

Data Report
Social Condition Survey

Report, Data and Photos

* Note: All the raw data are compiled in the soft copy.

Kindly refer to the data file.

NJS COSULTANTS CO. LIMITED

Bangalore



Report on Social Condition Survey for Bangalore Water Supply & Sewerage Project

Submitted by



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Social Condition Survey for BWSSB

SOCIAL CONDITION SURVEY FOR HOUSEHOLD AND BUSINESS ESTABLISHMENT

1.0 Introduction

NJS Consultants Co. Ltd. is engaged to conduct Social Condition Survey for Households and Business establishments in Bengaluru rural and urban regions for BWSSB (Bengaluru Water Supply & Sewerage Board) Project (Phase III) which have been classified as Zones, ULBs (Urban Local Bodies) and Core Areas to have a thorough scrutiny of present water supply and sewer service conditions. The work was awarded to M/s Theovel Surveys, Bengaluru for carrying out Social Condition Survey vide Agreement dtd 7.11.2016.

1.1 Selection of Target Samples

The list of sample targets of 350 Households and 50 Business Establishments was supplied by NJS Consultants along with questionnaire for survey.

2.0 Methodology and Approach

A social condition survey was designed to understand the present water supply and sewerage services and to provide reliable water supply and sewerage service to entire BBMP (Bruhat Bengaluru Mahanagara Palike) area in Bengaluru City. The study was carried out to gauge its acceptability and affordability and to get feedback of customers on present BWSSB water supply and sewerage services and their willingness to connect BWSSB/GBWASP (Greater Bengaluru Water and Sewerage Project) water supply and sewerage network. Also, their views/awareness towards water conservation, environment, sewage recycling and public health.

The study includes a sample target of 350 Households and 50 Business Establishments spread over in 5 Zones (61 Villages), 8 ULB's and 7 Core Areas as given in Table -1.

Table – 1: Summary of Sample Target

Sl.No.	Name of Area	No of Villages/ULBs/Core Areas	No of Households	No of Business Establishments
1	Bytrayanapura Zone	10	50	4
2	Mahadevpura Zone	10	50	4
3	Bommanahalli Zone	12	60	4
4	RR Nagar Zone	10	20	4
5	Dasarahalli Zone	4	20	4
6	ULB's	8	75	15
7	Core Area's	7	75	15
	Total	61	350	50

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Social Condition Survey for BWSSB

2.1 Reconnaissance of study area

The pre-survey study has been done by using relative or available resources such as Google Maps, Google Earth etc. to have a better understanding of the localities and distances from each location, so that the team could cover the locality either on the way or by the de-route to another possible locality.

2.2 Schedule for Field Survey

A schedule for field survey was prepared based on the reconnaissance study and it was shared with the NJS Consultants for their approval. The survey was commenced on 25.11.2016 and completed on 07.12.2016 by deploying 3 teams & 1 supervisor as scheduled. The survey progress was shared with the Consultant on daily basis (Table-2).

Table - 2: Schedule for Field Survey

Area	No of Households	Survey date		No of Business Establishment	Survey date	
		From	To		From	To
Zones						
Bytrayanapura	50	29/11/2016	03/12/2016	4	29/11/2016	03/12/2016
Mahadevpura	50	25/11/2016	29/11/2016	4	25/11/2016	29/11/2016
Bommanahalli	60	29/11/2016	02/12/2016	4	29/11/2016	02/12/2016
RR Nagar	20	25/11/2016	26/11/2016	4	25/11/2016	26/11/2016
Dasarahalli	20	27/11/2016	28/11/2016	4	27/11/2016	28/11/2016
ULBs						
Byatarayanapura	10	04/12/2016	04/12/2016	2	04/12/2016	04/12/2016
Mahadevpura	10	28/11/2016	28/11/2016	2	28/11/2016	28/11/2016
Bommanahalli	10	01/12/2016	01/12/2016	2	01/12/2016	01/12/2016
RR Nagar	10	28/11/2016	28/11/2016	2	28/11/2016	28/11/2016
Dasarahalli	10	27/11/2016	27/11/2016	2	27/11/2016	27/11/2016
KR Puram	10	04/12/2016	04/12/2016	2	04/12/2016	04/12/2016
Yelahanka	10	03/12/2016	03/12/2016	2	03/12/2016	03/12/2016
Kengeri	5	06/12/2016	06/12/2016	1	06/12/2016	06/12/2016
Core Area						
Hebbal Minor Valley	10	05/12/2016	05/12/2016	2	05/12/2016	05/12/2016
Hebbal Major Valley	10	06/12/2016	06/12/2016	2	06/12/2016	06/12/2016
Challaghata Valley	10	07/12/2016	07/12/2016	2	07/12/2016	07/12/2016
Tavarekere Valley	10	06/12/2016	06/12/2016	2	06/12/2016	06/12/2016
Vrishabhavathi Valley	12	06/12/2016	06/12/2016	3	06/12/2016	06/12/2016
K&C Valley	11	06/12/2016	07/12/2016	2	06/12/2016	07/12/2016
K&A Valley	12	05/12/2016	05/12/2016	2	05/12/2016	05/12/2016
Total	350			50		

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Social Condition Survey for BWSSB

2.3 Field Survey and Data Collection

To execute the survey and to understand the requirements of the work, one day training was provided to the survey teams. After this training, field test was carried out to assure their interview skills.

The questionnaire supplied by the Consultants were converted to local language for better understanding and to convincing the local people about the contents/requirements of survey.

The areas were divided between each team and the survey procedures mentioned below were followed to collect the required data from Households and Business Establishments.

- The interviewer introduced to the respondent
- Explained about the scope of survey.
- Grabbed interest of the respondent.
- Interviewed all the questions which are mentioned in the questionnaire
- Taken photographs of the location
- Taken Geo-location reading such as latitude and longitude (WGS 84) by using latest handheld GPS and recorded on the questionnaire.

During field work, the Consultant representative accompanied our survey team to ensure the quality of data collection.

Most of the respondents were not ready to disclose their income and expenditure details during the survey. However, one more attempt was made to collect the same information from the respondents over phone, a few of the respondents were provided the details.

Table - 3: Summary of the Respondent

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Social Condition Survey for BWSSB

Sample Targets	Household					Business Establishment					Total
	Response	Non-Response	Non-Collection	Others	Total	Response	Non-Response	Non-Collection	Others		
Zone											
Bytrayanapura	50	0	0	0	50	4	0	0	0		
Mahadevpura	50	0	0	0	50	4	0	0	0		
Bommanahalli	60	0	0	0	60	4	0	0	0		
RR Nagar	20	0	0	0	20	4	0	0	0		
Dasarahalli	20	0	0	0	20	4	0	0	0		
ULBs		0	0	0			0	0	0		
Byatarayanpura	10	0	0	0	10	2	0	0	0		
Mahadevpura	10	0	0	0	10	2	0	0	0		
Bommanahalli	10	0	0	0	10	2	0	0	0		
RR Nagar	10	0	0	0	10	2	0	0	0		
Dasarahalli	10	0	0	0	10	2	0	0	0		
KR Puram	10	0	0	0	10	2	0	0	0		
Yelahanka	10	0	0	0	10	2	0	0	0		
Kengeri	5	0	0	0	5	1	0	0	0		
Core Area		0	0	0			0	0	0		
Hebbal Minor Valley	10	0	0	0	10	2	0	0	0		
Hebbal Major Valley	10	0	0	0	10	2	0	0	0		
Challaghata Valley	10	0	0	0	10	2	0	0	0		
Tavarekere Valley	10	0	0	0	10	2	0	0	0		
Vrishabhavathi Valley	12	0	0	0	12	3	0	0	0		
K&C Valley	11	0	0	0	11	2	0	0	0		
K&A Valley	12	0	0	0	12	2	0	0	0		
Total	350	0	0	0	350	50	0	0	0		

2.4 Data entry, Analysis and Preparation of Report

The data collected during the survey from the Households and Business Establishments were prepared in Microsoft excel on day-to-day basis. After completion of the data entry, individual tables/figure were prepared on chapter wise and same have been shown in the report.

The feedback from respondents for different categories were analyzed in the following basis by taking one week time.

- **Households: -**

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Social Condition Survey for BWSSB

- Overall Basis
- Area wise i.e. Zone, ULBs and Core Area.

- **Business Establishments: -**

- Overall Basis

3.0 Survey Report on Household

A total of 350 households were interviewed through household's survey to get their feedback on present BWSSB water supply and sewerage services and their willingness to connect to BWSSB/GBWASP water supply and sewerage network & their views/awareness towards water conservation, environment, sewage recycling and public health. The target samples were selected as 75 Nos each in 7 Core areas and 8 ULBs where BWSSB water supply and sewerage networks were available and 200 samples from 41 villages out of 110 villages (5 Zones) included in 2007 under BBMP area. The survey of sample targets includes higher/medium/lower income households and household in slum areas. The following chapters provides an assessment of survey carried out.

3.1 Profile of Household Respondents

88% of the respondents were male and 12% of the respondents were female aged above 40 years.

As regards educational background, 60.6% respondents were degree holders, 27.4% were secondary and 12% were junior high school (Table-4).

Table - 4: Profile of Household Respondents

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Social Condition Survey for BWSSB

Sl.NO	Name of Area	No of Respondent	Average Age	sex		Educational Back ground		
				Male	Female	Junior High school	High School	College or University
A	Zone							
1	Bytrayanapura	50	42	38	12	0	15	35
2	Mahadevpura	50	45	45	5	6	11	33
3	Bommanahalli	60	46	58	2	17	26	17
4	RR Nagar	20	48	18	2	6	4	10
5	Dasarahalli	20	46	19	1	5	5	10
B	ULBs							
6	Byatarayanapura	10	47	8	2	0	6	4
7	Mahadevpura	10	41	9	1	0	0	10
8	Bommanahalli	10	55	9	1	0	6	4
9	RR Nagar	10	57	10	0	1	2	7
10	Dasarahalli	10	54	10	0	2	5	3
11	KR Puram	10	44	10	0	0	0	10
12	Yelahanka	10	47	10	0	2	3	5
13	Kengeri	5	52	5	0	1	3	1
C	Core Area							
14	Hebbal Minor Valley	10	48	7	3	0	3	7
15	Hebbal Major Valley	10	50	8	2	0	1	9
16	Challaghata Valley	10	43	9	1	0	0	10
17	Tavarekere Valley	10	49	7	3	0	1	9
18	Vrishabhavathi Valley	12	49	11	1	0	2	10
19	K&C Valley	11	43	6	5	0	0	11
20	K&A Valley	12	59	11	1	2	3	7
	Grand Total	350	48	308	42	42	96	212

3.2 General Information (Questionnaire Ref No. A 1 to A 3)

It is observed that occupants of the household were 36.6% adult male and 33.6% adult female aged above from 15 years to 60 years, 6.1% were Senior male and 7.1% were Senior female above 60 years and 8.4% were male and 8.3% were female children's below 15 years. Average family size consisted of five members with three males and two females. The following Table-5 represents the number of occupants of different categories in Zones, ULBs and Core areas (Figure 1, 2, 3 & 4).

Table - 5: Details of Occupants

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Social Condition Survey for BWSSB

Sl.No	Name of Zones //ULBs/ Core Area	No of Household	Number of adults Male (from 15 years to 60)	Number of adults Female (from 15 years to 60)	Number of senior citizens Male (over 60)	Number of senior citizens Female (over 60)	Number of children Male (younger than 15 years)	Number of children Female (younger than 15 years)	Total Male	Total Female
A	Zone									
1	Bytrayanapura	50	97	87	13	11	27	27	137	125
2	Mahadevpura	50	96	95	21	15	24	16	141	126
3	Bommanahalli	60	137	128	9	14	19	34	165	176
4	RR Nagar	20	35	31	10	12	5	10	50	53
5	Dasarahalli	20	31	25	4	7	2	5	37	37
B	ULBs									
6	Byatarayanapura	10	18	18	2	2	3	2	23	22
7	Mahadevpura	10	12	13	3	4	9	5	24	22
8	Bommanahalli	10	16	21	6	6	3	2	25	29
9	RR Nagar	10	12	15	6	5	1	1	19	21
10	Dasarahalli	10	20	14	3	4	7	4	30	22
11	KR Puram	10	18	17	2	4	9	7	29	28
12	Yelahanka	10	21	18	1	0	8	4	30	22
13	Kengeri	5	5	9	1	2	3	2	9	13
C	Core Area									
14	Hebbal Minor Valley	10	26	12	6	5	7	2	39	19
15	Hebbal Major Valley	10	17	18	5	4	2	9	24	31
16	Challaghatta Valley	10	22	15	1	12	2	2	25	29
17	Tavarekere Valley	10	13	9	4	5	7	1	24	15
18	Vrishabhavathi Valley	12	13	13	1	1	9	9	23	23
19	K&C Valley	11	11	11	3	8	0	0	14	19
20	K&A Valley	12	24	23	6	4	1	3	31	30
	Grand Total	350	644	592	107	125	148	145	899	862

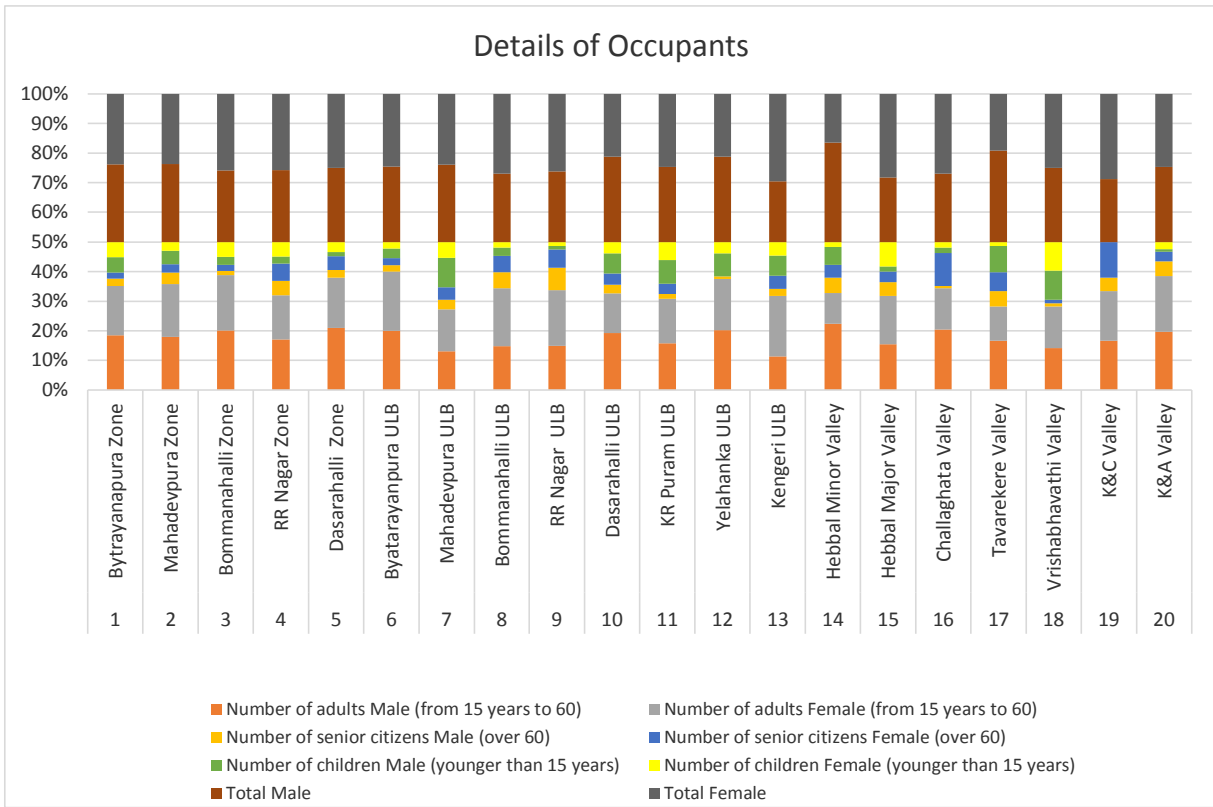
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7



