so on. If a village gets high score (above 7), then such village has local leadership that facilitated better WASH delivery. On the other hand, if a village has low score, it means that the local leadership is weak.

In the model villages the committees/ leaders meet regularly and transact business. They discuss problems related to water supply systems and find out solutions. They

Table No: 7 – Assessment of Water Supply Systems in Selected Villages – Scores of Each Village against Selected Parameters

Village	Category	Access	Quality	Quantity	Local Leadership	User Charges	Problem solving	Sustaining source capacities	Burden on women
Gangadevilapalli	Model	10	10	10	10	10	10	10	10
Jakkaram	Model	10	10	10	10	10	10	10	10
Brahminpally	Model	10	10	8	10	8	8	10	9
Vattipalli	Problematic	4	7	2	3	0	6	2	1
Peddadevulapalli	Problematic	8	9	10	1	0	3	1	10
Bondada	General	10	5	10	10	8	10	6	8
Mambapur	General	10	5	10	5	6	8	7	9
Nazeerabad thanda	General	10	4	10	4	4	6	4	2
Sarangi	General	8	5	8	8	0	10	6	8
Donubai	General	5	1	6	3	4	2	2	4

maintain necessary records and systems. They coordinate with various external agencies (Department; NGOs; others) for taking support. These committees also take the responsibility of cleaning and maintaining the water supply systems (overhead tanks; pumps & motors; water treatment plants).

In the problematic villages local leadership is almost absent. In fact, local leadership got co-opted in Peddadevulapalli. In Vattipalli there is considerable dependency on local NGO, which established water treatment plant.

In the general category, villages that got low scores have no local leadership. Local leaders are not really local as they live outside the village. They pay no attention to the local problems. Other institutions such as Self Help Groups, teachers, etc pay cursory attention to local problems. In the villages that got high scores, there is high level of local participation and local leadership is taking interest in solving the problems of the village. The local leadership is able to take support from local NGOs.

User Charges

User charges are indicator of people's participation. Maintenance of WASH systems requires regular funds and user charges are important means for this fund. User charges also develop sense of ownership among the user community and ensure their rights in management of water supply systems. If a village gets high score, appropriate systems are established in this village. If a village gets low score, that village does not have any arrangement for regular fund flows. Some of the better systems are regular payment of charges for water by households; issuing receipt/maintaining card; maintaining records; maintaining transparency; sharing of information in the Gram Sabha/ meeting.

All the model villages have established well designed systems for user charges. The buyers of drinking water pay these charges, as per the agreed norms. Water tax is also regularly paid by individual families. Free water is available through public stand posts. Appropriate systems are established for collecting user fee; maintaining records, transparency and so on.

In the problem villages community is not paying any water charges; but the GP pays the electricity charges and the Sri Rama Trust changes the water filters on periodical basis.

Problem Solving Capacities

In spite of best systems, problems tend to continue. It is important that the problem solving capacities are inbuilt within local institutions and systems. If the village got high

score, then that village was able to solve its problems. Similarly, if a village got low score, that village could not solve its problem.

In the model villages local leadership was active and vigilant to solve the problems for which they take the support and guidance of local NGOs/ government departments. They established newer systems (technology, institutions and arrangements such as user charges) to solve the problems and minimize future problems. They gained high level of confidence among local communities and received support in operationalising their decisions. They took several initiatives to build capacities of local communities through various awareness campaigns.

In problematic villages local level initiatives are fairly low to solve their problems. In general villages, Donubai suffers for longer periods as there is no capacity or interest locally to solve their problems. In Nazeerabad, the pipe leakages are regular, but not repaired in time. Remaining general villages have evolved systems for solving their problems.

Efforts made for sustaining the source

Local water resources are highly susceptible to misuse and abuse. It is important that local water resources are protected and augmented to ensure that drinking water is made available in these villages on a sustainable basis. These efforts could include - Protecting infrastructure; forming and following norms; recharging mechanisms for resource; financial sustainability for meeting the future needs (maintaining corpus funds); existence of alternative systems.

Though the model villages did not make any special efforts to sustain the water resources, they evolved systems for maintaining the new treatment plants.

There is no system or effort made to sustain the local water resources in the problematic villages.

No efforts were made in the general villages also to sustain the local water resources or water supply systems. There are also wastages of water as no one takes care of water supply systems.

Burden on Women

In a stratified society, gender roles are strongly entrenched. Water fetching responsibility is largely with women at household level. Better WASH services ensure that women have fewer burdens. Such villages scored high points. Villages that have poor WASH services obviously increase the work load on women. Such villages got low scores.

Safe drinking water is “delivered” in cans at door steps in the model villages. This system reduced the workload of women. In Gangadevipalli, men also fetch drinking water, in case the water is not delivered at home. For domestic use, private water connections (at individual family level) are most common in the village. This arrangement also reduced the work burden of women in the village. However, families that are still dependent on public stand posts have to put extra efforts to collect water.

In Peddadevulapalli, local industrial group supplies water to all households. As a result, there is no burden on women. In Vattipalli, another problematic village, women have to walk long distances and wait for long periods of time to fetch water. Uncertainty in power supply makes the situation more complicated for them.

Women have to walk long distances in the general villages (Nazeerabad and Dhonubai) to fetch water. Uncertain power supply makes their work more burdensome. In addition they have to fight and argue for water at the taps every time. In the remaining villages, the water facilities are fairly good and women have little burden.

CONCLUDING QUESTION

Rapid Assessment of WASH services provided an opportunity to understand the perspectives of local communities on the delivery of WASH services in different parts of the state. Though randomly picked up, these villages provided a diversified set of examples of WASH service delivery in the state. Lessons are learned from both “Good Practices” and “Not-So-Good Practices”. Communities have deep insights on the way the WASH services are provided in their respective villages. Though their data bases are approximate and indicative, they offer deeper insights into the situation at ground level.

This report is unique in several ways as it portrayed the community perspectives on WASH services in different ways - the data base of villagers on WASH costs is systematically analyzed; the experiences are documented in the form of case studies (short and detailed); the voices of community are amplified through their statements; systematic comparative analysis of WASH services and governance is conducted for selected villages by the study team.

The most important lesson learned from this report is that the local level initiatives and leadership play a significant role in the delivery and good governance of WASH services in rural areas. If local capacities are enhanced, there is a possibility of higher level of WASH services in rural areas. Certain interventions, such as source protection & augmentation need much larger support and enabling systems.

Interesting questions also emerged from the case studies. From, “not-so-good” practices, it is clear that these local capacities are weak and WASH governance is almost absent. Visualizing the cause and effect situation, one could make a reasonable guess that the absence of such practices led to failure of WASH services. This lesson is learnt in an indirect way. The converse of such situation, “had there been such good practices, the WASH services would have been better” is also a lesson to be learned from villages that demonstrated good practices.

However, the villages that have demonstrated so called “Good Practices” have taught a different kind of lesson. These villages have established “water treatment plants” and are “selling drinking water”. There is a clear distinction between “drinking water” and “domestic water” in these villages. Local leadership, institutions, technology and investments are now fine-tuned to manage these facilities in a very efficient manner. “Whether this trend is sustainable, equitable and replicable?” – is a question that WASH activists need to ask themselves. There is also some kind of discomfort to realize that this trend is growing, irrespective of heavy investments on single village schemes and multi villages schemes by the state government, local government and communities themselves. NGOs, local governments and private entrepreneurs are “facilitating” this process that eventually makes “drinking” water a commercial commodity. “Is this the direction that we are intending to move towards????” is the last question that this report asks on behalf of rural communities.

Annexure No 1

Voices of the Unheard

During the field work, the study teams collected various expressions of the rural communities on WASH services. These statements explain various issues related to their life and their impression about the WASH services in their villages.