Social Condition Survey for BWSSB

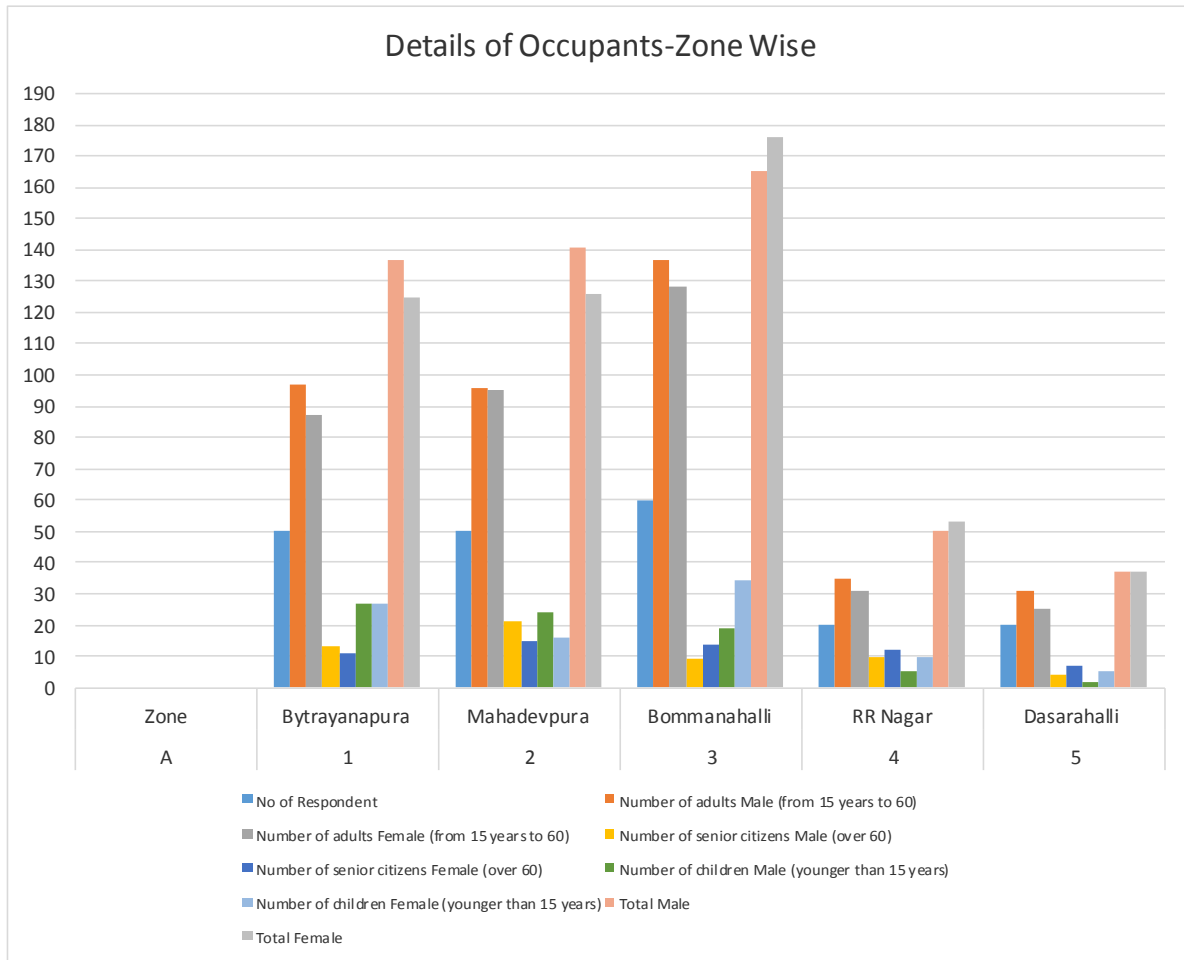
Figure - 1





Social Condition Survey for BWSSB

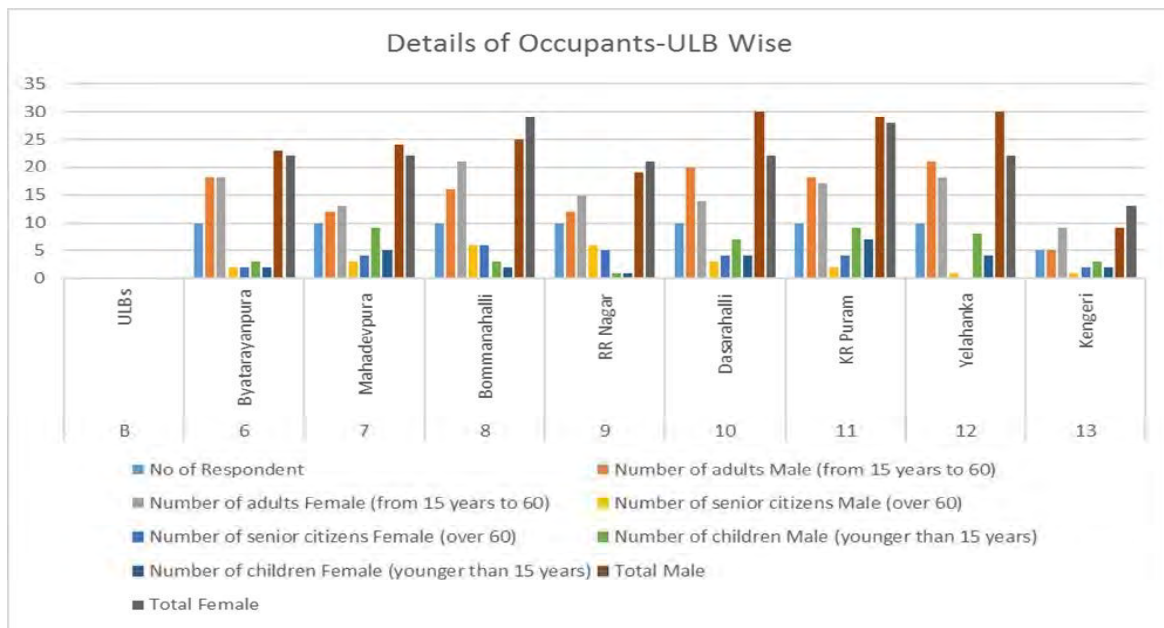
Figure - 2





Social Condition Survey for BWSSB

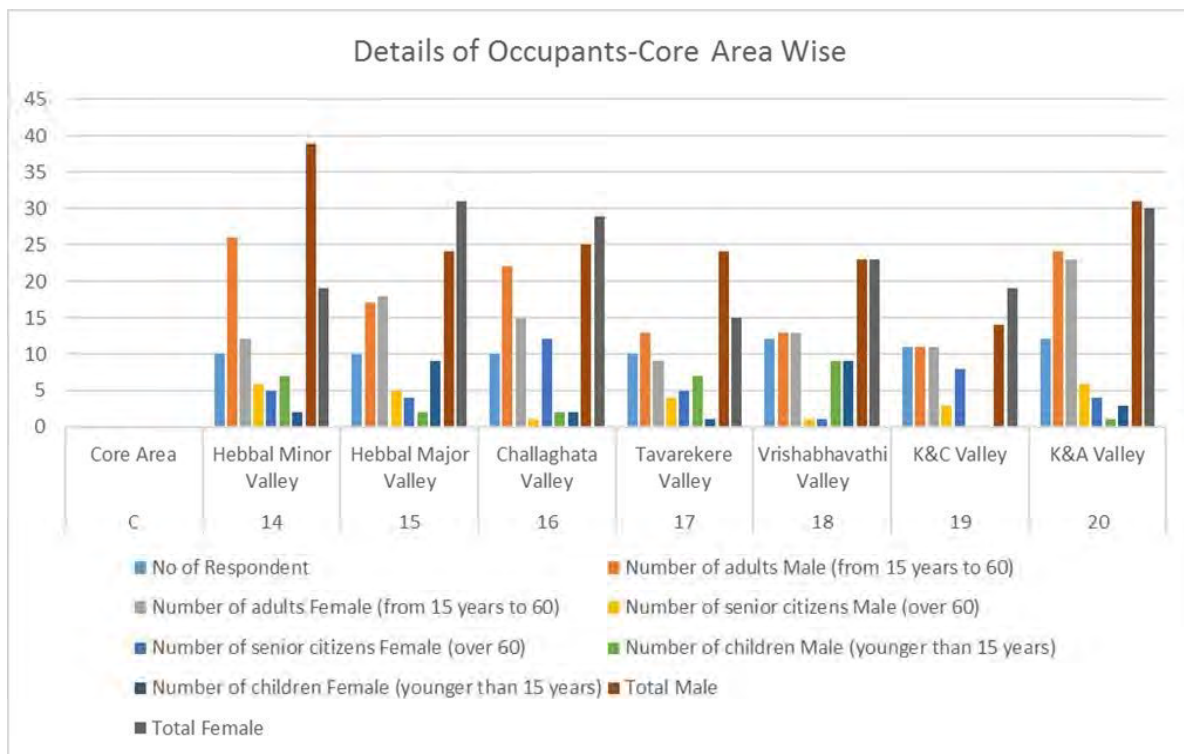
Figure - 3





Social Condition Survey for BWSSB

Figure - 4



3.3 Household income source and expenditure (Questionnaire Ref No. A 4 to A 6)

As regards occupation / major income source, 52.6% respondents of target samples were engaged in independent / Self-employed business, 38% were salaried and 9.4% were engaged in other type of occupation.

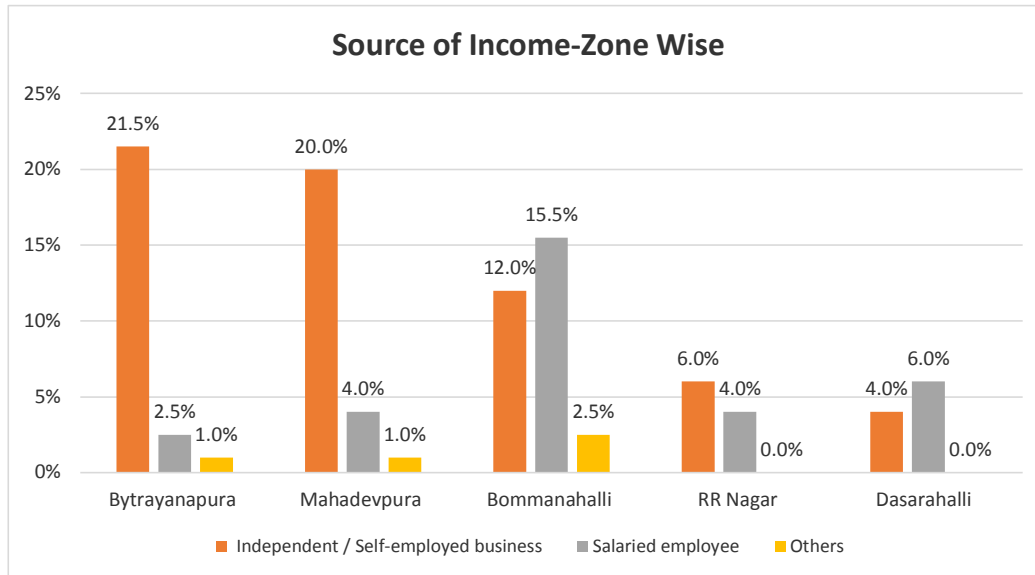
In Zone, occupation / major income source of 63.5% of respondents (Target samples - 200 Nos.) were independent / self-employed business, 32% respondents were salaried employees and for balance 4.5% respondents were other type of sources (Figure-5).

Figure - 5

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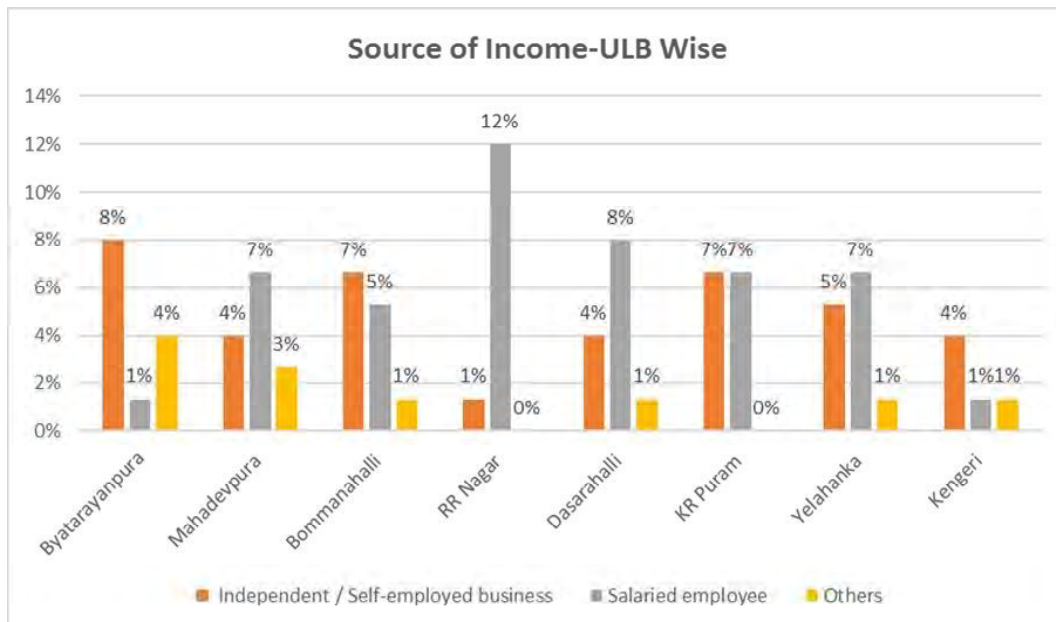


Social Condition Survey for BWSSB



In ULB, occupation / major income source of 40% of respondents (Target samples - 75 Nos.) were independent / self-employed business, 48% respondents were salaried employees and balance 12% respondents were other type of sources (Figure-6).

Figure - 6



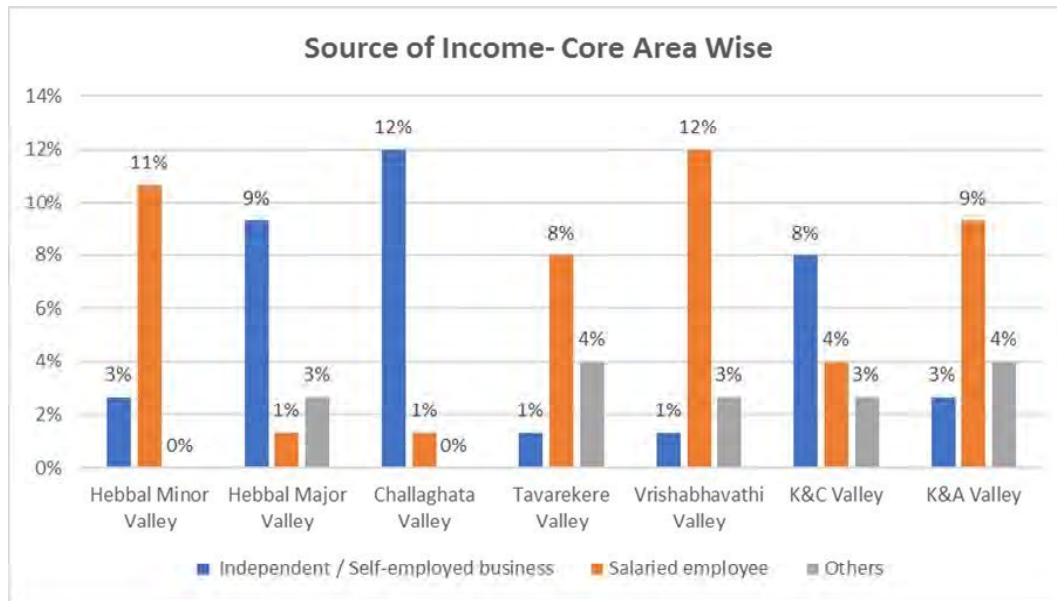
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Social Condition Survey for BWSSB

In Core Areas, occupation / major income source of 37% of respondents (Target samples -75 Nos.) were independent / self-employed business, 47% respondents were salaried employees and balance 16% respondents were other type of sources (Figure-7).

Figure - 7



55% of the respondents were not ready to disclose their monthly income. Based on available 45% of income details of target samples, the average monthly income calculated as Rs.16522/- per household.

Table - 6: Details of Monthly Income - Overall

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Social Condition Survey for BWSSB

Area	Job (Rs.)	Agriculture (Rs.)	Business (Rs.)	Social (Gov.) aids (Rs.)	Others (Rs.)	Average Monthly Income (Rs.)
Zones						
Bytrayanapura	14333		15185		15000	14839
Mahadevpura	14333		13136		9000	12156
Bommanahalli	13117	7000	17444			12520
RR Nagar	11625	9000	10833			10486
Dasarahalli	13727		16000	18000		15909
ULBs						
Byatarayanapura	25000		14000			19500
Mahadevpura	13250		20000		8000	13750
Bommanahalli	24333		20000			22166
RR Nagar	20600			20000		20300
Dasarahalli	15600	10000	15000			13533
KR Puram	12000					12000
Yelahanka	17333		15500			16416
Kengeri	18500		10000			14250
Core Area						
Hebbal Minor Valley						
Hebbal Major Valley						
Challaghata Valley						
Tavarekere Valley						
Vrishabhavathi Valley			27500			27500
K&C Valley						
K&A Valley	25000		20000			22500
Average Value	17053	8666	16507	19000	10666	16522

In Zone area, average monthly income calculated as Rs.13182/-, in ULB area as Rs.16489/- and in Core Area as Rs.25000/-

Table - 7: Details of Monthly Income – Zone wise

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Zone	Job (Rs.)	Agriculture (Rs.)	Business (Rs.)	Social (Gov.) aids (Rs.)	Others (Rs.)	Average Monthly Income (Rs.)
Bytrayanapura	14333		15185		15000	14839
Mahadevpura	14333		13136		9000	12156
Bommanahalli	13117	7000	17444			12520
RR Nagar	11625	9000	10833			10486
Dasarahalli	13727		16000	18000		15909
Average Value	13427	8000	14520	18000	12000	13182

Table - 8: Details of Monthly Income - ULB wise

ULB	Job (Rs.)	Agriculture (Rs.)	Business (Rs.)	Social (Gov.) aids (Rs.)	Others (Rs.)	Average Monthly Income (Rs.)
Byatarayanapura	25000		14000			19500
Mahadevpura	13250		20000		8000	13750
Bommanahalli	24333		20000			22166
RR Nagar	20600			20000		20300
Dasarahalli	15600	10000	15000			13533
KR Puram	12000					12000
Yelahanka	17333		15500			16416
Kengeri	18500		10000			14250
Average Value	18327	10000	15750	20000	8000	16489

Table - 9: Details of Monthly Income – Core Area wise

Core Area	Job (Rs.)	Agriculture (Rs.)	Business (Rs.)	Social (Gov.) aids (Rs.)	Others (Rs.)	Average Monthly Income (Rs.)
Hebbal Minor Valley						
Hebbal Major Valley						
Challaghata Valley						
Tavarekere Valley						
Vrishabhavathi Valley			27500			27500
K&C Valley						
K&A Valley	25000		20000			22500
Average Value	25000	0	23750	0	0	25000

The average monthly expenditure of target samples (350 Nos) calculated as Rs.13361/-.

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Social Condition Survey for BWSSB

Table - 10: Details of Monthly Expenditure - Overall

Area	Water (BWSSB Water) (Rs.)	Drinking Water (Rs.)	Other Water (Well etc.) (Rs.)	Electricity (Rs.)	Food (Rs.)	Loan/ House Rent (Rs.)	Other Consumables (Rs.)	Average Monthly Expenditure (Rs.)
Zones								
Bytrayanapura		822		429	4275		3137	8663
Mahadevpura		896		354	3955		1857	7062
Bommanahalli	250	208		215	4185	2000	4666	11524
RR Nagar	150		150	270	4442	2000	3082	10094
Dasarahalli		175		215	3400	3250	3438	10478
ULBs								
Byatarayanapura	312	175		362	4333	6000	5250	16432
Mahadevpura	287			383	5250	8000	2000	15920
Bommanahalli	416	175		275	5250		7000	13116
RR Nagar	292	200		343	4429	9333	4285	18882
Dasarahalli	316	167		306	4562	3500	3750	12601
KR Puram								
Yelahanka	366	212		407	4486	6000	4833	16304
Kengeri	350	200		250	3000	10000	3666	17466
Core Area								
Hebbal Minor Valley								
Hebbal Major Valley								
Challaghata Valley								
Tavarekere Valley								
Vrishabhavathi Valley	350			450	5500		9000	15300
K&C Valley								
K&A Valley	375			350	5500		7000	13225
Average Value	315	323	150	329	4469	5564	4497	13361

Table - 11: Details of Monthly Expenditure – Zone wise

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Social Condition Survey for BWSSB

Zone Area	Water (BWSSB Water) (Rs.)	Drinking Water (Rs.)	Other Water (Well etc.) (Rs.)	Electricity (Rs.)	Food (Rs.)	Loan/ House Rent (Rs.)	Other Consumables (Rs.)	Average Monthly Expenditure (Rs.)
Bytrayanapura	0	822		429	4275		3137	8663
Mahadevpura		896		354	3955		1857	7062
Bommanahalli	250	208		215	4185	2000	4666	11524
RR Nagar	150		150	270	4442	2000	3082	10094
Dasarahalli		175		215	3400	3250	3438	10478
Average Value	133	525		297	4051	2417	3236	9564

Table - 12: Details of Monthly Expenditure – ULB wise

ULB Area	Water (BWSSB Water) (Rs.)	Drinking Water (Rs.)	Other Water (Well etc.) (Rs.)	Electricity (Rs.)	Food (Rs.)	Loan/ House Rent (Rs.)	Other Consumables (Rs.)	Average Monthly Expenditure (Rs.)
Byatarayanapura	312	175		362	4333	6000	5250	16432
Mahadevpura	287	0	0	383	5250	8000	2000	15920
Bommanahalli	416	175	0	275	5250		7000	13116
RR Nagar	292	200		343	4429	9333	4285	18882
Dasarahalli	316	167		306	4562	3500	3750	12601
KR Puram								
Yelahanka	366	212		407	4486	6000	4833	16304
Kengeri	350	200		250	3000	10000	3666	17466
Average Value	334	161		332	4473	7139	4398	15817

Table - 13: Details of Monthly Expenditure – Core Area wise

Core Area	Water (BWSSB Water) (Rs.)	Drinking Water (Rs.)	Other Water (Well etc.) (Rs.)	Electricity (Rs.)	Food (Rs.)	Loan/ House Rent (Rs.)	Other Consumables (Rs.)	Average Monthly Expenditure (Rs.)
Hebbal Minor Valley								
Hebbal Major Valley								
Challaghata Valley								
Tavarekere Valley								
Vrishabhavathi Valley	350			450	5500		9000	15300
K&C Valley								
K&A Valley	375			350	5500		7000	13225
Average Value	363			400	5500		8000	14263

3.4 Present status of water connection (Questionnaire Ref No. B 1 to B 2)

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Social Condition Survey for BWSSB

It is observed that 39.1% households of target samples (350) were connected to BWSSB water network and 60.9% were not connected (Table-14).

In Zone area, only 4.5% (9 out of 200 samples) households were connected to water network and 3.5% households were having meter not shared with any houses (Table-15). In ULB area 72% (54 out of 75 samples) household were connected to water network, in that 68% were having meter not shared with any houses (Table-16). And in Core area 98.7% (74 out of 75 samples) household were connected to BWSSB water network with meter not shared with any houses (Table-17).

Table - 14: Present status of water connection - Overall

Sl. No	Name of Zones (Villages)/ULBs/ Core Area	No of Respondent	Water Connected		Water Not Connected		Have a meter not shared with any houses		share a meter with one or more other houses	
			No	%	No	%	No	%	No	%
1	Bytrayanapura Zone	50	0	0.0	50	14.3	0	0.0	0	0
2	Mahadevpura Zone	50	0	0	50	14.3	0	0.0	0	0
3	Bommanahalli Zone	60	4	1.1	56	16.0	2	0.6	0	0
4	RR Nagar Zone	20	5	1.4	15	4.3	5	1.4	0	0
5	Dasarahalli Zone	20	0	0.0	20	5.7	0	0.0	0	0
6	Byatarayanpura ULB	10	8	2.3	2	0.6	6	1.7	0	0
7	Mahadevpura ULB	10	10	2.9	0	0.0	10	2.9	0	0
8	Bommanahalli ULB	10	9	2.6	1	0.3	9	2.6	0	0
9	RR Nagar ULB	10	7	2.0	3	0.9	7	2.0	0	0
10	Dasarahalli ULB	10	3	0.9	7	2.0	3	0.9	0	0
11	KR Puram ULB	10	9	2.6	1	0.3	9	2.6	0	0
12	Yelahanka ULB	10	3	0.9	7	2.0	3	0.9	0	0
13	Kengeri ULB	5	5	1.4	0	0.0	5	1.4	0	0
14	Hebbal Minor Valley	10	10	2.9	0	0.0	10	2.9	0	0
15	Hebbal Major Valley	10	10	2.9	0	0.0	10	2.9	0	0
16	Challaghata Valley	10	9	2.6	1	0.3	9	2.6	0	0
17	Tavarekere Valley	10	10	2.9	0	0.0	10	2.9	0	0
18	Vrishabhavathi Valley	12	12	3.4	0	0.0	12	3.4	0	0
19	K&C Valley	11	11	3.1	0	0.0	11	3.1	0	0
20	K&A Valley	12	12	3.4	0	0.0	12	3.4	0	0
	Grand Total	350	137	39.1	213	60.9	133	38.0	0	0

Table - 15: Present status of water connection – Zone wise

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Social Condition Survey for BWSSB

Sl. No	Name of Zones	Water Connected		Water Not Connected		Have a meter not shared with any houses		share a meter with one or more other houses	
		No	%	No	%	No	%	No	%
1	Bytrayanapura Zone	0	0	50	25	0	0	0	0
2	Mahadevpura Zone	0	0	50	25	0	0	0	0
3	Bommanahalli Zone	4	2	56	28	2	1	0	0
4	RR Nagar Zone	5	2.5	15	7.5	5	2.5	0	0
5	Dasarahalli Zone	0	0	20	10	0	0	0	0
	Total	9	4.5	191	95.5	7	3.5	0	0

Table - 16: Present status of water connection - ULB wise

Name of ULBs	Water Connected		Water Not Connected		Have a meter not shared with any houses		share a meter with one or more other houses	
	No	%	No	%	No	%	No	%
Byatarayanapura ULB	8	10.7	2	2.7	6	8	0	0
Mahadevpura ULB	10	13.3	0	0.0	10	13.3	0	0
Bommanahalli ULB	9	12.0	1	1.3	9	12.0	0	0
RR Nagar ULB	7	9.3	3	4.0	7	9.3	0	0
Dasarahalli ULB	3	4.0	7	9.3	3	4.0	0	0
KR Puram ULB	9	12.0	1	1.3	9	12.0	0	0
Yelahanka ULB	3	4.0	7	9.3	3	4.0	0	0
Kengeri ULB	5	6.7	0	0.0	5	6.7	0	0
Total	54	72.0	21	28.0	52	69.3	0	0