Name: Bhavani

Village: Dhonubai, Srikakulam

Statement: "All the hand pumps are not in a good condition".

Name: Siva Devi

Village: Dhonubai, Srikakulam

Statement: *"The sewage water always gets stuck in the drains"*

Name: Chandramma

Village: Dhonubai, Srikakulam

Statement: *"We have toilets, but nobody uses it".*

Name: Vimala

Village: Dhonubai, W. Godavari

Statement: *"So much of strain for using hand pump. It takes time 15 minutes for filling a pot of water."*

Name: Bangaramma

Village: Sarangi, Srikakulam

Statement: "There are no awareness programs on health and hygiene in the village by any where."

Name: Mohan Rao

Village: Sarangi, Srikakulam

Statement: "There has been no development in village for the past thirty years."

Name: Adaiiah

Village: Sarangi, Srikakulam

Statement: "As there is a single room in school, due to which children are frequently affected to common diseases and the school doesn't have basic needs, such as drinking water, toilets and other facilities".

Name: Kedai Bai

Village: Nazirabad, Parigi, R.R.

Statement:mt: "I have Tuberculoses and collecting water is really difficult for me. I had to remove my daughter from school just so that she could help me in water collection and household chores. The lack of bathrooms is also a problem especially when "pet me gadbad hai" (stomach upsets)"

Name: Babbya Nayaka

Village: Hanthamangandi (hamlet of Nazirabad), Parigi

Statement: "Maintenance of the tanks; nothing to it, one of the village boys just jumps into the tank once in a while and cleans it."

Name: Champlibai

Village: Nazirabad, Parigi, R.R.

Statement: "Once in two or three days we wash clothes due water problems. If the taps were working and if there is electricity we would also wash them daily. Other wise we go to the lake to wash them which is a time and energy consuming process."

Name: Parvathamma

Village: Bassireddypally, Parigi, R.R.

Statement: "The hand bore are just namesake and the water salty. The water that comes from the tanks is enough but there are occasionally small worms in them as the tank in not frequently washed. Then when power is there water comes otherwise we have to use hand pumps. I don't mind paying extra 10 Rs. if the water comes properly."

Name: Thimbai

Village: Daddi Thanda, Parigi

Statement:

"Everyone keeps coming asking and write down stuff and leave no one does anything. Over water at the taps they fight pulling each others hair and so on."

Annexure No 2 Investment Details

S No		Name of the Village	District	Population	Before 2000				After 2000			
					No	Capital Rs	O & M Rs	Total Rs	No	Capital Rs	O & M Rs	Total Rs
1	Saduvandla Pally	Anantapur	623	2	18500	0	18500	1	11200	0	11200	
2	Nadimpally	Anantapur	461	3	28000	0	28000	1	15000	0	15000	
3	Kalasamudram	Anantapur	2821	7	196000	0	196000	0	0	0	0	
4	Tummalapedda thanda	Anantapur	978	3	32000	0	32000	1	26000	0	26000	
5	Basireddy Pally	RR District	900	4	38000	27750	65750	2	30000	0	30000	
6	Rangapur	RR District	800	5	66700	8800	75500	1	18000	0	18000	
7	Ibrahimpur	RR District	1000	4	18000	7000	25000	4	48500	500	49000	
8	Dadithanda	RR District	180	1	9500	0	9500	3	109750	0	109750	
9	Nazeerabad	RR District	726	0	0	0	0	0	0	0	0	
10	Bondada	WG Dist	10004	0	0	0	0	0	0	0	0	
11	Jakkaram	WG Dist	2014	0	0	0	0	0	0	0	0	
12	Vartipalli	Nalgonda	3000	13	56400	5530	61930	2	19000	1400	20400	
13	Pedadevula Pally	Nalgonda	8000	9	33200	2700	35900	0	0	0	0	
14	Sarangi	Srikakulam	38	1	30000	0	30000	0	0	0	0	
15	Dhonubai	Srikakulam	631	1	20000	0	20000	15	430000	0	430000	
16	Ghangadevala Pally	Warangal	1270	0	0	0	0	1	10000	0	10000	
17	Budlapur	RR District	3000	11	107200	34300	141500	6	602000	3800	605800	
18	Hanumanagandi Thanda	RR District	1000	2	22000	0	22000	1	10000	0	10000	
19	Patwarigudem	Khammam	350	14	189000	11500	200500	1	35000	0	35000	
20	Bramhanapalli	Khammam	400	15	215000	8200	223200	4	122000	0	122000	
21	Mambapur	Medak	804	6	72000	41200	113200	2	45000	6000	51000	
22	Total	21	39000	101	1151500	146980	1298480	45	1531450	11700	1543150	

Investments in Selected Villages of Rapid Survey on Open Wells Before 2000
(There are no Investments after 2000)

S No	Name Of the Village	District	Population	No	Capital Rs	O & M Rs	Total Rs
1	Saduvandla Pally	Anantapur	623	3	3700	0	3700
2	Nadimpally	Anantapur	461	2	2200	0	2200
3	Kalasamudram	Anantapur	2821	3	15500	0	15500
4	Tummalapedda thanda	Anantapur	978	2	5500	0	500
5	Basireddy Pally	RR District	900	3	1500	600	2100
6	Rangapur	RR District	800	0	0	0	0
7	Ibrahimpur	RR District	1000	3	35000	2000	37000
8	Dadithanda	RR District	180	0	0	00	
9	Nazeerabad	RR District	726	3	177000	6000	183000
10	Bondada	W.G.Dist	10004	0	0	0	0
11	Jakkaram	W.G.Dist	2014	0	0	0	0
12	Vattipalli	Nalgonda	3000	0	0	0	0
13	Pedadevula Palli	Nalgonda	8000	5	4500	0	4500
14	Sarangi	Srikakulam	38	1	23000	0	23000
15	Dhonubai	Srikakulam	631	2	46000	0	46000
16	Ghangadevala Palli	Warangal	1270	2	30000	10000	40000
17	Budlapur	RR District	3000	0	0	0	0
18	Hanumangandi Thanda	RR District	1000	1	5000	0	5000
19	Patwarigudem	Khammam	350	2	3500	0	3500
20	Bramhanapalli	Khammam	400	6	102000	9500	111500
21	Mambapur	Medak	804	3	12000		12000
22	Total	21	39000	41	466400	28100	494500

Annexure No 2 Investment Details

S No		Name of the Village		Investments in Selected Villages of Rapid Survey on Public Latrines- Before and After 2000				After 2000			
				Before 2000		After 2000		Before 2000		After 2000	
				District	Population	No	Capital	O & M	Total	No	Capital
1	Sadvandla Pally	Anantapur	623	0	0	0	0	0	0	0	0
2	Nadimpally	Anantapur	461	0	0	0	0	0	0	0	0
3	Kalamudram	Anantapur	2821	0	0	0	0	0	0	0	0
4	Tummalapadda thanda	Anantapur	978	0	0	0	0	0	0	0	0
5	Basireddy Pally	RR District	900	0	0	0	0	0	0	0	0
6	Rangapur	RR District	800	0	0	0	0	0	0	0	0
7	Ibrahimpur	RR District	1000	0	0	0	0	0	0	0	0
8	Dadithanda	RR District	180	0	0	0	0	0	0	0	0
9	Nazeerabad	RR District	726	0	0	0	0	0	0	0	0
10	Bondada	WG Dist	10004	0	0	0	0	0	0	0	0
11	Jakkaram	WG Dist	2014	0	0	0	0	0	0	0	0
12	Vartipalli	Nalgonda	3000	11	8250	0	8250	0	0	0	0
13	Pedadevula Palli	Nalgonda	8000	6	4500	0	4500	0	0	0	0
14	Sarang	Srikakulam	38	0	0	0	0	0	0	0	0
15	Dhonubai	Srikakulam	631	31	112500	0	112500	0	0	0	0
16	Ghangadevala Palli	Warangal	1270	5	21900	0	21900	0	5150	0	5150
17	Budlapur	RR District	3000	0	0	0	0	0	0	0	0
18	Hanumangandi Thanda	RR District	1000	0	0	0	0	0	0	0	0
19	Patwarigudem	Khammam	350	0	0	0	0	0	0	0	0
20	Bramhanapalli	Khammam	400	0	0	0	0	0	0	0	0
21	Mambapur	Medak	804	0	0	0	0	140	553000	0	553000
22	Total	21	39000	53	147150	0	147150	141	558150	0	558150