Table - 17: Present status of water connection - Core Area wise

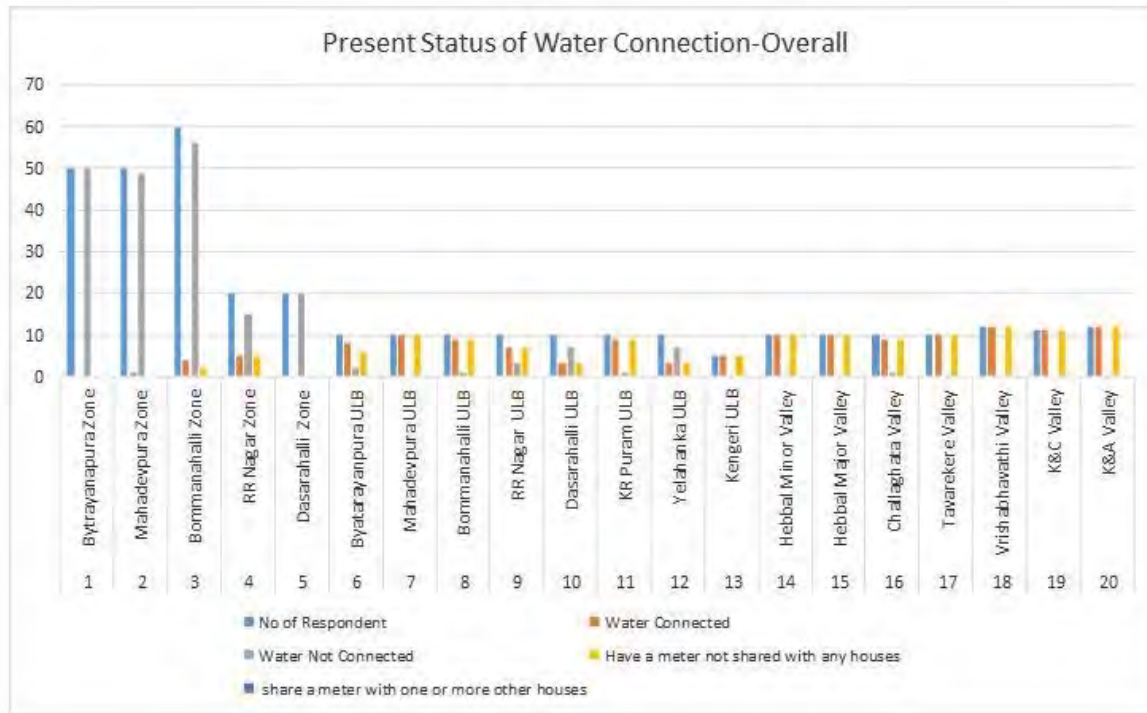
Name of Core Area	Water Connected		Water Not Connected		Have a meter not shared with any houses		share a meter with one or more other houses	
	No	%	No	%	No	%	No	%
Hebbal Minor Valley	10	13.3	0	0.0	10	13.3	0	0
Hebbal Major Valley	10	13.3	0	0.0	10	13.3	0	0
Challaghata Valley	9	12.0	1	1.3	9	12.0	0	0
Tavarekere Valley	10	13.3	0	0.0	10	13.3	0	0
Vrishabhavathi Valley	12	16.0	0	0.0	12	16.0	0	0
K&C Valley	11	14.7	0	0.0	11	14.7	0	0
K&A Valley	12	16.0	0	0.0	12	16.0	0	0
Total	74	98.7	1	1.3	74	98.7	0	0

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Figure - 8



3.5 Reasons for not connected to BWSSB Water Supply Network (Questionnaire Ref No. B 3)

The main reason for 53.7% households out of 60.9% who were not connected to BWSSB water supply network was BWSSB doesn't have any distribution pipes in these areas. 4.3 % informed that their houses were far away from BWSSB water network and 1.15% households were applied for new connection while another 1.15% reported that they have another satisfactory source of water for all their needs. 0.3% each reported that cost of connection is high and the process of applying for pipe connection is too complicated. (Table 18).



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Table - 18: Reasons for not connected to BWSSB Water Supply Network - Overall

Sl. No	Name of Zones (Villages)/ULBs/ Core Area	Not Connected to Water Network	BWSSB doesn't have any distribution pipes in this area	My house is in a long distance from the pipes in the street	Cost of connection is too high	Monthly cost of piped water is too high	Quality or quantity of available piped water is not satisfactory	Already applied, still waiting to be connected	The process of applying for the pipe connection is too complicated	I have another satisfactory source of water for all my needs (please describe the water source)	Others
1	Bytrayanapura Zone	50	48							2	
2	Mahadevpura Zone	50	40	9	1						
3	Bommanahalli Zone	56	52	4							
4	RR Nagar Zone	15	14	1							
5	Dasarahalli Zone	20	20								
6	Byatarayanpura ULB	2	2								
7	Mahadevpura ULB	0	0								
8	Bommanahalli ULB	1	1								
9	RR Nagar ULB	3	2						1		
10	Dasarahalli ULB	7	2	1				4			
11	KR Puram ULB	1	0							1	
12	Yelahanka ULB	7	7								
13	Kengeri ULB	0	0								
14	Hebbal Minor Valley	0	0								
15	Hebbal Major Valley	0	0								
16	Challaghata Valley	1	0							1	
17	Tavarekere Valley	0	0								
18	Vrishabhavathi Valley	0	0								
19	K&C Valley	0	0								
20	K&A Valley	0	0								
	Total	213	188	15	1	0	0	4	1	4	0

In zone area 87.0% of households out of 95.5% were not connected to water supply network due to BWSSB does not have any distribution pipe in their areas while 7.0% reported that their houses were far away from BWSSB water network. 1.0% reported that they have another satisfactory source of water for all their needs and 0.5% reported that cost of connection is high (Table -19)

In ULB area 18.7% of households out of 28.0% were not connected to water supply network due to BWSSB does not have any distribution pipe in their areas while 1.3% each reported that their houses were far away from BWSSB water network, the process of applying for pipe

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Social Condition Survey for BWSSB

connection is too complicated and they have another satisfactory source of water for all their needs. 5.4% reported that they have applied for new connection (Table-20).

In core area, only 1.3% respondents were not connected to BWSSB water supply network because they have another satisfactory source of water for all their needs (Table -21).

Table - 19: Reasons for not connected to BWSSB Water Supply Network - Zone wise

Zone	Not Connected to Water Network	BWSSB doesn't have any distribution pipes in this area	My house is in a long distance from the pipes in the street	Cost of connection is too high	Monthly cost of piped water is too high	Quality or quantity of available piped water is not satisfactory	Already applied, still waiting to be connected	The process of applying for the pipe connection is too complicated	I have another satisfactory source of water for all my needs (please describe the water source)	Others
Bytrayanapura Zone	50	48							2	
Mahadevpura Zone	49	40	9	1						
Bommanahalli Zone	56	52	2							
RR Nagar Zone	15	14	1							
Dasarahalli Zone	20	20								
Total	190	174	12	1	0	0	0	0	2	0

Table - 20: Reasons for not connected to BWSSB Water Supply Network - ULB wise

ULB	Not Connected to Water Network	BWSSB doesn't have any distribution pipes in this area	My house is in a long distance from the pipes in the street	Cost of connection is too high	Monthly cost of piped water is too high	Quality or quantity of available piped water is not satisfactory	Already applied, still waiting to be connected	The process of applying for the pipe connection is too complicated	I have another satisfactory source of water for all my needs (please describe the water source)	Others
Byatarayanpura ULB	2	2								
Mahadevpura ULB	0	0								
Bommanahalli ULB	1	1								
RR Nagar ULB	3	2						1		
Dasarahalli ULB	7	2	1				4			
KR Puram ULB	1	0							1	
Yelahanka ULB	7	8								
Kengeri ULB	0	0								
Total	21	15	1	0	0	0	4	1	1	0

Table - 21: Reasons for not connected to BWSSB Water Supply Network - Core Area wise

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Core Area	Not Connected to Water Network	BWSSB doesn't have any distribution pipes in this area	My house is in a long distance from the pipes in the street	Cost of connection is too high	Monthly cost of piped water is too high	Quality or quantity of available piped water is not satisfactory	Already applied, still waiting to be connected	The process of applying for the pipe connection is too complicated	I have another satisfactory source of water for all my needs (please describe the water source)	Others
Hebbal Minor Valley	0	0								
Hebbal Major Valley	0	0								
Challaghata Valley	1	0							1	
Tavarekere Valley	0	0								
Vrishabhavathi Valley	0	0								
K&C Valley	0	0								
K&A Valley	0	0								
Total	1	0	0	0	0	0	0	0	0	0

3.6 Present Water Source (Questionnaire Ref No. B 4)

As regards source of water for drinking purpose, 35.4% households were informed that they are using piped water, 21% bottled water, 23% others facility (not described), 12% tanker, 6.3% their own well, 1.4% communal tap or well and 0.9% neighbour's well (Table-22 & Figure-9).

In Zone area, 4.5% respondents were using pipe water, 19.5% were using tankers, 9.5% were using own well water, while 0.5% were using neighbour's well water, 2.5% were using communal well/tap, 30% were using bottled water and 33.5% were using other sources (not disclosed) for drinking purpose (Table 23).

In ULB area, 62.7% respondents were using pipe water, 2.6% were using tankers, 4% were using own well water, while 1.3% were using neighbour's well water, 10.7% were using bottled water and 18.7% were using other sources (not disclosed) for drinking purpose (Table 24).

In Core area, 90.7% respondents were using pipe water, 1.3% were using tankers and 8% were using bottled water for drinking purpose (Table 25).

Table - 22: Present Drinking Water Sources - Overall

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Sl. No	Name of Zones (Villages)/ULBs/ Core Area	No of Households	Piped water (own or shared)	River/canal/pond/ stream	Tanker	Your own well	Your neighbor's well	A communal well/tap stand	Bottled water	Rainwater	Others
1	Bytrayanapura Zone	50	1		3	4	1		19		22
2	Mahadevpura Zone	50			19				26		5
3	Bommanahalli Zone	60	4		16	12		2	5		21
4	RR Nagar Zone	20	4			1		1	2		12
5	Dasarahalli Zone	20			1	2		2	8		7
6	Byatarayanapura ULB	10	3						1		6
7	Mahadevpura ULB	10	10								
8	Bommanahalli ULB	10	9						1		
9	RR Nagar ULB	10	9						1		
10	Dasarahalli ULB	10	3		2	1			1		3
11	KR Puram ULB	10	7			1			2		
12	Yelahanka ULB	10	3			1	1		1		4
13	Kengeri ULB	5	3						1		1
14	Hebbal Minor Valley	10	9						1		
15	Hebbal Major Valley	10	10								
16	Challaghata Valley	10	9						1		
17	Tavarekere Valley	10	8						2		
18	Vrishabhavathi Valley	12	12						0		
19	K&C Valley	11	10		1						
20	K&A Valley	12	10						2		
	Total	350	124	0	42	22	2	5	74	0	81

Table - 23: Present Drinking Water Sources – Zone wise

Zone	No of Households	Piped water (own or shared)	River/canal/pond/ stream	Tanker	Your own well	Your neighbour's well	A communal well/tap stand	Bottled water	Rainwater	Others
Bytrayanapura Zone	50	1		3	4	1	0	19	0	22
Mahadevpura Zone	50	0	0	19				26		5
Bommanahalli Zone	60	4	0	16	12		2	5		21
RR Nagar Zone	20	4			1		1	2		12
Dasarahalli Zone	20			1	2		2	8		7
Total	200	9	0	39	19	1	5	60	0	67

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Social Condition Survey for BWSSB

Table - 24: Present Drinking Water Sources – ULB wise

ULB	No of Households	Piped water (own or shared)	River/canal/pond/stream	Tanker	Your own well	Your neighbour's well	A communal well/tap stand	Bottled water	Rainwater	Others
Byatarayanpura ULB	10	3						1		6
Mahadevpura ULB	10	10								
Bommanahalli ULB	10	9						1		
RR Nagar ULB	10	9						1		
Dasarahalli ULB	10	3		2	1			1		3
KR Puram ULB	10	7			1			2		
Yelahanka ULB	10	3			1	1		1		4
Kengeri ULB	5	3						1		1
Total	75	47		2	3	1		8	0	14

Table - 25: Present Drinking Water Sources – Core Area wise

Core Area	No of Households	Piped water (own or shared)	River/canal/pond/stream	Tanker	Your own well	Your neighbour's well	A communal well/tap stand	Bottled water	Rainwater	Others
Hebbal Minor Valley	10	9						1		
Hebbal Major Valley	10	10								
Challaghata Valley	10	9						1		
Tavarekere Valley	10	8						2		
Vrishabhavathi Valley	12	12						0		
K&C Valley	11	10		1						
K&A Valley	12	10						2		
Total	75	68		1		0	0	6	0	0

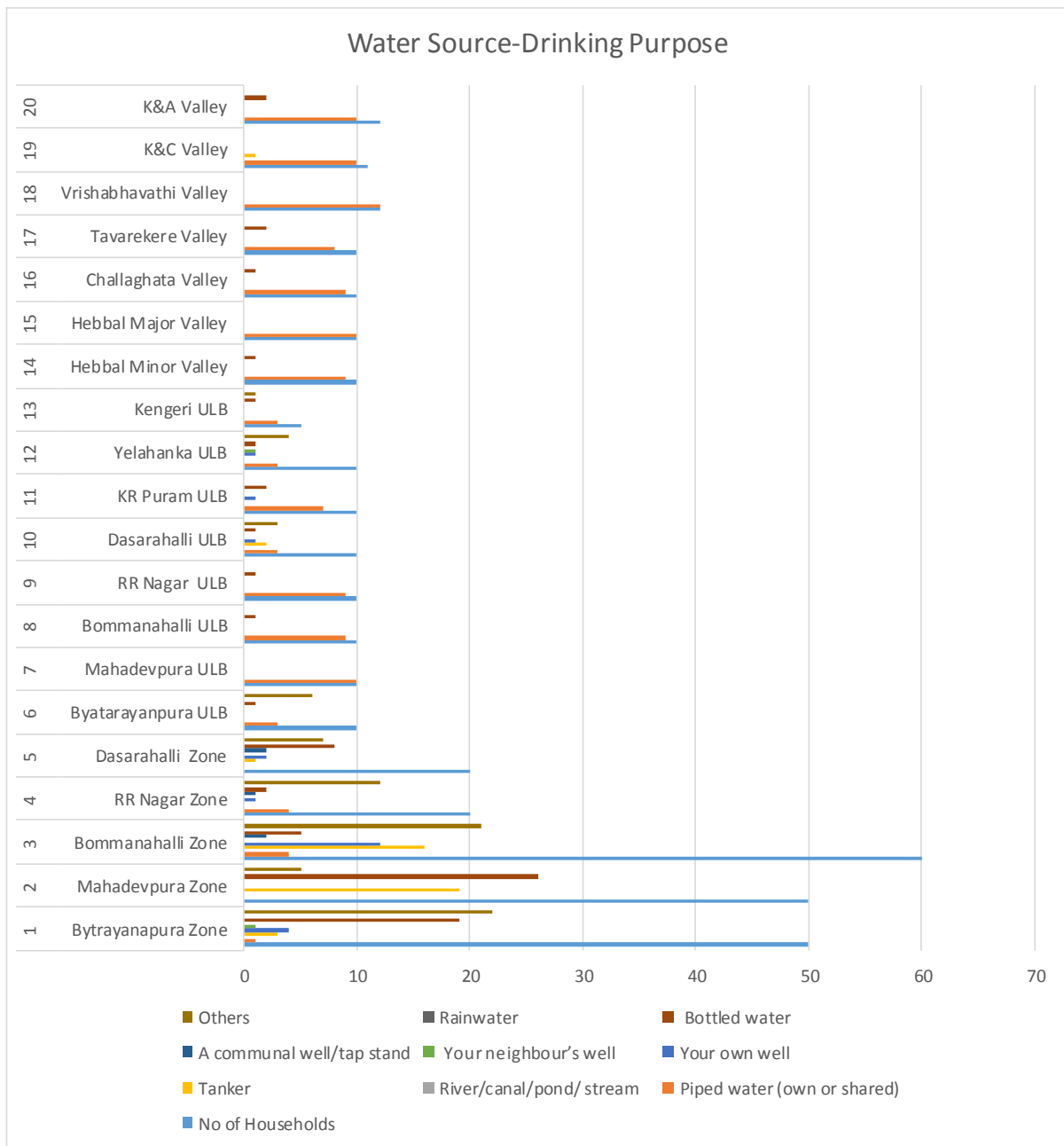
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Social Condition Survey for BWSSB

Figure – 9





Social Condition Survey for BWSSB

As regards source of water for washing purpose, 37.1% households were informed that they are using piped water, 15.4% bottled water, 35.4% other sources (not described), 15.4% tanker, 9.7% their own well, 0.85% communal tap or well and 1.4% neighbour's well (Table-26 & Figure-10).

In Zone area, 4% households were informed that they are using piped water, 25.5% were using Tanker, 14% own well water, 0.5% were using neighbour's well, 2.5% communal tap or well and 53.5% other sources (not described) for washing their body & cloths (Table-27).

In ULB area, 65.2% households were informed that they are using piped water, 2.7% were using Tanker, 6.7% own well water, 2.7% were using neighbour's well and 22.7% other sources (not described) for washing their body & cloths (Table-28).

In Core area, 97.4% households were informed that they are using piped water, 1.3% each were using Tanker & own well water for washing their body & cloths (Table-29).

Table - 26: Present Water Sources – Washing purpose - Overall

Sl. No	Name of Zones (Villages)/ULBs/ Core Area	No of House holds	Piped water (own or shared)	River/canal/pond/ stream	Tanker	Your own well	Your neighbour's well	A communal well/tap stand	Bottled water	Rainwater	Others
1	Bytrayanapura Zone	50			9	6	1				34
2	Mahadevpura Zone	50			23	4					23
3	Bommanahalli Zone	60	4		17	14		2			23
4	RR Nagar Zone	20	4		0	1		1			14
5	Dasarahalli Zone	20			2	3		2			13
6	Byatarayanapura ULB	10	4								6
7	Mahadevpura ULB	10	10								
8	Bommanahalli ULB	10	9				1				
9	RR Nagar ULB	10	9			1					
10	Dasarahalli ULB	10	3		2	1					4
11	KR Puram ULB	10	8			2					
12	Yelahanka ULB	10	3			1	1				5
13	Kengeri ULB	5	3								2
14	Hebbal Minor Valley	10	10								
15	Hebbal Major Valley	10	10								
16	Challaghata Valley	10	9		1						
17	Tavarekere Valley	10	10								
18	Vrishabhavathi Valley	12	12								
19	K&C Valley	11	10			1					
20	K&A Valley	12	12								
	Total	350	130	0	54	34	3	5	0	0	124



Social Condition Survey for BWSSB

Table - 27: Present Water Sources – Washing purpose – Zone wise

Zone	No of Households	Piped water (own or shared)	River/canal/pond/stream	Tanker	Your own well	Your neighbour's well	A communal well/tap stand	Bottled water	Rainwater	Others
Bytrayanapura Zone	50			9	6	1				34
Mahadevpura Zone	50			23	4					23
Bommanahalli Zone	60	4		17	14		2			23
RR Nagar Zone	20	4		0	1		1			14
Dasarahalli Zone	20			2	3		2			13
Total	200	8		51	28	1	5			107

Table - 28: Present Water Sources – Washing purpose – ULB wise

ULB	No of Households	Piped water (own or shared)	River/canal/pond/stream	Tanker	Your own well	Your neighbour's well	A communal well/tap stand	Bottled water	Rainwater	Others
Byatarayanpura ULB	10	4								6
Mahadevpura ULB	10	10								
Bommanahalli ULB	10	9				1				
RR Nagar ULB	10	9			1					
Dasarahalli ULB	10	3		2	1					4
KR Puram ULB	10	8			2					
Yelahanka ULB	10	3			1	1				5
Kengeri ULB	5	3								2
Total	75	49		2	5	2				17

Table - 29: Present Water Sources – Washing purpose – Core Area wise

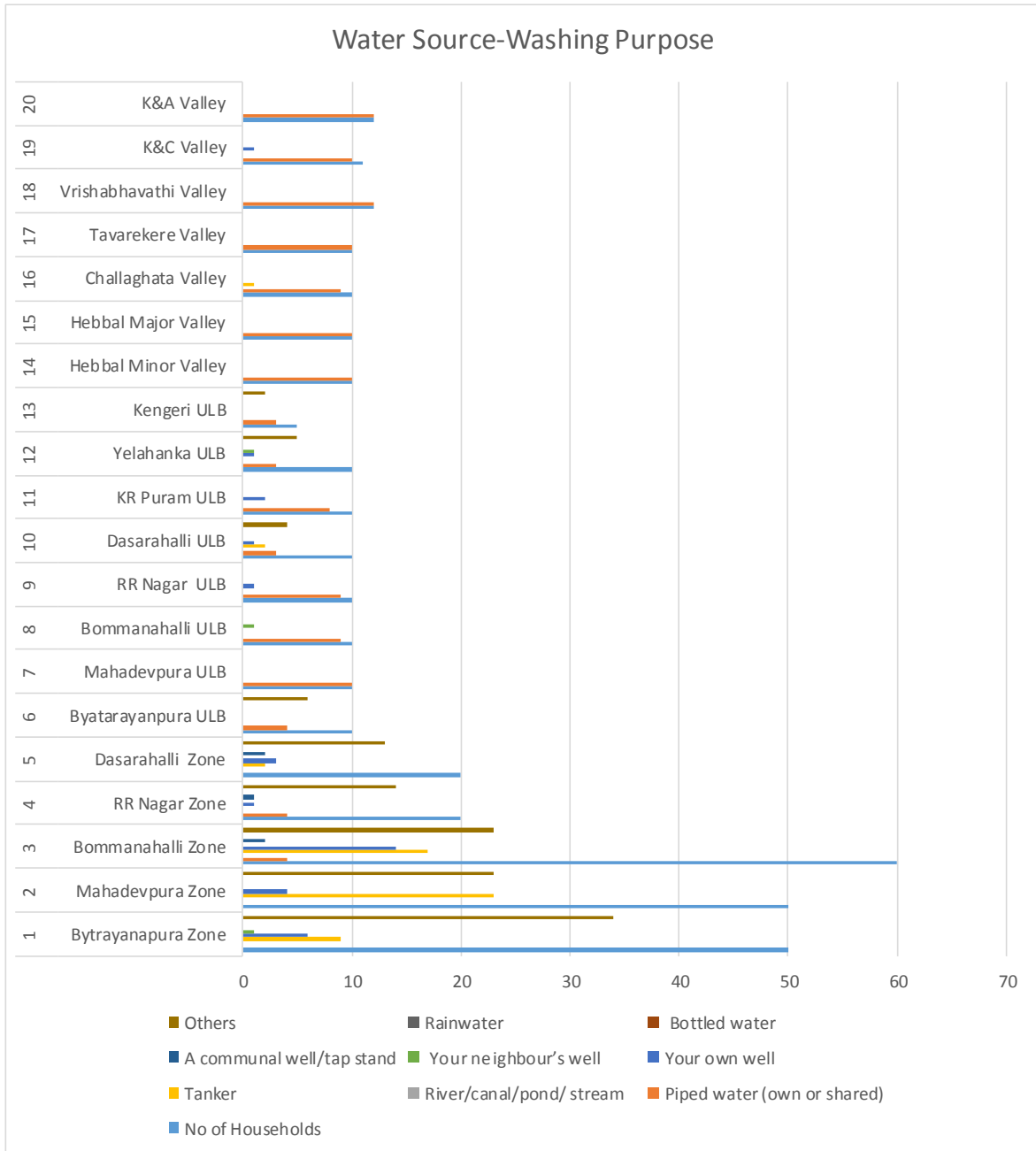
Core Area	No of Households	Piped water (own or shared)	River/canal/pond/stream	Tanker	Your own well	Your neighbour's well	A communal well/tap stand	Bottled water	Rainwater	Others
Hebbal Minor Valley	10	10								
Hebbal Major Valley	10	10								
Challaghata Valley	10	9		1						
Tavarekere Valley	10	10								
Vrishabhavathi Valley	12	12								
K&C Valley	11	10			1					
K&A Valley	12	12								
Total	75	73		1	1	0	0	0	0	0

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Social Condition Survey for BWSSB

Figure – 10





Social Condition Survey for BWSSB

3.7 Present Sanitation Status (Questionnaire Ref No. C 1 to C 4)

58% households were connected to public sewer line, while 42% were not connected to public sewer line (Table-30 and Figure-11 & 15).