Investments in Selected Villages of Rapid Survey on Piped Water Supply Schemes

S No	Name of the Village	District	Population	Before 2000				After 2000			
				No	Capital Rs	O & M Rs	Total Rs	No	Capital Rs	O & M Rs	Total Rs
1	Saduvandla Pally	Anantapur	623	1	25000	0	25000	0	0	0	0
2	Nadimpally	Anantapur	461	1	80000	0	80000	0	300000	0	300000
3	Kalasangam	Anantapur	2821	1	450000	0	450000	0	0	0	0
4	Tummalapadda thanda	Anantapur	978	1	100000	0	100000	0	100000	0	100000
5	Basireddy Pally	RR District	900	0	0	0	0	0	195000	35000	230000
6	Rangapur	RR District	800	1	50000	0	50000	0	500000	15000	515000
7	Ibrahimpur	RR District	1000	2	575000	0	575000	0	0	0	0
8	Dadithanda	RR District	180	0	0	0	0	0	0	0	0
9	Nazeerabad	RR District	726	0	0	0	0	0	295000	82500	377500
10	Bondada	WG Dist	10004	1	200000	447295	2447295	1	1970000	57348	2027348
11	Jakkaram	WG Dist	2014	1	2950000	239882	3189882	0	0	0	0
12	Vattipalli	Nalgonda	3000	2	70000	0	70000	5	585000	0	585000
13	Pedadevula Pally	Nalgonda	8000	0	0	0	0	0	0	0	0
14	Sarangi	Srikakulam	38	0	0	0	0	0	0	40000	40000
15	Dhonubai	Srikakulam	631	1	200000	0	200000	0	0	0	0
16	Ghangadevala Pally	Warangal	1270	2	977500	285000	1262500	0	0	0	0
17	Budlapur	RR District	3000	1	151500	4500	156000	1	350000	25600	375600
18	Hanumangandi Thanda	RR District	1000	0	0	0	0	1	560000	0	560000
19	Patwarigudem	Khammam	350	1	1220000	0	1220000	0	0	30000	30000
20	Bramhanapalli	Khammam	400	1	450000	0	450000	0	0	150000	150000
21	Mambapur	Medak	804	1	400000	225000	625000	0	0	0	0
22	Total	21	39000	18	9699000	1201677	10900677	15	4855000	435448	5290448

Investments in Selected Villages of Rapid Survey on Private Sanitary Latrines (Before and After 2000)