In Zone area, 30% were connected to public sewer line and 70% were not connected to public sewer line (Figure-12 & 16).

In ULB area, 90.7% were connected to public sewer line and 9.3% were not connected to public sewer line (Figure-13 & 17).

In Core area, 100% were connected to public sewer line (Figure-14).

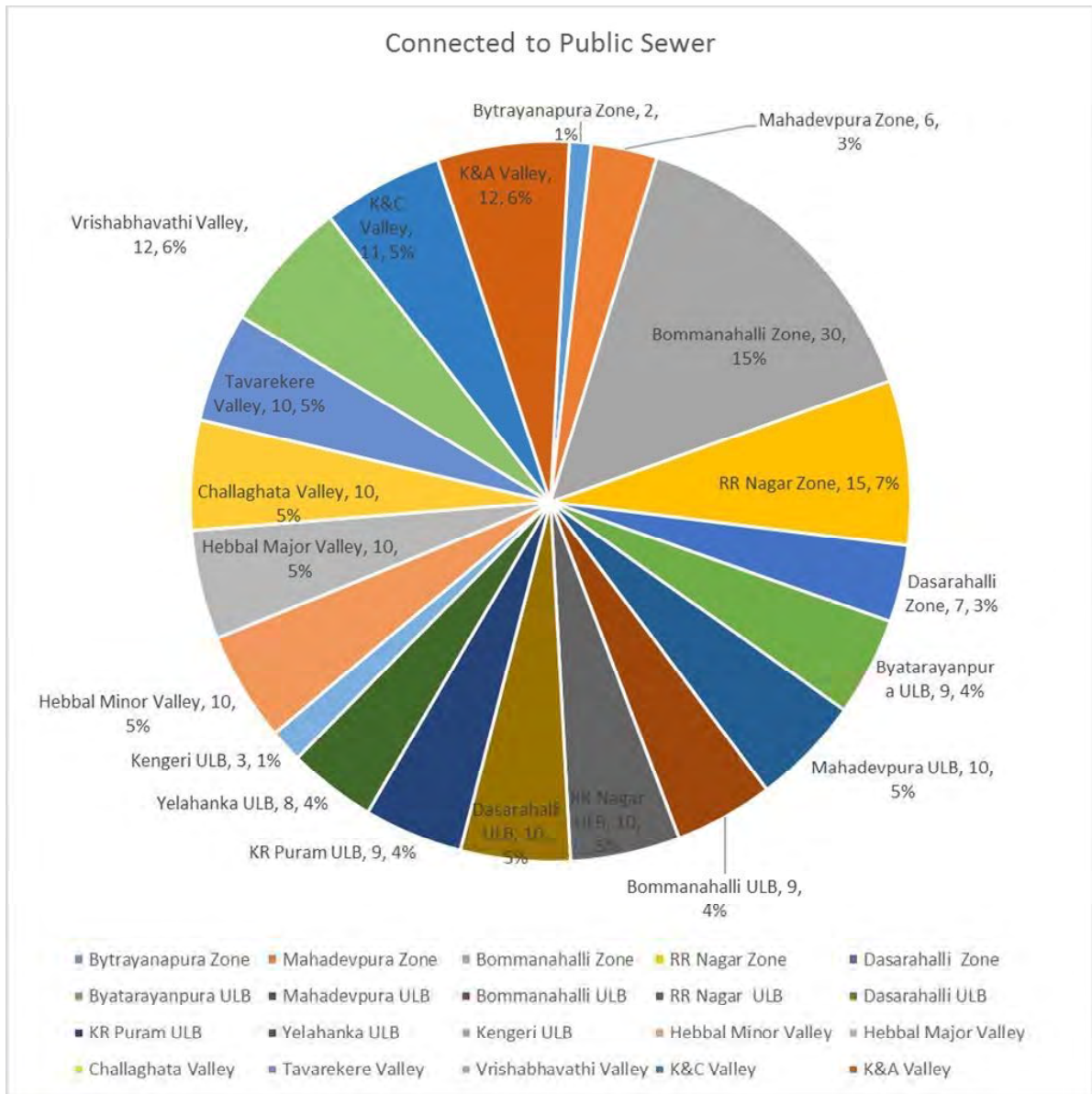
Table - 30: Present Sanitation Status

Name of Zones (Villages)/ULBs/ Core Area	Connected to Public Sewer	Not Connected to Public Sewer
Bytrayanapura Zone	2	48
Mahadevpura Zone	6	44
Bommanahalli Zone	30	30
RR Nagar Zone	15	5
Dasarahalli Zone	7	13
Byatarayanapura ULB	9	1
Mahadevpura ULB	10	0
Bommanahalli ULB	9	1
RR Nagar ULB	10	0
Dasarahalli ULB	10	0
KR Puram ULB	9	1
Yelahanka ULB	8	2
Kengeri ULB	3	2
Hebbal Minor Valley	10	0
Hebbal Major Valley	10	0
Challaghata Valley	10	0
Tavarekere Valley	10	0
Vrishabhavathi Valley	12	0
K&C Valley	11	0
K&A Valley	12	0
Total	203	147



Social Condition Survey for BWSSB

Figure – 11





Social Condition Survey for BWSSB

Figure – 12

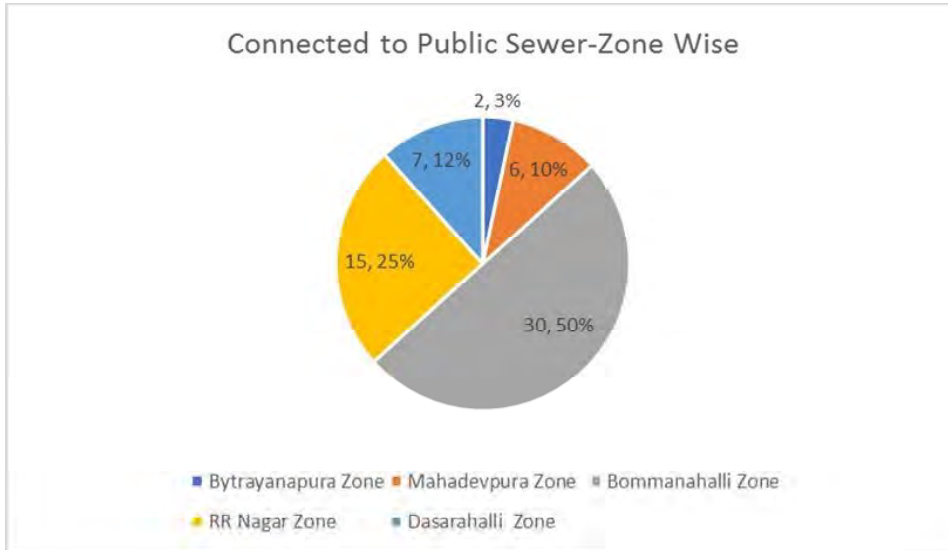


Figure – 13

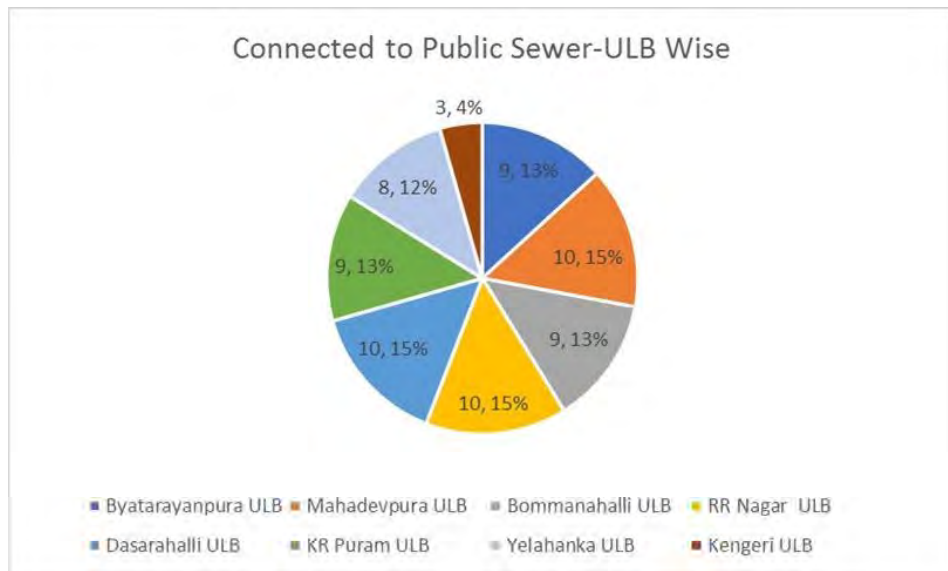


Figure – 14



Social Condition Survey for BWSSB

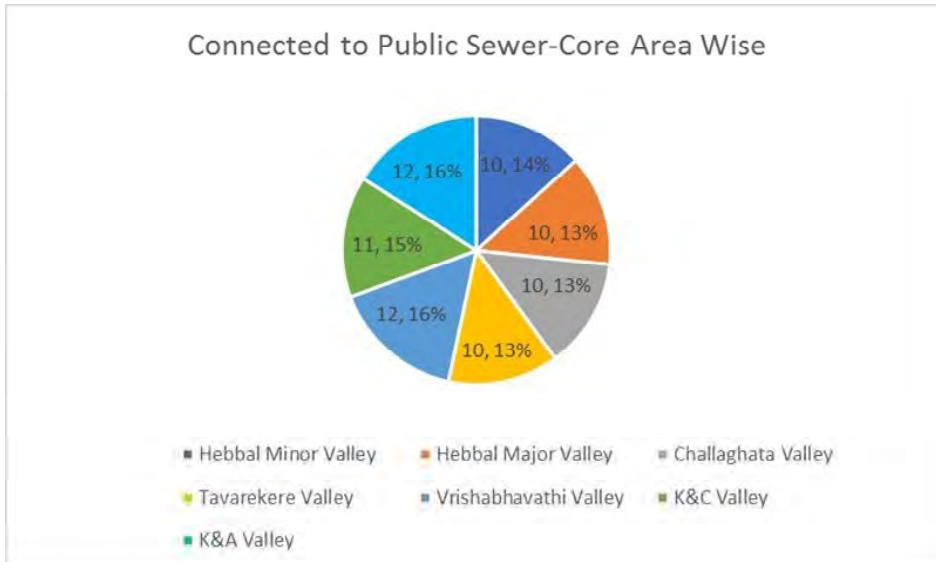
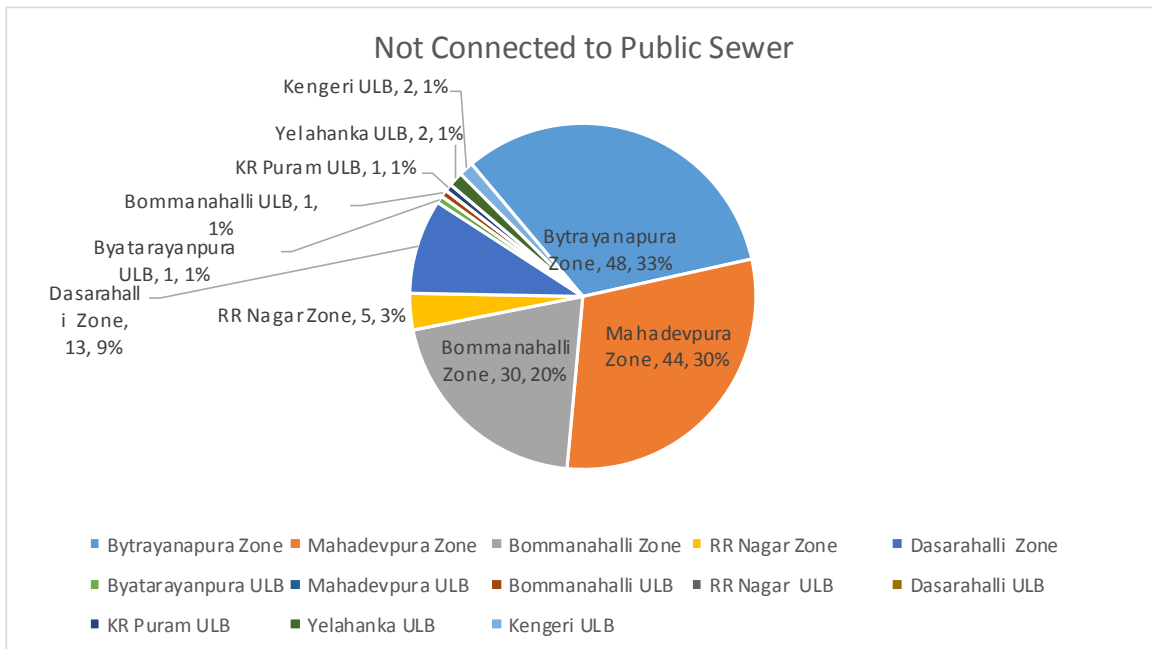


Figure – 15





Social Condition Survey for BWSSB

Figure – 16

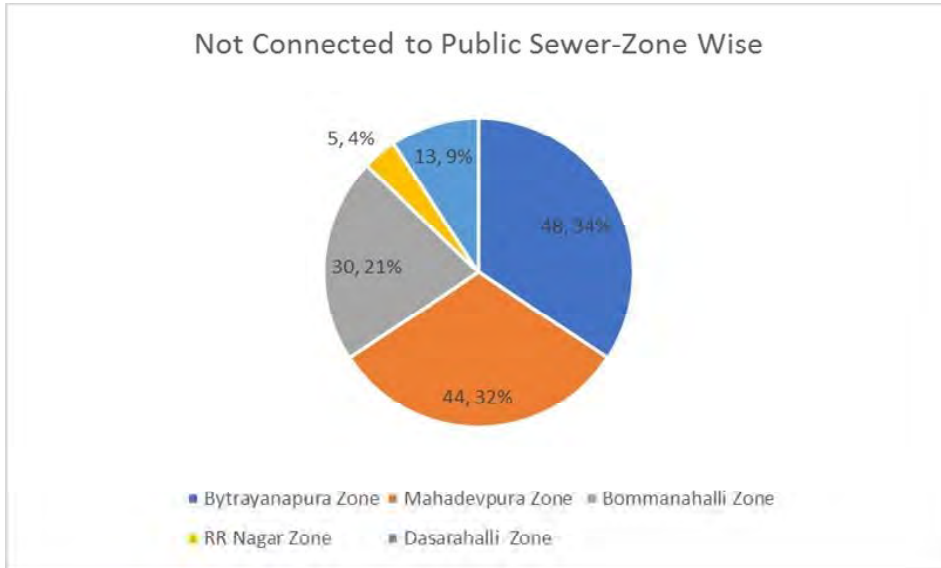
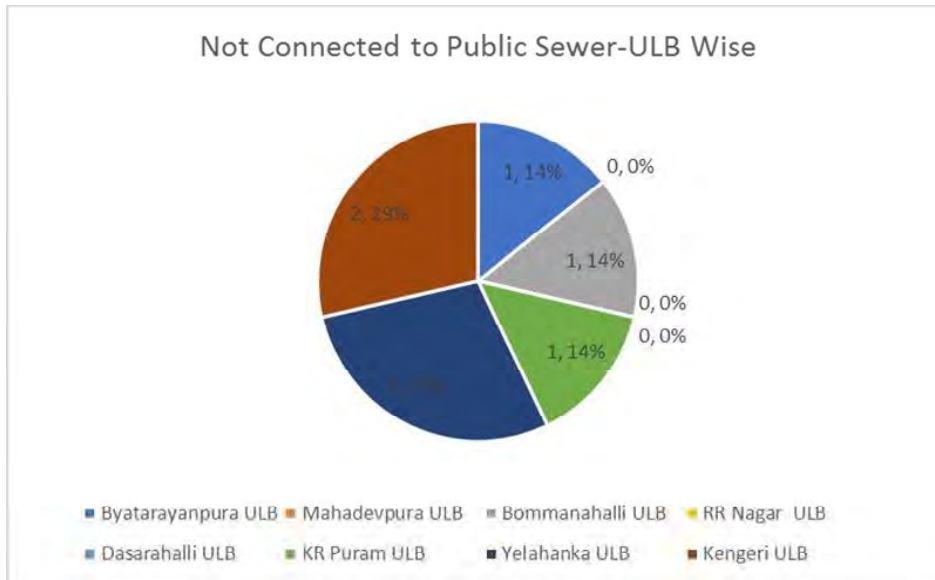


Figure – 17





Social Condition Survey for BWSSB

The detail of no of toilets both in sewer line connected and not connected area and type of toilets used in the areas where sewer lines were not connected are shown in following Table-31.

63.1% households were having one toilet, 24.3% were having two toilets, 12.6% were having toilets above two numbers. 93% of the households who were not connected to public sewer lines were using pit latrine and balance 7% were using other type of toilets.

Table - 31: Details of Toilets

Sl. No	Name of Zones/ULBs/ Core Area	One Toilet	Two Toilet	Above 2	Pit Latrine	Others	Extraction of Sledge/ Per Year
1	Bytrayanapura Zone	43	3	4	48		2 Times
2	Mahadevpura Zone	44	4	2	43	1	2 Times
3	Bommanahalli Zone	30	15	15	24	6	2 Times
4	RR Nagar Zone	14	2	4	4	1	2 Times
5	Dasarahalli Zone	11	5	4	13		2 Times
6	Byatarayanapura ULB	10	0	0	1		2 Times
7	Mahadevpura ULB	10	0				
8	Bommanahalli ULB	1	7	2	1		2 Times
9	RR Nagar ULB	1	6	3			
10	Dasarahalli ULB	5	3	2			
11	KR Puram ULB	8	2		1		2 Times
12	Yelahanka ULB	1	9		2		2 Times
13	Kengeri ULB	3	2			2	2 Times
14	Hebbal Minor Valley	3	2	5			
15	Hebbal Major Valley	8	2				
16	Challaghata Valley		9	1			
17	Tavarekere Valley	9	1				
18	Vrishabhavathi Valley	9	3				
19	K&C Valley	5	6				
20	K&A Valley	6	4	2			
	Total	221	85	44	137	10	

3.8 Satisfaction Level of Sewerage Services provided by BWSSB

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Social Condition Survey for BWSSB

33% out of 58% households who were connected public sewer line were satisfied with the service and 25% out of 58% households were not satisfied (Table-32 and Figure-11).

In Zone area, 14% out of 30% were satisfied with public sewer line service and 16% were not satisfied with the service (Figure-12).

In ULB area, 37.3% out of 90.7% were satisfied with public sewer line service and 53.4% were not satisfied with the service (Figure-13).

In Core area, 14.7% out of 100% were satisfied with public sewer line service and balance 85.3% were not satisfied with the service (Figure-14).

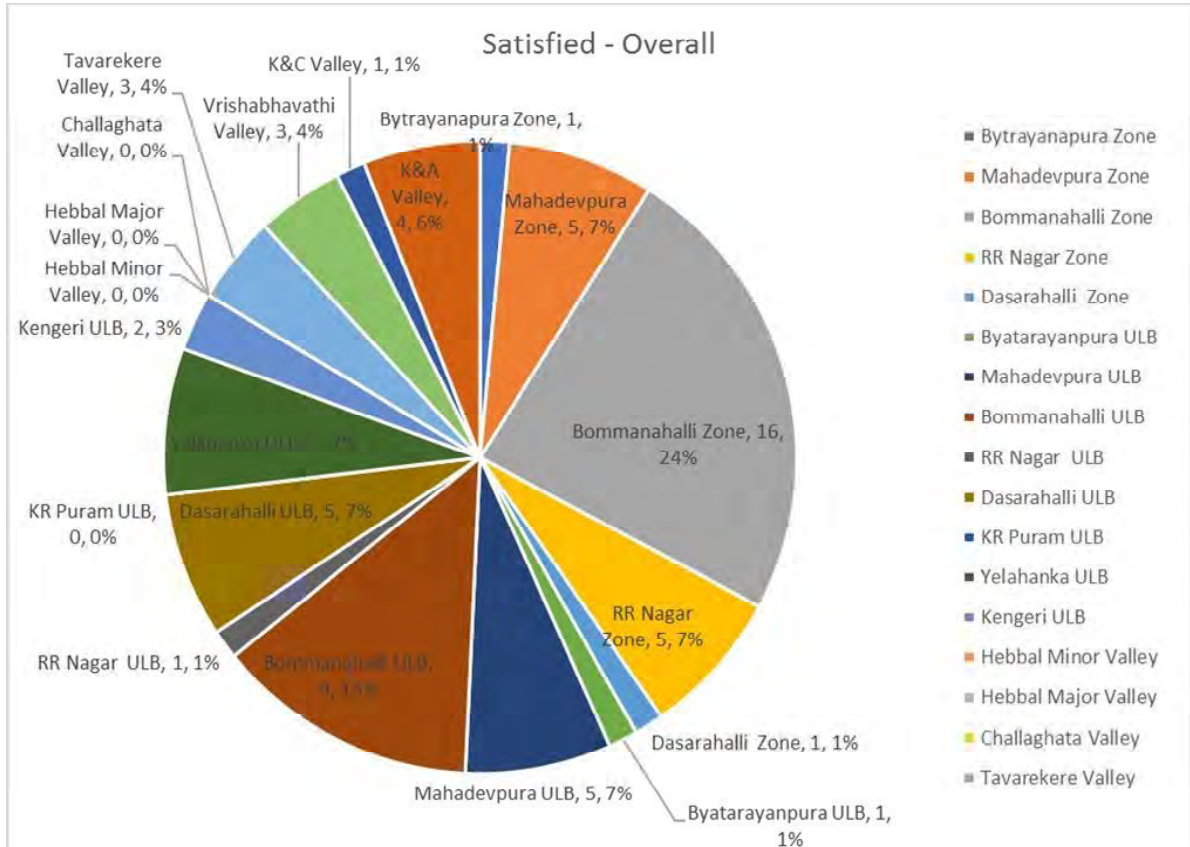
Table - 32: Satisfaction Level of Sewerage Services provided by BWSSB

Name of Zones (Villages)/ULBs/ Core Area	Connected to Public Sewer	Satisfied	Not Satisfied
Bytrayanapura Zone	2	1	1
Mahadevpura Zone	6	5	1
Bommanahalli Zone	30	16	14
RR Nagar Zone	15	5	10
Dasarahalli Zone	7	1	6
Byatarayanpura ULB	9	1	8
Mahadevpura ULB	10	5	5
Bommanahalli ULB	9	9	0
RR Nagar ULB	10	1	9
Dasarahalli ULB	10	5	5
KR Puram ULB	9	0	9
Yelahanka ULB	8	5	3
Kengeri ULB	3	2	1
Hebbal Minor Valley	10	0	10
Hebbal Major Valley	10	0	10
Challaghata Valley	10	0	10
Tavarekere Valley	10	3	7
Vrishabhavathi Valley	12	3	9
K&C Valley	11	1	10
K&A Valley	12	4	8
Total	203	67	136



Social Condition Survey for BWSSB

Figure – 18





Social Condition Survey for BWSSB

Figure – 19

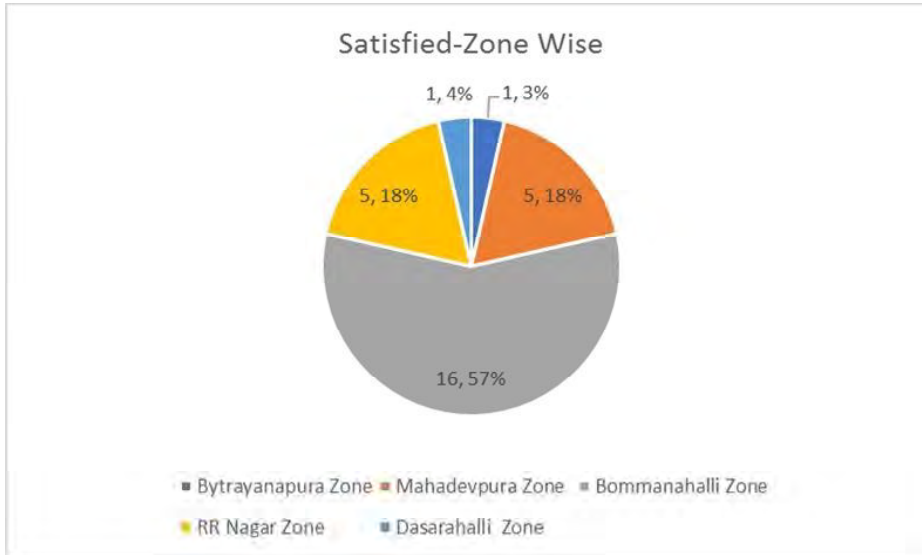


Figure – 20

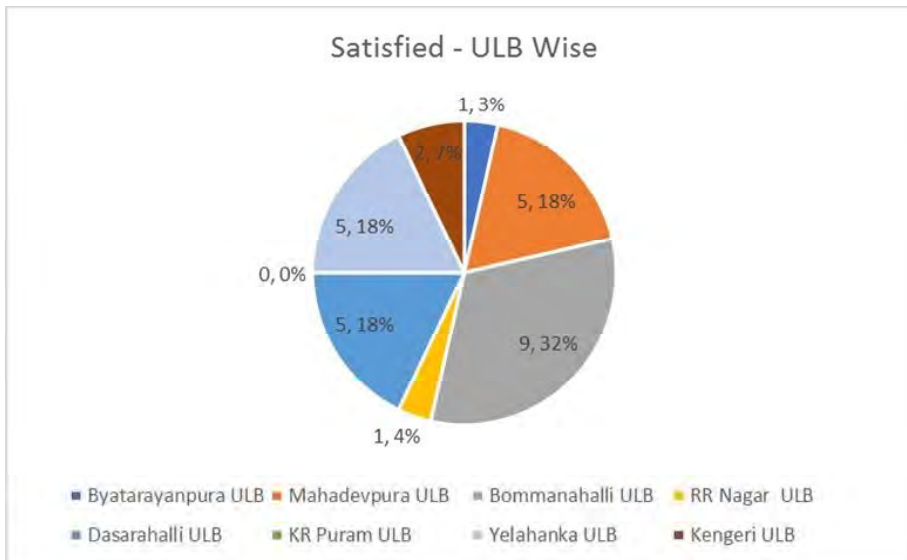


Figure – 21

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Social Condition Survey for BWSSB

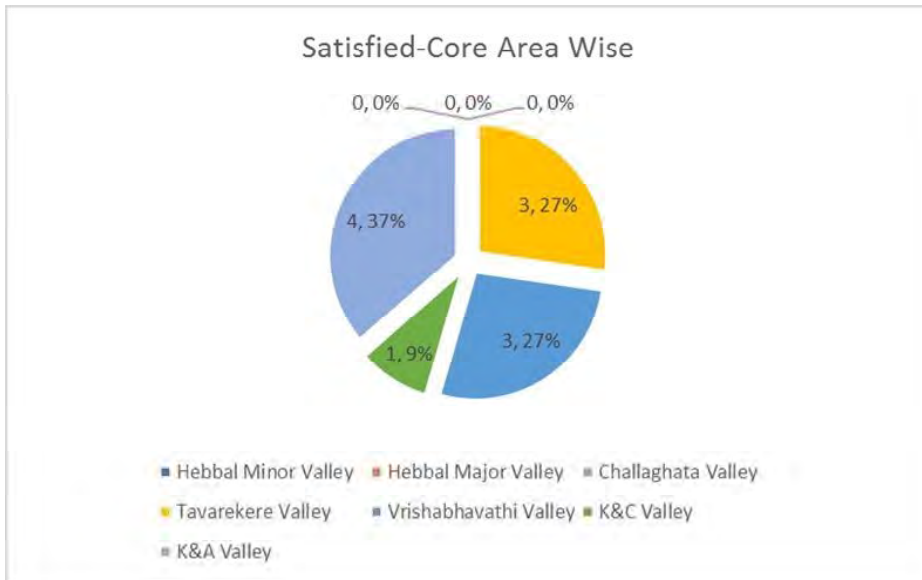
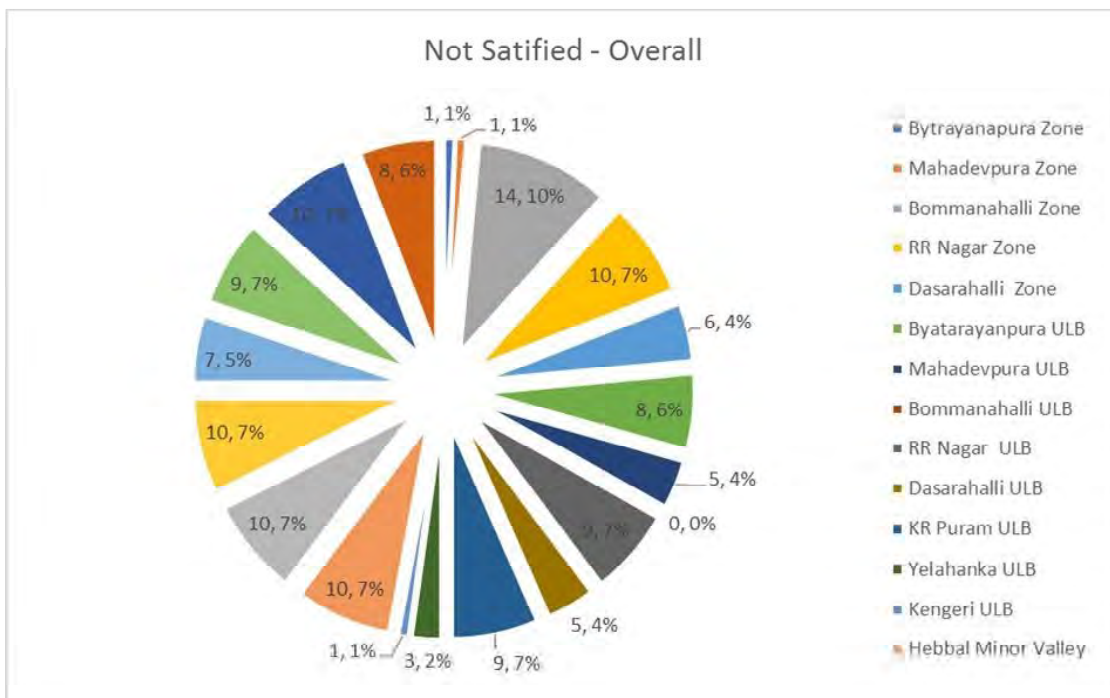


Figure – 22





Social Condition Survey for BWSSB

Figure – 23

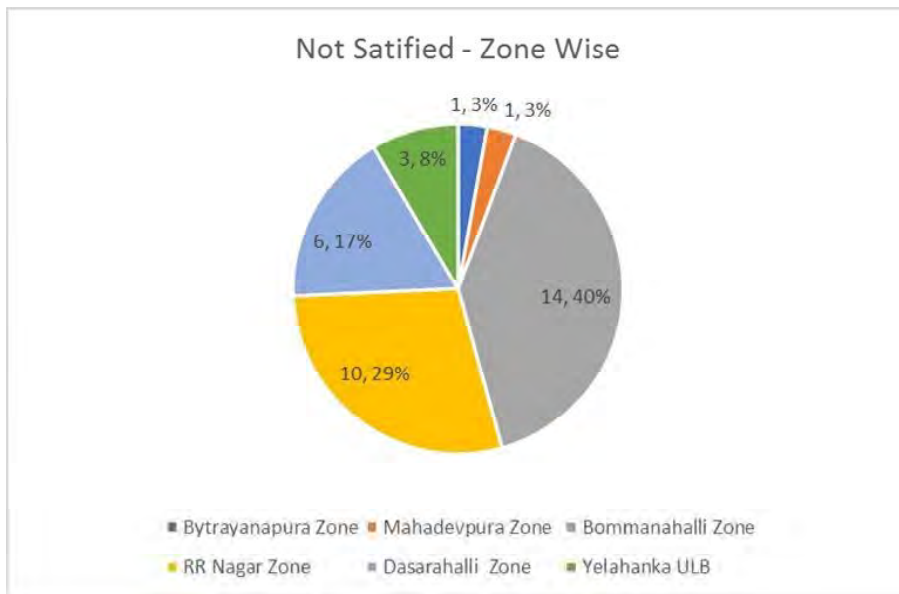
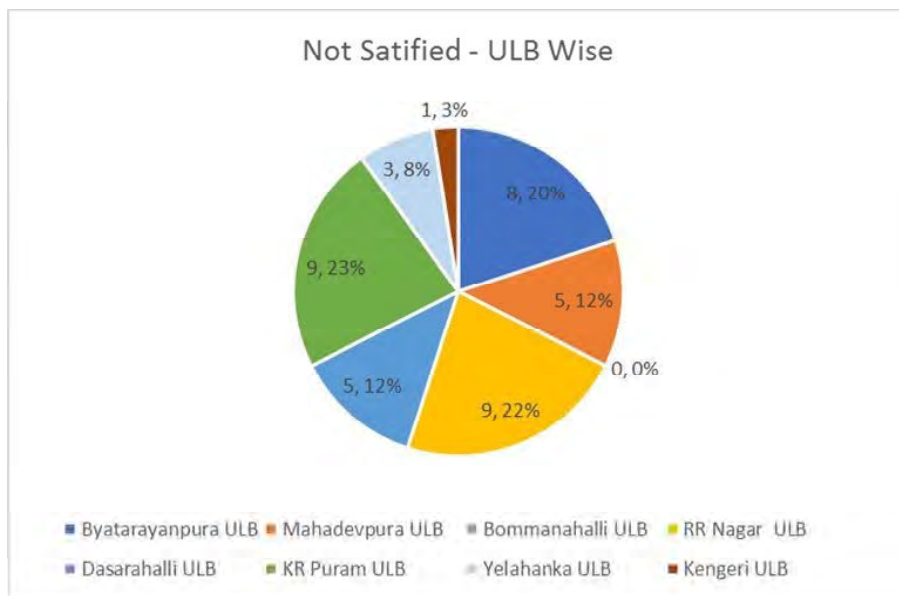


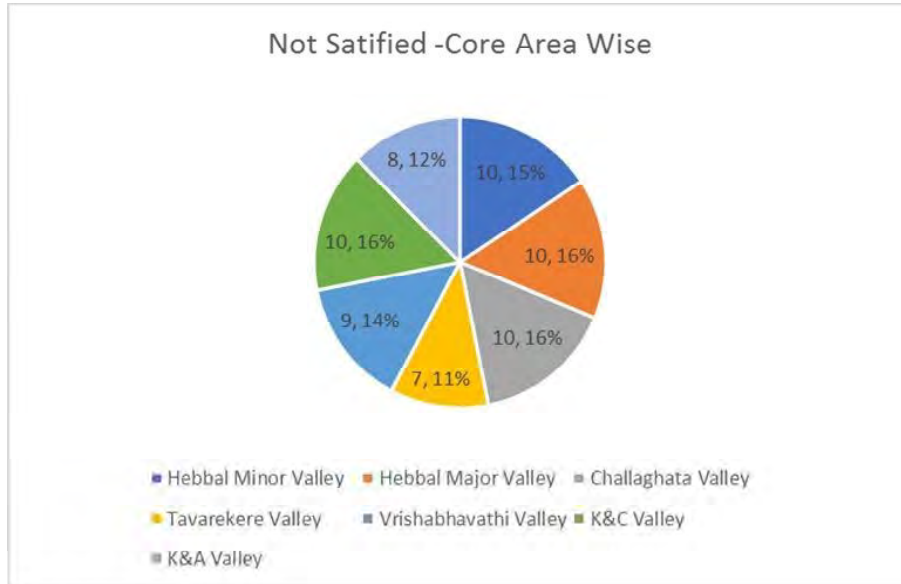
Figure – 24





Social Condition Survey for BWSSB

Figure – 25





Social Condition Survey for BWSSB

3.9 Water Consumption and Cost (Questionnaire Ref No. D 1)

As per the information available the average consumption of water both in rainy and dry seasons, piped water 5928 liters, tanker water 4223 liters, bottled water 497 liters and other source of water 2500 liters. The average monthly cost for piped water calculated as Rs 355/-, Tanker water Rs 1266/-, bottled water Rs 458/- and other source of water Rs 500/- (Table-33 & Table-34).

Table - 33: Water Consumption and Cost

Area	Monthly Water Cost in Rs. both in Dry and Rainy Season				Monthly Water Consumption in Liters both in Dry and Rainy Season			
	BWSSB piped water (own or shared)	Tanker	Bottled water	Others	BWSSB piped water (own or shared)	Tanker	Bottled water	Others
Byrayanapura Zone	300	1000	647		6000	2833	647	
Mahadevpura Zone	283	1087	850	500	5500	3812	1267	2500
Bommanahalli Zone	250	2810	220		4000	7250	175	
RR Nagar Zone	150		1000				900	
Dasarahalli Zone	875	200	175		14750		183	
Byatarayanpura ULB	300	1500	960		6000	3000	1000	
Mahadevpura ULB	500	1000	470		5500		520	
Bommanahalli ULB	416		150		3833		200	
RR Nagar ULB	287		200		4250		200	
Dasarahalli ULB	300		170		5833		180	
KR Puram ULB	283				5666			
Yelahanka ULB	300				7000			
Kengeri ULB	350		200		4666		200	
Hebbal Minor Valley								
Hebbal Major Valley								
Challaghata Valley								
Tavarekere Valley								
Vrishabhavathi Valley	350				4500			
K&C Valley								
K&A Valley	375				5500			
Monthly Average	355	1266	458	500	5928	4223	497	2500

Table - 34: Abstract of Water Consumption and Cost

NJS Consultants Co. Ltd.



Social Condition Survey for BWSSB

Sl.No.	Water Source	Average Monthly Payment (Rs.)	Average Liters per Month
1	BWSSB piped water (own or shared)	355	5928
2	Tanker	1266	4223
3	Your own or neighbor's well	0	0
4	A communal well/tap stand	0	0
5	Bottled water	458	497
7	River/canal/pond/stream	0	0
6	Rain water (Dry season)	0	0
8	Rain water (Rainy season)	0	Na
9	Others	500	2500

3.10 Satisfaction level of BWSSB Piped Water Service (Questionnaire Ref No. E 1 to E 9)

As regards satisfaction with customer service of piped water by BWSSB, 32.85% respondents were satisfied and 67.15% respondents were not satisfied with the service.

Table - 35: Satisfaction level of BWSSB Piped Water Service

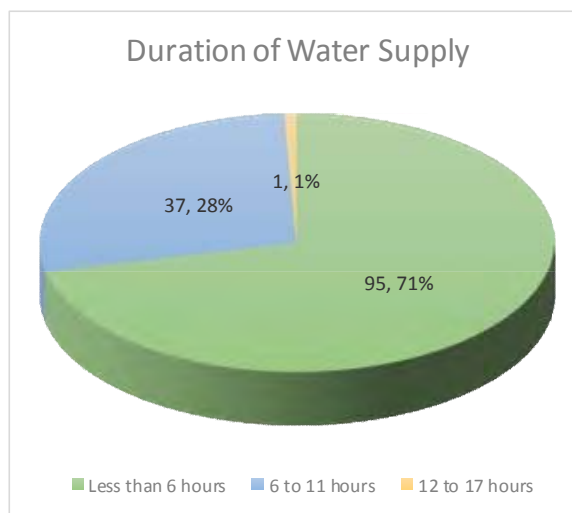
Name of Zones (Villages)/ULBs/ Core Area	Water Connected	Satisfied		Not Satisfied	
		Nos.	%	Nos.	%
Bytrayanapura Zone	0	0	0.00	0	0.00
Mahadevpura Zone	0	0	0.00	0	0.00
Bommanahalli Zone	4	0	0.00	4	2.92
RR Nagar Zone	5	3	2.19	2	1.46
Dasarahalli Zone	0	0	0.00	0	0.00
Byatarayanpura ULB	8	0	0.00	8	5.84
Mahadevpura ULB	10	1	0.73	9	6.57
Bommanahalli ULB	9	1	0.73	8	5.84
RR Nagar ULB	7	7	5.11	0	0.00
Dasarahalli ULB	3	0	0.00	3	2.19
KR Puram ULB	9	6	4.38	3	2.19
Yelahanka ULB	3	1	0.73	2	1.46
Kengeri ULB	5	0	0.00	5	3.65
Hebbal Minor Valley	10	0	0.00	10	7.30
Hebbal Major Valley	10	8	5.84	2	1.46
Challaghata Valley	9	0	0.00	9	6.57
Tavarekere Valley	10	0	0.00	10	7.30
Vrishabhavathi Valley	12	1	0.73	11	8.03
K&C Valley	11	6	4.38	5	3.65
K&A Valley	12	11	8.03	1	0.73
Total	137	45	32.85	92	67.15

Social Condition Survey for BWSSB

The main reason for un-satisfaction was due to ***too many disruptions to supply.***

As regards availability of water from tap, 71% households were reported that the water is available for < 6 hours and 28% households were reported for 6 to 11 hours. In case tap water is not available, all the households were reported that they were having water storage tank on their roof top at home (Figure-26).