S No	Name of the Village	District	Population	Before 2000				After 2000					
				No	Capital	O & M	Total	No	Capital	O & M	Total		
1	Saduvandla Pally	Anantapur	623	0	0	0	0	0	0	0	0	0	0
2	Nadimpally	Anantapur	461	0	0	0	0	0	0	0	0	0	0
3	Kalasadudram	Anantapur	2821	0	0	0	0	0	0	0	0	0	0
4	Tummalapedda thanda	Anantapur	978	0	0	0	0	0	0	0	0	0	0
5	Basireddy Pally	RR District	900	0	0	0	0	0	0	0	0	0	0
6	Rangapur	RR District	800	0	0	0	0	0	0	0	0	0	0
7	Ibrahimpur	RR District	1000	0	0	0	0	0	0	0	0	0	0
8	Dadithanda	RR District	180	0	0	0	0	0	0	0	0	0	0
9	Nazeerabad	RR District	726	0	0	0	0	0	0	31	68200	0	68200
10	Bondada	WG Dist	10004	3	29100	0	29100	0	29100	7	48500	0	48500
11	Jakkaram	WG Dist	2014	3	38700	0	38700	0	38700	7	22000	0	22000
12	Vatripalli	Nalgonda	3000	0	0	0	0	0	0	0	0	0	0
13	Pedadevula Palli	Nalgonda	8000	0	0	0	0	0	0	0	0	0	0
14	Sarangi	Srikakulam	38	0	0	0	0	0	0	0	0	0	0
15	Dhonubai	Srikakulam	631	3	17000	0	17000	0	17000	3	22250	0	22250
16	Ghangadevala Palli	Warangal	1270	0	0	0	0	0	0	5	16400	0	16400
17	Budlapur	RR District	3000	0	0	0	0	0	0	21	53450	0	53450
18	Hanumangandi Thanda	RR District	1000	0	0	0	0	0	0	11	32300	0	32300
19	Patwarigudem	Khammam	350	270	729000	0	729000	0	729000	0	0	0	0
20	Bramhanapalli	Khammam	400	0	0	0	0	0	0	0	0	0	0
21	Mambapur	Medak	804	0	0	0	0	0	0	0	0	0	0
22	Total	21	39000	279	813800	0	813800	0	813800	85	263100	0	263100

Investments in selected villages of rapid survey on Drainage

S No	Name of the Village	District	Population	Before 2000				After 2000				
				Length in Mts	Capital	O & M	Total	Length in Mts	Capital	O & M	Total	
				1	Sadvandla Pally	Anantapur	623	0	0	0	0	0
2	Nadimpally	Anantapur	461	0	0	0	0	0	0	0	0	0
3	Kalasa mudram	Anantapur	2821	150	3000	0	3000	0	0	0	0	0
4	Tummalapedda thanda	Anantapur	978	0	0	0	0	0	0	0	0	0
5	Basireddy Pally	RR District	900	0	0	0	0	0	0	200000	0	200000
6	Rangapur	RR District	800	350	50000	0	50000	0	50000	50000	0	50000
7	Ibrahimpur	RR District	1000	0	0	0	0	0	0	95000	2000	97000
8	Dadithanda	RR District	180	0	0	0	0	0	0	0	0	0
9	Nazeerabad	RR District	726	100	40000	0	40000	0	40000	100000	0	100000
10	Bondada	WG Dist	10004	0	0	0	0	0	0	0	0	0
11	Jakkaram	WG Dist	2014	390	324000	32000	356000	0	0	0	0	0
12	Vatripalli	Nalgonda	3000	900	90000	0	90000	0	90000	75000	07500	0
13	Pedadevula Pally	Nalgonda	8000	0	0	0	0	0	0	440000	0	440000
14	Sarangi	Srikakulam	38	0	0	0	0	0	0	0	0	0
15	Dhonubai	Srikakulam	631	0	0	0	0	0	0	0	0	0
16	Ghangadevala Pally	Warangal	1270	0	0	0	0	0	0	100517	0	100517
17	Budlapur	RR District	3000	350	20400	0	20400	0	20400	65400	0	65400
18	Hanumangandi Thanda	RR District	1000	550	15000	0	15000	0	15000	15000	0	15000
19	Patvarigudem	Khammam	350	300	250000	0	250000	0	250000	650000	0	650000
20	Bramhanapalli	Khammam	400	300	300000	0	300000	0	300000	225000	30000	255000
21	Mambapur	Medak	804	400	225000	30000	255000	0	255000	813253	0	813253
22	Total	21	39000	3790	1317400	62000	1379400	62000	1379400	2829170	32000	2861170

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