Figure – 26



Regarding pressure of water supply, 45% were reported that pressure varies but usually weak, 38% were reported that pressure vary but usually strong, 10% were reported strong and were reported 7% weak. Most of the households reported that they have installed a pump to improve water pressure (Table-36 & Figure-27).

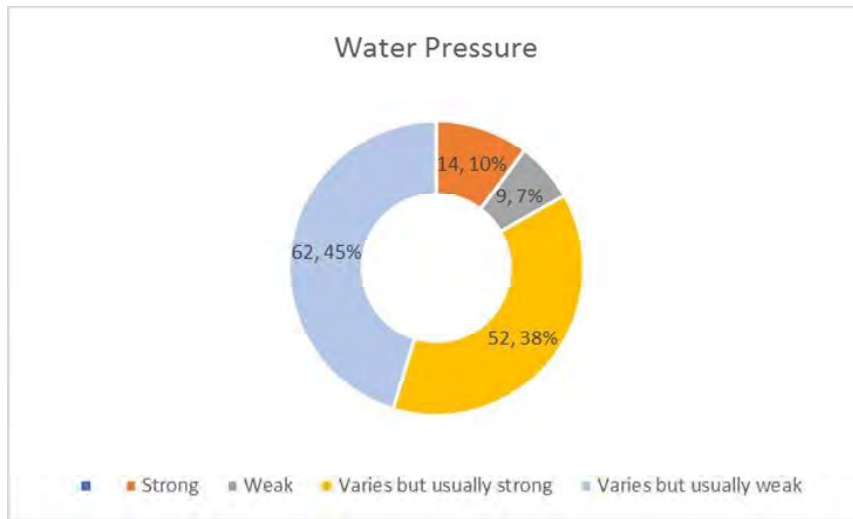
Table - 36: Pressure of Water Supply

Water Pressure	Nos.	%
Strong	14	10
Weak	9	7
Varies but usually strong	52	38
Varies but usually weak	62	45
Others	0	0.0
Total	137	100



Social Condition Survey for BWSSB

Figure – 27



As regards the quality of water, 90.5% reported as never, 2.2% reported as rarely, 6% reported as some times and 0.7% reported as usually they have experienced bad taste, while 92% were reported as never, 1.5% reported as rarely, 6.6% reported as sometimes they have experienced bad smell. 89.9% households were reported as never, 3.6% reported as rarely, 6.6% reported as sometime they have noticed bad colour, 91.2% households were reported as never, 3.6% reported as sometimes, 5.1% reported as usually they have drank water without boiling (Table-37).

Table - 37: Piped Water Quality

Water Quality	Bad Taste		Bad Smell		Bad Colour		Drink without Boiling	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
Never	124	90.5	126	92.0	123	89.8	125	91.2
Rarely	3	2.2	2	1.5	5	3.6	0	0.0
Sometimes	9	6.6	9	6.6	9	6.6	5	3.6
Usually	1	0.7	0	0.0	0	0.0	7	5.1
Total	137	100	137	100	137	100	137	100

65.0% households report that they will use less, 20.0% reported that will use more and



Social Condition Survey for BWSSB

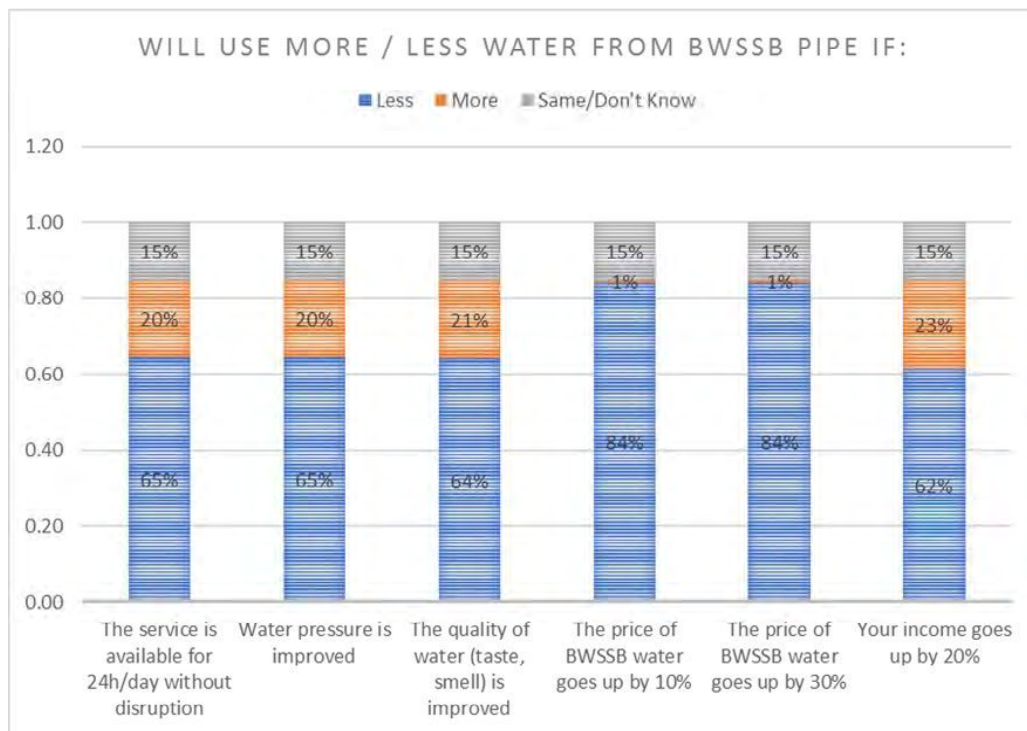
15.0% reported that they use same/don't know if the BWSSB service is available for 24hrs/day without disruption or water pressure is improved.

64.0% households reported that they will use less, 21.0% reported that they will use more and 15.0% reported that they will use same/don't know if the quality of water (taste, smell) is improved.

84.0% households will use less, 1.0% will use more and 15.0% will use same/don't know if the price of BWSSB water up by 10 % or 30%.

62.0% households will use less, 23.0% will use more and 15.0% will use same/don't know if the income of households goes up by 20%.

Figure – 28



3.11 Willingness and Affordability to pay to the Water Supply & Sewerage Service (Questionnaire Ref No. F 1 to F 8).

It was observed that 58% of the respondent interviewed were not aware of the new project of improvement of water supply and sewerage system, 6% respondents informed that they were aware about the upcoming project while 1% respondents were not sure and 35% respondents were not given any feedback.



Social Condition Survey for BWSSB

91.5% respondents, who were not connected to present water supply network, were thinking that the new project would bring safe, clean and reliable piped water and decrease the river pollution and improve the environment while 0.5% respondent reported as 'No' and 8.0% were not sure (Table-38).

Table - 38: Response towards BWSSB's improvement Project

Area	Not Connected to Water Network	NO		YES		NOT SURE	
		Nos.	%	Nos.	%	Nos.	%
Bytrayanapura Zone	50		0.0	50	23.5		
Mahadevpura Zone	50		0.0	36	16.9	14	7
Bommanahalli Zone	56	1	0.5	55	25.8		
RR Nagar Zone	15			12	5.6	3	1
Dasarahalli Zone	20			20	9.4		
Byatarayanpura ULB	2			2	0.9		
Mahadevpura ULB	0						
Bommanahalli ULB	1			1	0.5		
RR Nagar ULB	3			3	1.4		
Dasarahalli ULB	7			7	3.3		
KR Puram ULB	1			1	0.5		
Yelahanka ULB	7			7	3.3		
Kengeri ULB	0						
Hebbal Minor Valley	0						
Hebbal Major Valley	0						
Challaghata Valley	1			1	0		
Tavarekere Valley	0						
Vrishabhavathi Valley	0						
K&C Valley	0						
K&A Valley	0						
Total	213	1	0.5	195	91.5	17	8



Social Condition Survey for BWSSB

91.5% were ready to connect and 8.5% were not sure, If the BWSSB provides good quality and reliable piped water to your residential area 24 hours a day while 94.6% respondents were ready to connect and 5.4% were not sure if BWSSB provide the improved sanitation system due to the new sewerage development (Table-39).

Table - 39: Willingness to Connect

Area	Water Network							Sewerage Network						
	Not Connected	NO		YES		NOT SURE		Not Connected	NO		YES		NOT SURE	
		Nos.	%	Nos.	%	Nos.	%		Nos.	%	Nos.	%	Nos.	%
Bytrayanapura Zone	50			50	23.5			48			48	32.7		
Mahadevpura Zone	50			37	17.4	13	6	44			36	24.5	8	5.4
Bommanahalli Zone	56			56	26.3			30			30	20.4		
RR Nagar Zone	15			15	7.0			5			5	3.4		
Dasarahalli Zone	20			15	7.0	5	2	13			13	8.8		
Byatarayanpura ULB	2			2	0.9			1			1	0.7		
Mahadevpura ULB	0							0						
Bommanahalli ULB	1			1	0.5			1			1	0.7		
RR Nagar ULB	3			3	1.4			0			0	0.0		
Dasarahalli ULB	7			7	3.3			0			0	0.0		
KR Puram ULB	1			1	0.5			1			1	0.7		
Yelahanka ULB	7			7	3.3			2			2	1.4		
Kengeri ULB	0							2			2	1		
Hebbal Minor Valley	0							0						
Hebbal Major Valley	0							0						
Challaghata Valley	1			1	0			0						
Tavarekere Valley	0							0						
Vrishabhavathi Valley	0							0						
K&C Valley	0							0						
K&A Valley	0							0						
Total	213	0	0.0	195	91.5	18	8.5	147	0	0.0	139	94.6	8	5.4



Social Condition Survey for BWSSB

95.3% respondents were ready to pay and 4.7 % were not sure, If BWSSB increase the water and sewerage monthly tariff due to the recovery of the increased O&M cost for piped water and 93.9% respondents were ready to pay and 6.1 % were not sure for sewerage service (Table-40).

Table - 40: Affordability to pay increased monthly tariff.

Area	Piped Water Supply							Sewerage Service						
	Not Connected	NO		YES		NOT SURE		Not Connected	NO		YES		NOT SURE	
		Nos.	%	Nos.	%	Nos.	%		Nos.	%	Nos.	%	Nos.	%
Bytrayanapura Zone	50			50	23.5			48			44	29.9		
Mahadevpura Zone	50			41	19.2	9	4	44			39	26.5	9	6.1
Bommanahalli Zone	56			56	26.3			30			30	20.4		
RR Nagar Zone	15			15	7.0			5			5	3.4		
Dasarahalli Zone	20			20	9.4			13			13	8.8		
Byatarayanpura ULB	2			2	0.9			1			1	0.7		
Mahadevpura ULB	0				0.0			0				0.0		
Bommanahalli ULB	1			1	0.5			1			1	0.7		
RR Nagar ULB	3			3	1.4			0				0.0		
Dasarahalli ULB	7			6	2.8	1	0	0			0	0.0		
KR Puram ULB	1			1	0.5			1			1	0.7		
Yelahanka ULB	7			7	3.3			2			2	1.4		
Kengeri ULB	0							2			2	1		
Hebbal Minor Valley	0							0						
Hebbal Major Valley	0							0						
Challaghata Valley	1			1	0			0						
Tavarekere Valley	0							0						
Vrishabhavathi Valley	0							0						
K&C Valley	0							0						
K&A Valley	0							0						
Total	213	0	0.0	203	95.3	10	4.7	147	0	0.0	138	93.9	9	6.1

95.8% respondents ready to connect piped water supply if BWSSB provides good quality and reliable piped water to their residential area 24 hours a day while 4.2% were not sure.



Social Condition Survey for BWSSB

Table - 41: Willingness to connect piped water if BWSSB provides 24hrs service.

Area	Not Connected Water Network	NO		YES		NOT SURE	
		Nos.	%	Nos.	%	Nos.	%
Bytrayanapura Zone	50			50	23.5		
Mahadevpura Zone	50			41	19.2	9	4.2
Bommanahalli Zone	56			56	26.3		
RR Nagar Zone	15			15	7.0		
Dasarahalli Zone	20			20	9.4		
Byatarayanpura ULB	2			2	0.9		
Mahadevpura ULB	0						
Bommanahalli ULB	1			1	0.5		
RR Nagar ULB	3			3	1.4		
Dasarahalli ULB	7			7	3.3		
KR Puram ULB	1			1	0.5		
Yelahanka ULB	7			7	3.3		
Kengeri ULB	0						
Hebbal Minor Valley	0						
Hebbal Major Valley	0						
Challaghata Valley	1			1	0		
Tavarekere Valley	0						
Vrishabhavathi Valley	0						
K&C Valley	0						
K&A Valley	0						
Total	213	0	0.0	204	95.8	9	4.2

77.5% respondents were ready to pay below 500Rs while 21.6% were ready to pay 500 to 1000 Rs and 0.9% were ready to 1000 to 2000Rs as a connection fee for piped water supply if BWSSB provides good quality and reliable piped water to their residential area 24 hours a day.

85.7% respondents were ready to pay below 300Rs while 13.6% were ready to pay 300 to 600 Rs and 0.7% were ready to above 600 Rs as a connection fee for sewerage service (Table -42).



Social Condition Survey for BWSSB

Table - 42: Connection fee for piped water and sewerage service if BWSSB provides 24hrs reliable service.

Area	Not Connected	Piped Water						Not Connected	Sewerage Service					
		Below 500 Rs		500 to 1000Rs		1000 to 2000 Rs.			Below 300 Rs		300 to 600Rs		Above 600Rs.	
		Nos.	%	Nos.	%	Nos.	%		Nos.	%	Nos.	%	Nos.	%
Bytrayanapura Zone	50	50	23.5					48	48	32.7				
Mahadevpura Zone	50	50	23.5					44	42	28.6	2	1.4		
Bommanahalli Zone	56	13	6.1	41	19.2	2	1	30	11	7.5	18	12.2	1	1
RR Nagar Zone	15	14	6.6	1	0.5			5	5	3.4				
Dasarahalli Zone	20	17	8.0	3	1.4			13	13	8.8				
Byatarayanpura ULB	2	2	0.9					1	1	0.7				
Mahadevpura ULB	0		0.0					0		0.0				
Bommanahalli ULB	1	1	0.5					1	1	0.7				
RR Nagar ULB	3	3	1.4					0		0.0				
Dasarahalli ULB	7	7	3.3					0		0.0				
KR Puram ULB	1	1	0.5					1	1	0.7				
Yelahanka ULB	7	7	3.3					2	2	1.4				
Kengeri ULB	0							2	2	1.4				
Hebbal Minor Valley	0							0						
Hebbal Major Valley	0							0						
Challaghata Valley	1			1				0						
Tavarekere Valley	0							0						
Vrishabhavathi Valley	0							0						
K&C Valley	0							0						
K&A Valley	0							0						
Total	213	165	77.5	46	21.1	2	0.9	147	126	85.7	20	13.6	1	0.7

58.0% respondents were willing to pay below 2000Rs and 2.0% were willing to pay 2000 to 5000Rs to get Cauvery water connection while 40.0% who were connected to BWSSB water network not given any feedback (Figure-29).

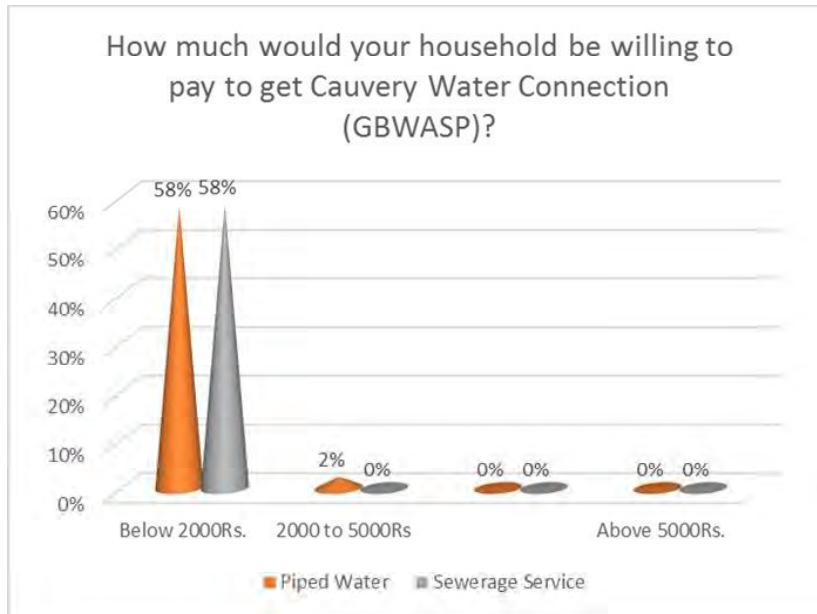
58.0% respondents were willing to pay below 2000Rs to get sewerage service connection of



Social Condition Survey for BWSSB

GBWASP network and 42.0% who were connected to BWSSB sewerage network not given any feedback (Figure-29).

Figure – 29



16.0% respondents could afford to pay below 100Rs/month while 35% could afford to pay 100 to 300Rs/month and 9.0% could afford to pay 300 to 500Rs/month for good quality piped water. 40% respondents were not given any feedback (Figure-30).

12.0% respondents could afford to pay below 50Rs/month while 35% could afford to pay 50 to 200Rs/month and 14.0% could afford to pay 200 to 400Rs/month for reliable sewerage service 24hrs a day. 40% respondents were not given any feedback (Figure-30).

43.0% respondents were considered that price is the most important factor while 8.0% respondents were considered water quality and 9.0% were considered reliability of service for connecting to BWSSB piped water. 40% respondents were not given any feedback (Figure-31).

47.0% respondents were considered that price is the most important factor while 2.0% respondents were considered degree of improvement of the surrounding water environment and 11.0% were considered reliability of service for connecting to BWSSB sewerage service. 40% respondents were not given any feedback (Figure-31).

Figure – 30



Social Condition Survey for BWSSB

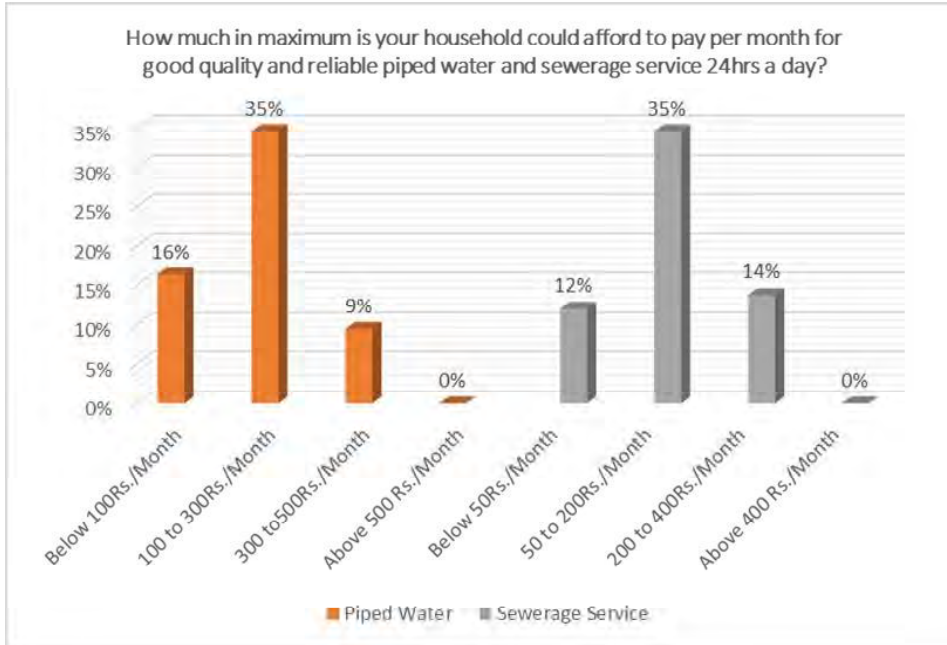
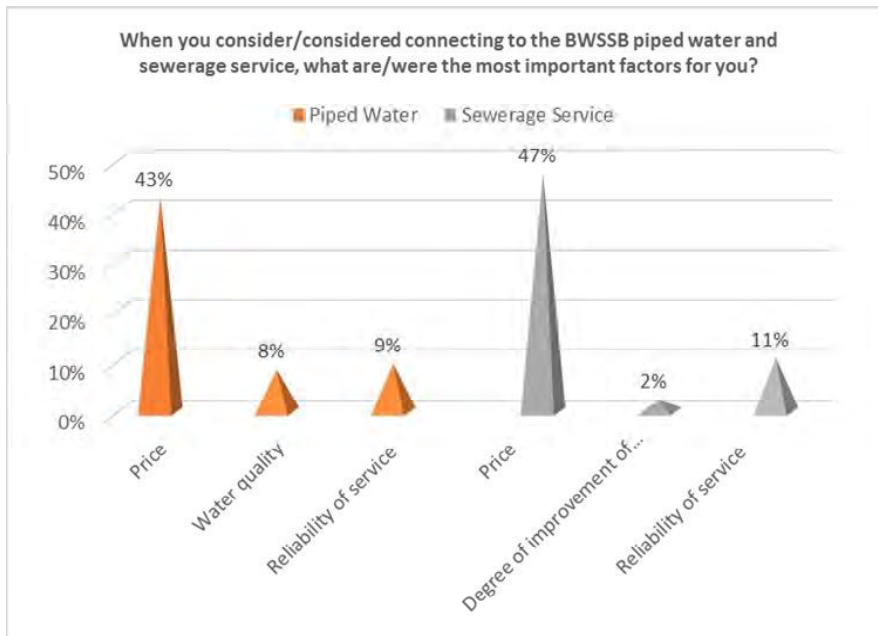


Figure – 31





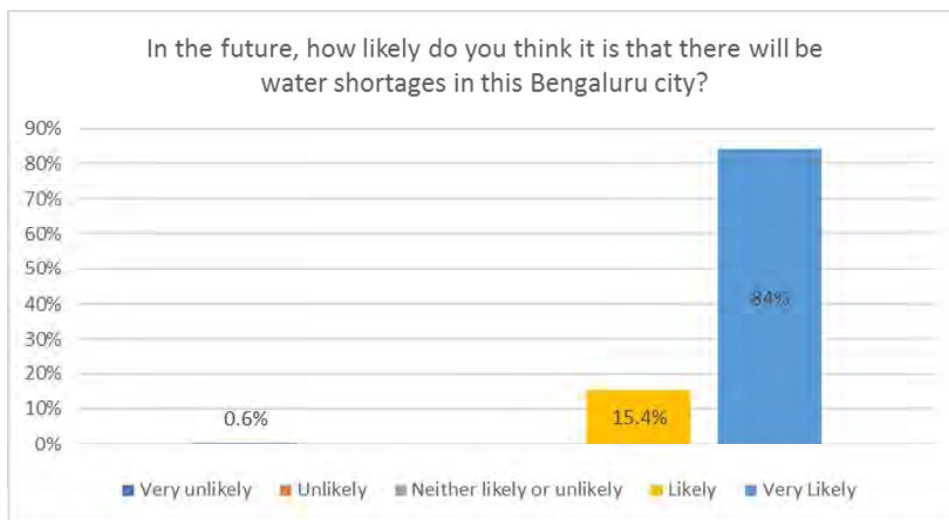
Social Condition Survey for BWSSB

3.12 Awareness toward Water Conservation, Environment, Sewage Re-use and Public Health (Questionnaire Ref No. G 1 to G 4)

3.12.1 Water Conservation (Questionnaire Ref No. G 1)

Most of the respondents (84%) expressed that very likely there will be water shortage in Bengaluru City and 15.4% respondents reported that likely Bengaluru City will face water shortage in the future and 0.6% reported that very unlikely. (Figure - 32).

Figure – 32

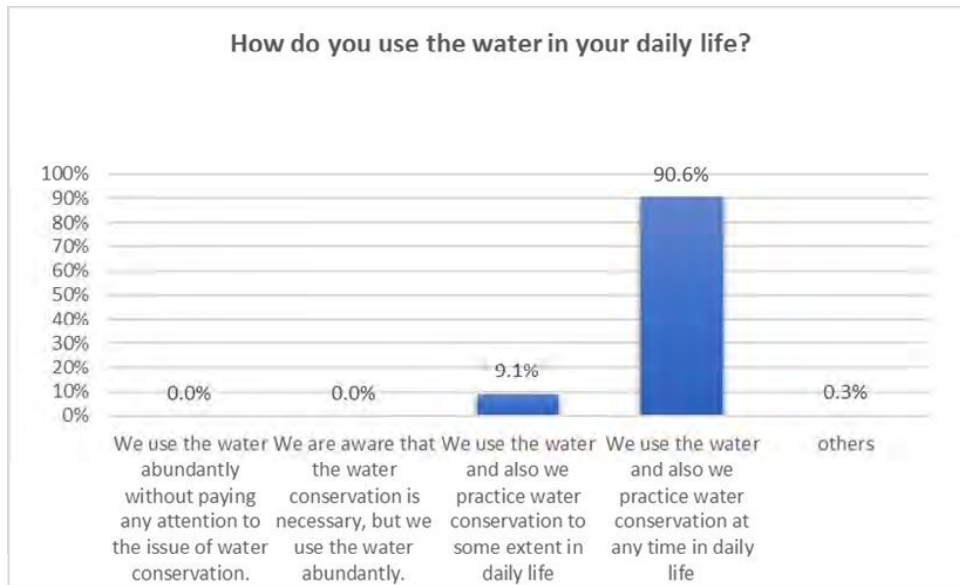


When asked about the water usage in their daily life maximum (90.6%) respondents conveyed that they use the water and practice water conservation at any time in daily life, 9.1% conveyed that they use the water and practice water conservation to some extent in daily life and 0.3% conveyed as others (Figure – 33).



Social Condition Survey for BWSSB

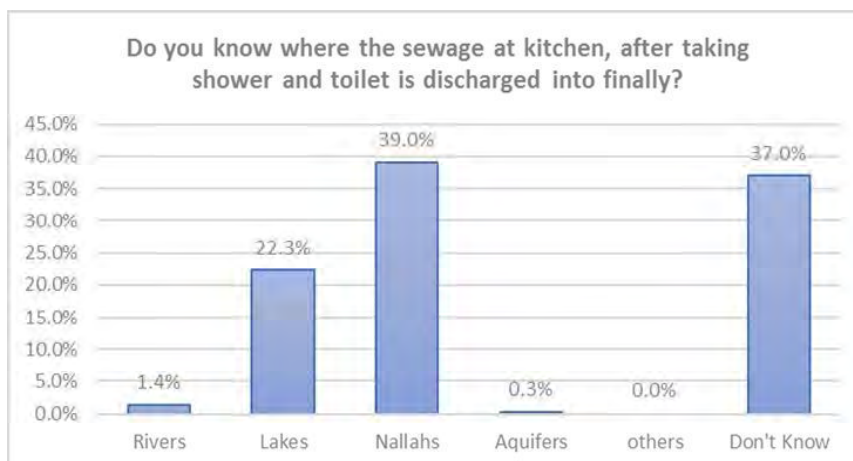
Figure – 33



3.12.2 Environment (Questionnaire Ref No. G 2)

39% households were reported that the waste is discharged finally to **nallahs**, 22.3% to **lakes**, 1.4% to **rivers**, 0.3% to **aquifers** and 37% reported as **do not know** (Figure-34).

Figure – 34

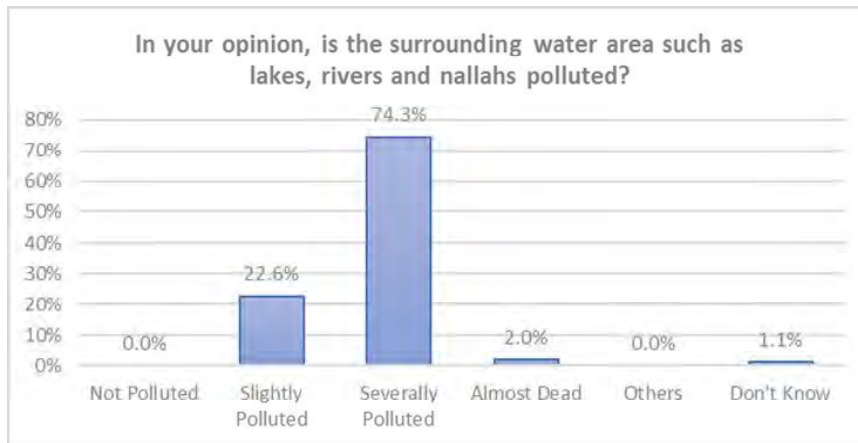




Social Condition Survey for BWSSB

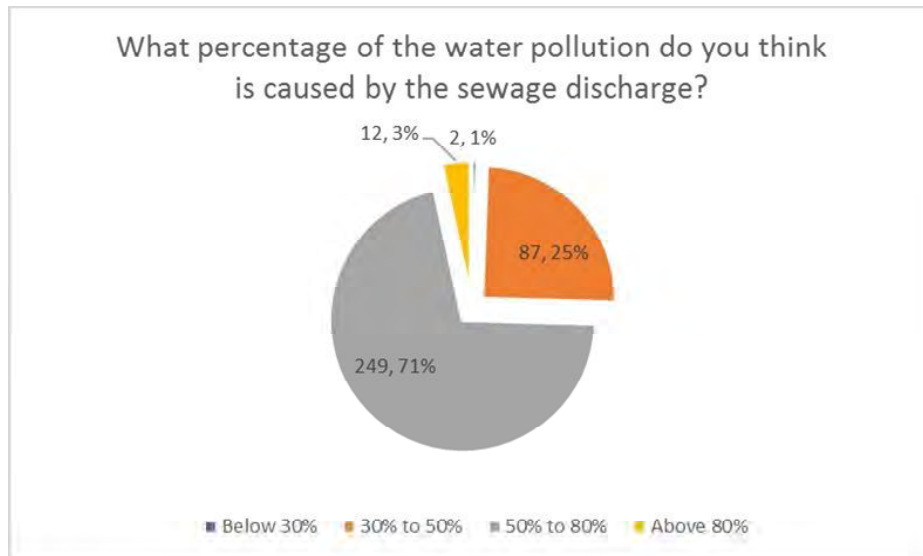
74.3% households were reported that surrounding water area such as lakes, rivers and nallahs are **severely polluted**, 22.6% reported that it is **slightly polluted**, 2% reported as **almost dead** and 1.1 % reported as **don't know** (Figure-35).

Figure – 35



71% households think that **50 to 80%** of the water pollution is caused by the sewage discharge, another 25% think that **30 to 50%**, 3% think that **above 80%** and 1% think that **below 30%** (Figure-36).

Figure – 36



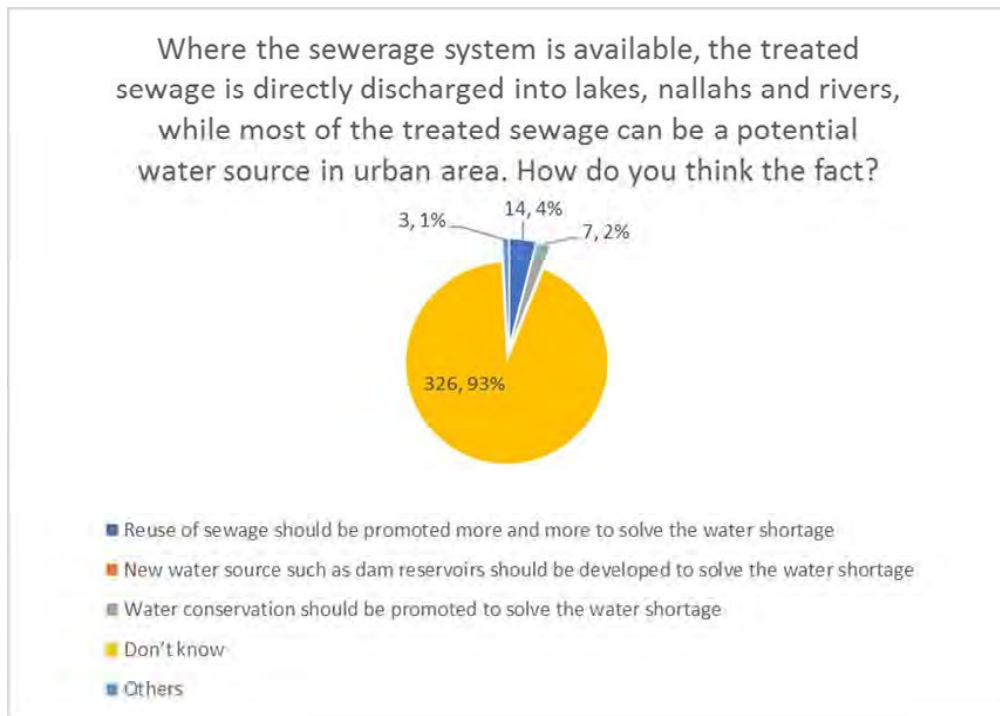


Social Condition Survey for BWSSB

3.12.3 Sewage Re-use / Recycling (Questionnaire Ref No. G 3)

4% of the respondent expressed that re-use of sewage should be promoted more and more to solve the water shortage and 93% people expressed that they don't know about the fact that most of the treated sewage can be a potential water source in urban area (Figure-37).

Figure – 37



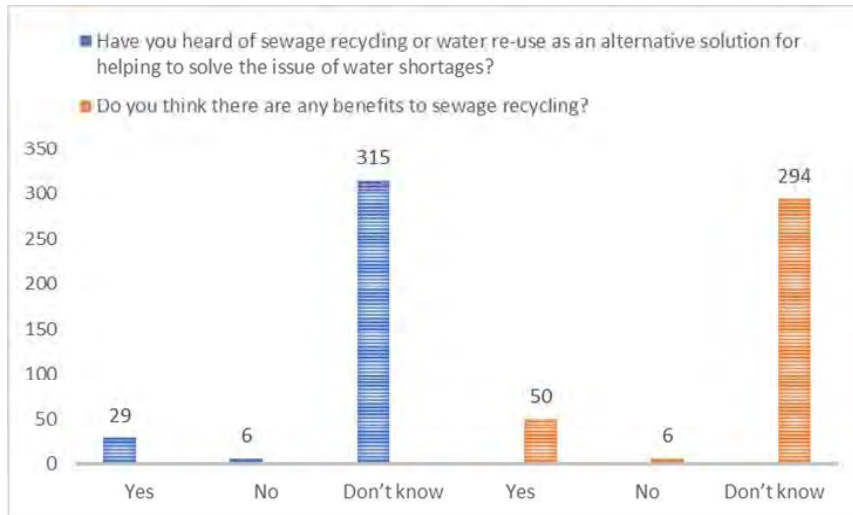
8% of the respondent think that it is a good idea in terms of improving the problem of water shortage as the advanced treated sewage can be used as flushing water for toilets or watering trees at gardens as an alternative water source to tap water. 90% reported as do not know (Figure-38).

84% of the respondents don't know that sewage recycling or water re-use as an alternative solution for helping to solve the issue of water shortages. 14% heard that sewage recycling or water re-use as an alternative solution for helping to solve the issue of water shortages (Figure-38).

Figure – 38

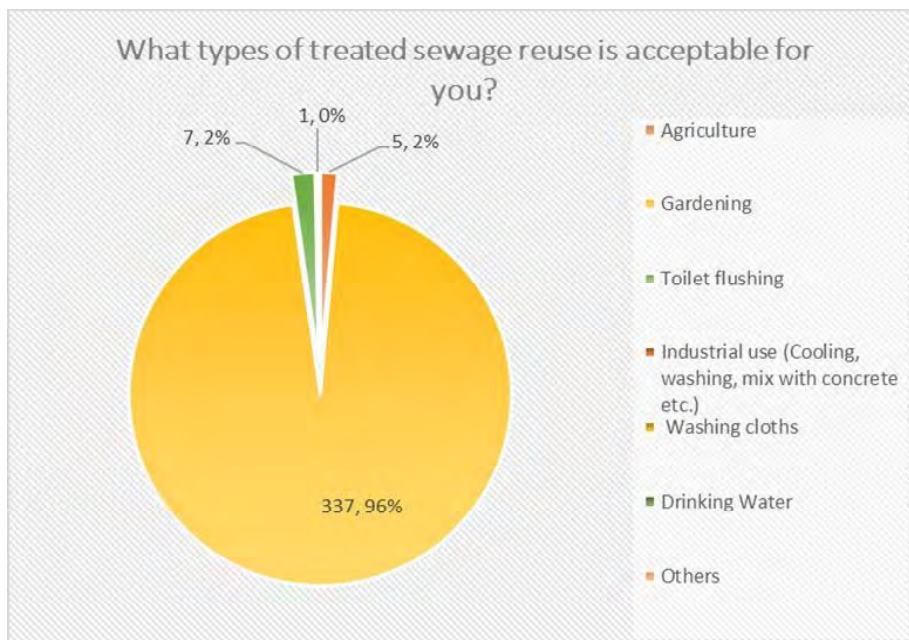


Social Condition Survey for BWSSB



For 96% of the respondents **gardening** is the acceptable treated sewage reuse while 2% each reported as toilet flushing and agriculture (Figure-39).

Figure – 39

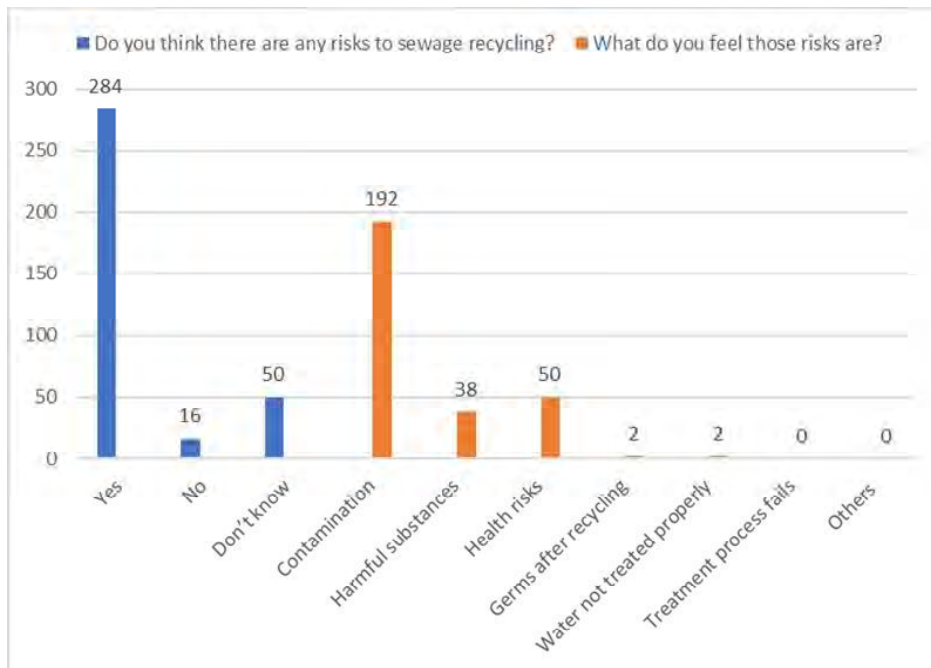




Social Condition Survey for BWSSB

81% of the respondents think that risks are involved in sewage recycling while 14% reported that they do not know about the risks. And 54% out of 81% of the respondent think that contamination is the main risk in sewage recycling, while 14% out of 86% think that health risks and 10% out of 86% think that harmful substances is the main risk in sewage recycling (Figure-40).

Figure – 40



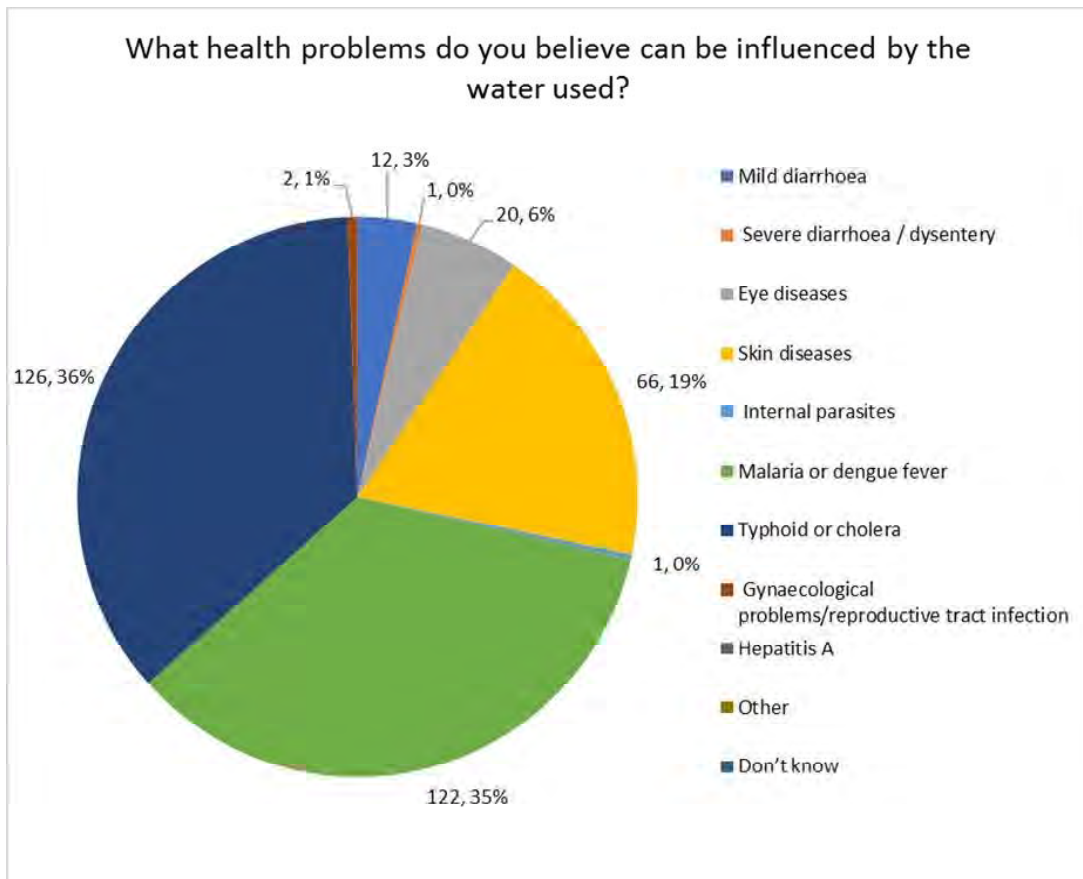


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3.12.4 Public Health (Questionnaire Ref No. G 4)

35% of the respondents reported as Malaria-Dengue fever, 19% reported as skin diseases and 36% reported as Typhoid or cholera were health problems influenced by the water used.

Figure – 41

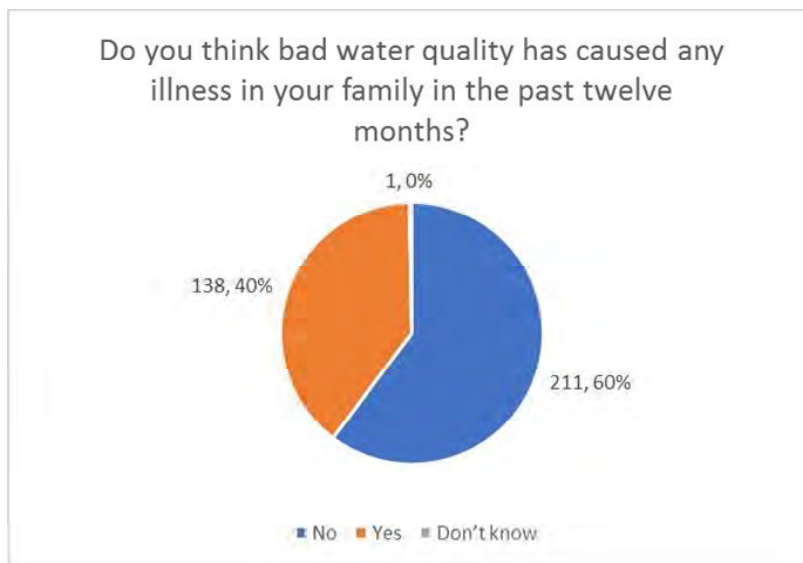


60% of the respondent replied 'No' against the question that whether bad water quality has

Social Condition Survey for BWSSB

caused any illness in their family in the past twelve months, while 40% replied as 'Yes' (Figure-42).

Figure – 42



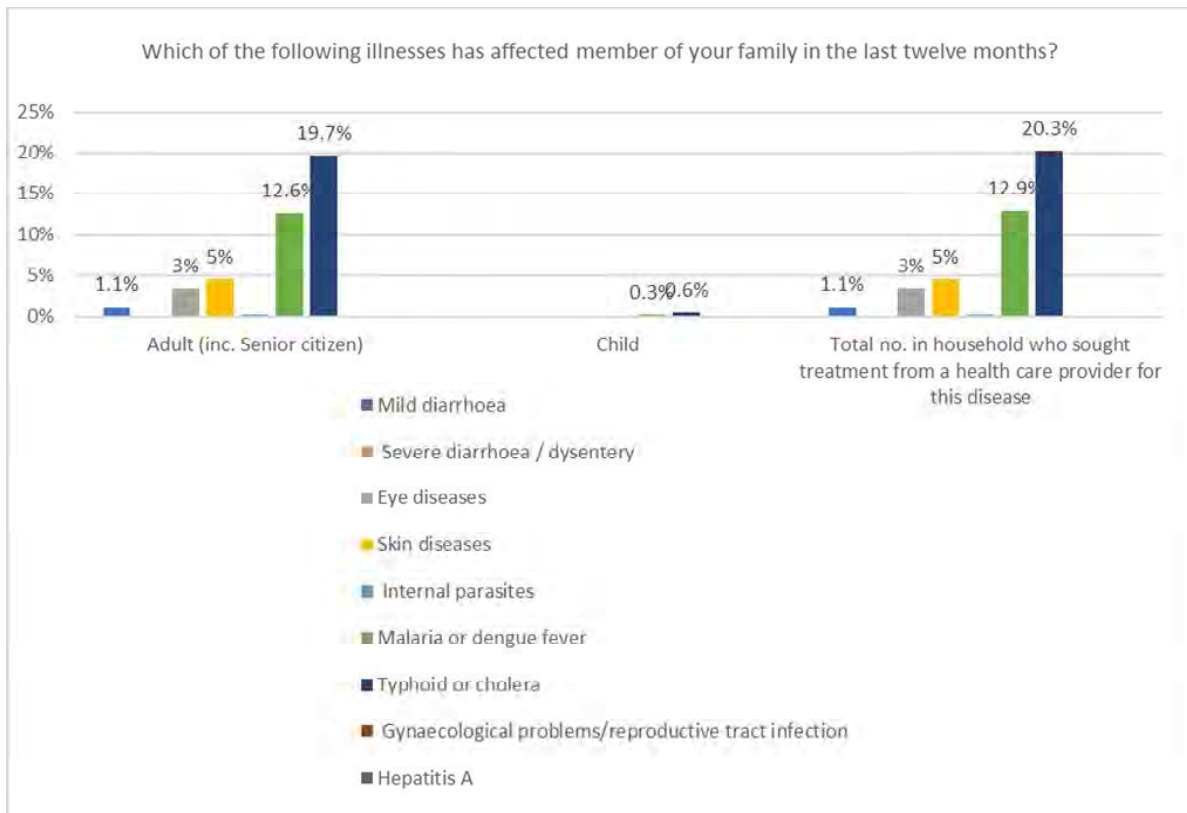
Regarding the illness affected to the family members of respondents in last twelve months



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and total number of households who sought treatment from a healthcare, 20.3% (19.7% Adult+0.6% Child) members were affected by typhoid and cholera and sought treatment from a healthcare while 13% (12.6% Adult+0.3% Child) were affected by malaria or dengue fever and sought treatment 5% were affected by skin diseases, 3% were affected by eye disease and 1.1% were affected mild diarrhoea & sought treatment from health care.

Figure – 43



3.13 Water Related Hazard (Questionnaire Ref No. H)

As regards water related hazard all respondent reported that they were not experienced any water related hazard in past 5 years.

4.0 Business Establishment Survey Report



Social Condition Survey for BWSSB

4.1 General Information (Questionnaire Ref No. A 1 to A 3)

Survey conducted in 50 business establishment of different sizes of man power includes factories, software companies, hotels etc. 67% data was collected from the business establishment having a workmen size from 2 to 10, 25% were 11 to 50 and balance 7% divided between 201-400, 401-600 and above 600 (Table-43).

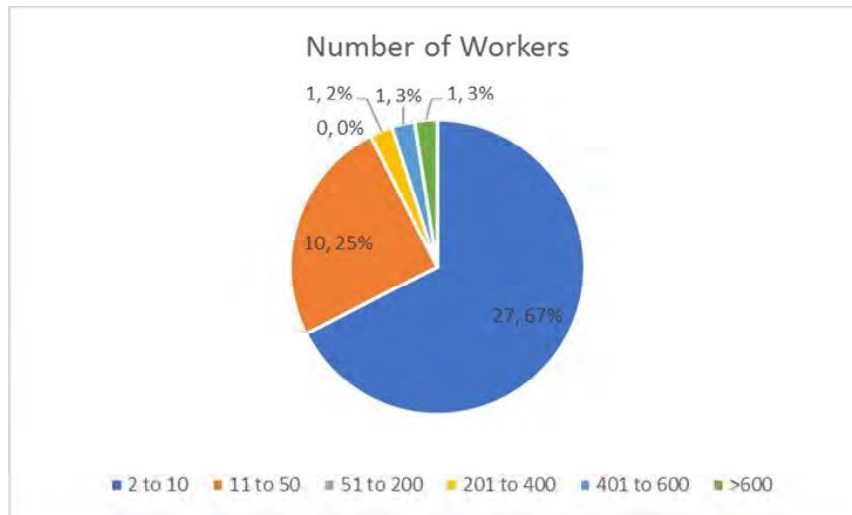
Table – 43: Profile of Business Establishments

Sample Target	Type of Business	No of Employees	Sample Target	Type of Business	No of Employees
Establishment-1	Bakery & Food Services	3	Establishment-26	Water Service	2
Establishment-2	Car Care Center	5	Establishment-27	Bar and Restaurant	30
Establishment-3	Hotel & Mess Services	2	Establishment-28	Car Care Center	6
Establishment-4	Painting Material Manufacturer	3	Establishment-29	Car Service	5
Establishment-5	Power Systems	16	Establishment-30	Beauty Parlor	2
Establishment-6	Block Manufacturer	10	Establishment-31	Car Wash	10
Establishment-7	Car Servicing and Repairing	4	Establishment-32	Condiments	2
Establishment-8	Hotel	40	Establishment-33	Timber Business	6
Establishment-9	Two-Wheeler Water Service	3	Establishment-34	Interior Material Supplier	16
Establishment-10	Hotel	5	Establishment-35	Chicken Center	3
Establishment-11	Water Service	5	Establishment-36	Enterprises	5
Establishment-12	Hotel	5	Establishment-37	Roofing Industry	2
Establishment-13	Industries	10	Establishment-38	Car Service Center	6
Establishment-14	Go down	10	Establishment-39	Hotel	12
Establishment-15	Small Scale Industries	3	Establishment-40	Bar and Restaurant	5
Establishment-16	Hospital	2	Establishment-41	Industries	3
Establishment-17	School	300	Establishment-42	Fish Mart	4
Establishment-18	Catering Services	6	Establishment-43	Industries	500
Establishment-19	Hospital	3	Establishment-44	Software Company	700
Establishment-20	Hotel	2	Establishment-45	Industries	400
Establishment-21	Hotel	35	Establishment-46	Hotel	35
Establishment-22	Catering Services	14	Establishment-47	Industries	50
Establishment-23	Hotel	3	Establishment-48	Industries	20
Establishment-24	Car Water Service	3	Establishment-49	Restaurant	30
Establishment-25	Service Station	2	Establishment-50	Motorcycle Dealer	15



Social Condition Survey for BWSSB

Figure – 44



4.2 Monthly Income Source and Expenditure (Questionnaire Ref No. A 4 to A 5)

None of the Business Establishment disclose any feedback regarding monthly income and expenditure details.

4.3 Present status of Water Connection (Questionnaire Ref No. B 1 to B 3)

18% business establishment were connected to existing BWSSB water supply network with a meter not shared with any other establishment. 60% of the business establishments were reported that the main reason for not connecting to the water supply network due to BWSSB doesn't have any distribution pipes in those areas and 16% reported that they have another satisfactory source of water for all their needs and balance 6% reported that they were using other sources (Table-44).

Table – 44: Present status of Water Connection



Social Condition Survey for BWSSB

Sample Target	Water Network		Sample Target	Water Network	
	Connected	Not Connected		Connected	Not Connected
Establishment-1		√	Establishment-26		√
Establishment-2		√	Establishment-27	√	
Establishment-3		√	Establishment-28		√
Establishment-4		√	Establishment-29		√
Establishment-5		√	Establishment-30		√
Establishment-6		√	Establishment-31		√
Establishment-7		√	Establishment-32	√	
Establishment-8		√	Establishment-33		√
Establishment-9		√	Establishment-34		√
Establishment-10		√	Establishment-35		√
Establishment-11		√	Establishment-36		√
Establishment-12		√	Establishment-37		√
Establishment-13		√	Establishment-38	√	
Establishment-14		√	Establishment-39		√
Establishment-15		√	Establishment-40		√
Establishment-16		√	Establishment-41		√
Establishment-17		√	Establishment-42	√	
Establishment-18		√	Establishment-43		√
Establishment-19		√	Establishment-44	√	
Establishment-20	√		Establishment-45	√	
Establishment-21		√	Establishment-46		√
Establishment-22		√	Establishment-47	√	
Establishment-23		√	Establishment-48		√
Establishment-24		√	Establishment-49	√	
Establishment-25		√	Establishment-50		√
			Total	9	41

4.4 Present Water Source (Questionnaire Ref No. B 4)

With respect to present water sources for business activities 18% business establishments were using piped water while 40% were using tanker, 34% were using own well water and 4% each were using neighbor's well water & bottled water (Table-45 & Figure-45).

For drinking purpose, 12% were using piped water, 20% each were using tanker and own well water, 2% were using neighbor's well water and 46% were using bottled water (Table-45 & Figure-45).

Table – 45: Present Water Source



Social Condition Survey for BWSSB

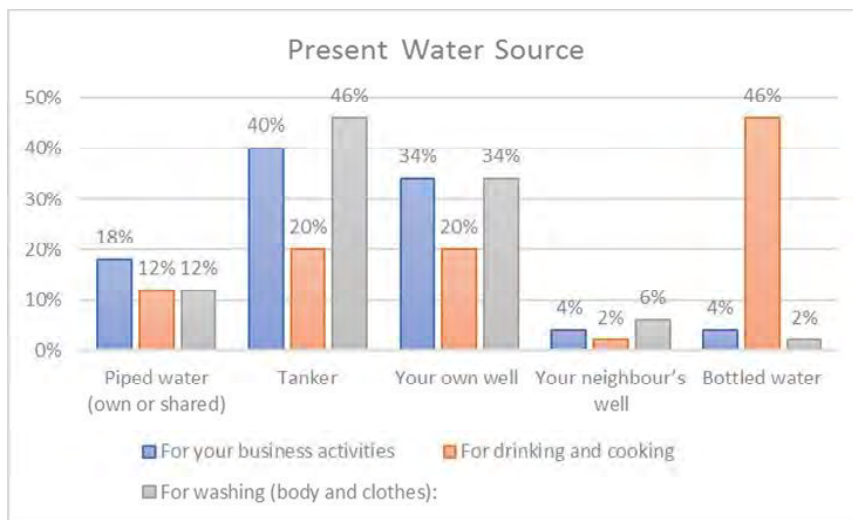
Sample Target	Business Activities					Drinking Purpose					Washing (body and cloths)				
	Piped water (own or shared)	Tanker	Own well	Neighbour's well	Bottled water	Piped water (own or shared)	Tanker	Own well	Neighbour's well	Bottled water	Piped water (own or shared)	Tanker	Own well	Neighbour's well	Bottled water
Establishment-1		√								√		√			
Establishment-2			√							√				√	
Establishment-3			√					√				√			
Establishment-4		√								√		√			
Establishment-5			√							√		√			
Establishment-6			√					√				√			
Establishment-7		√								√		√			
Establishment-8			√							√		√			
Establishment-9		√								√		√			
Establishment-10		√						√				√			
Establishment-11			√					√					√		
Establishment-12		√						√				√			
Establishment-13					√			√				√			
Establishment-14		√						√				√			
Establishment-15		√						√				√			
Establishment-16		√						√				√			
Establishment-17			√					√					√		
Establishment-18			√					√					√		
Establishment-19			√							√			√		
Establishment-20	√					√				√					
Establishment-21		√								√		√			
Establishment-22			√							√		√			
Establishment-23		√								√		√			
Establishment-24		√								√		√			
Establishment-25		√								√		√			
Establishment-26		√								√		√			
Establishment-27	√					√				√					
Establishment-28			√					√					√		
Establishment-29			√							√			√		
Establishment-30			√							√			√		
Establishment-31					√			√					√		
Establishment-32	√					√				√					
Establishment-33		√						√				√			
Establishment-34				√						√				√	
Establishment-35			√							√			√		
Establishment-36				√					√					√	
Establishment-37			√					√					√		
Establishment-38	√					√				√					
Establishment-39		√						√				√			
Establishment-40			√					√					√		
Establishment-41			√							√			√		
Establishment-42	√					√				√					
Establishment-43		√								√		√			
Establishment-44	√									√					√
Establishment-45	√									√		√			
Establishment-46		√						√				√			
Establishment-47	√									√		√			
Establishment-48		√						√				√			
Establishment-49	√					√				√					
Establishment-50		√						√				√			
Total	9	20	17	2	2	6	10	10	1	23	6	23	17	3	1



Social Condition Survey for BWSSB

For washing purpose, 12% were using piped water, 46% were using tanker, 34% were using own well water, 6% were using neighbor’s well water and 2% were using bottled water (Table-45 & Figure-45).

Figure – 45



4.5 Present Sanitation Status (Questionnaire Ref No. C 1 to C 3)

About present sanitation, 56% were connected to public sewer line and 44% were not connected. 52% out of 56% business establishments connected to public sewer line were not satisfied with present public sewer line service and 4% were satisfied (Table-46 & Figure-46).

68% business establishments were having one toilet, 10% were having two and 22% were having more than two toilets in their premises (Table-46 & Figure-46).

38% out of 44% who were not connected to public sewer, were connected to private sewer line and 6 were using pit latrine (Table-46 & Figure-46).

Table – 46: Present Sanitation Status



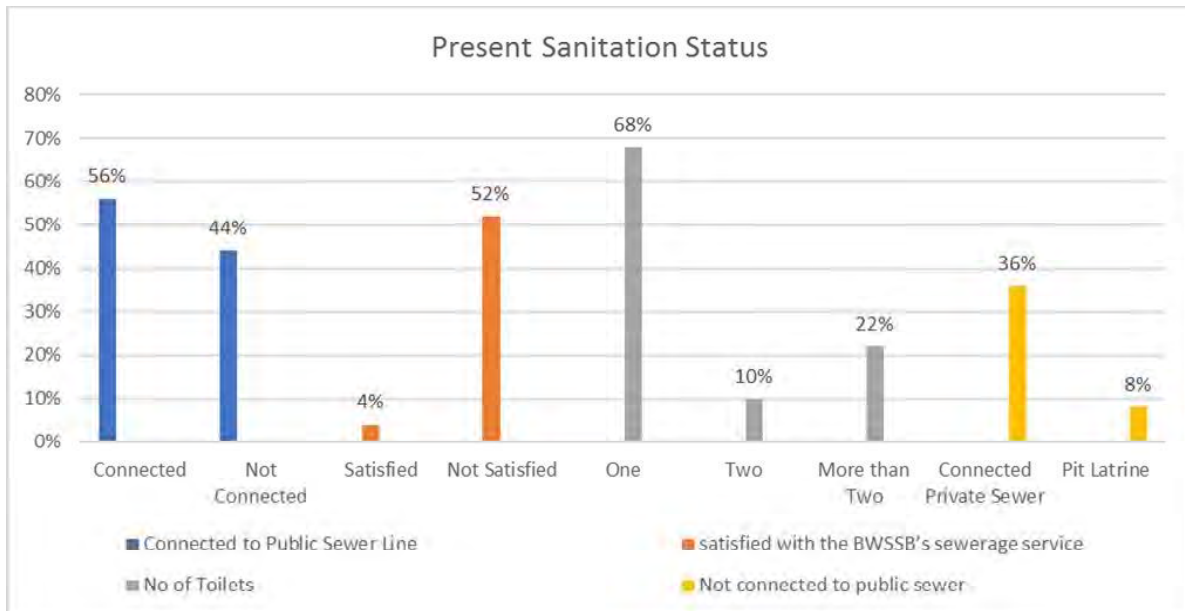
Social Condition Survey for BWSSB

Sample Target	Public Sewer Line				No of Toiles			Type of Toilet	
	Connected	Not Connected	Satisfiesd	Not Satisfied	One	Two	Morethan Two	Connected Private	Pit Latrine
Establishment-1	√			√	√				
Establishment-2	√			√	√				
Establishment-3	√			√	√				
Establishment-4		√			√				√
Establishment-5		√					√	√	
Establishment-6		√			√			√	
Establishment-7		√			√			√	
Establishment-8	√			√			√		
Establishment-9		√			√			√	
Establishment-10		√			√			√	
Establishment-11		√			√			√	
Establishment-12		√			√			√	
Establishment-13	√		√		√				
Establishment-14	√			√		√			
Establishment-15		√				√		√	
Establishment-16		√			√			√	
Establishment-17		√					√	√	
Establishment-18		√			√			√	
Establishment-19	√			√		√			
Establishment-20	√			√	√				
Establishment-21	√			√	√				
Establishment-22		√			√				√
Establishment-23		√			√			√	
Establishment-24		√			√			√	
Establishment-25		√			√			√	
Establishment-26	√			√	√				
Establishment-27	√			√		√			
Establishment-28		√				√		√	
Establishment-29	√			√	√				
Establishment-30	√			√	√				
Establishment-31	√			√	√				
Establishment-32	√			√	√				
Establishment-33	√			√	√				
Establishment-34	√			√	√				
Establishment-35	√			√	√				
Establishment-36	√			√	√				
Establishment-37		√			√				√
Establishment-38	√			√	√				
Establishment-39	√			√	√				
Establishment-40	√		√		√				
Establishment-41		√			√				√
Establishment-42	√			√	√				
Establishment-43	√			√			√		
Establishment-44	√			√			√		
Establishment-45	√			√			√		
Establishment-46		√					√	√	
Establishment-47	√			√			√		
Establishment-48	√			√			√		
Establishment-49		√					√	√	
Establishment-50		√					√	√	
Total	28	22	2	26	34	5	11	18	4

Figure – 46



Social Condition Survey for BWSSB



4.6 Water Consumption and Cost (Questionnaire Ref No. D 1)

The business establishments connected to BWSSB piped water were paying monthly tariff from 500 Rs. to 1100 Rs. The monthly consumption of water was ranging from 15000 to 25000 liters (Table-47 & 48).

Table - 47: Monthly Expenditure for Piped Water

Sample Target	BWSSB's Piped water						
	Expenditure per Month in Rs.						
	500	650	750	800	850	1000	1100
Establishment-20				√			
Establishment-27							√
Establishment-32	√						
Establishment-38						√	
Establishment-42					√		
Establishment-44					√		
Establishment-45		√					
Establishment-47			√				
Establishment-49						√	
Total	1	1	1	1	2	2	1



Social Condition Survey for BWSSB

Table - 48: Monthly Consumption of Piped Water

Sample Target	BWSSB's Piped water					
	Consumption per Month in Liters.					
	15000	16500	20000	21000	22000	25000
Establishment-20						√
Establishment-27					√	
Establishment-32		√				
Establishment-38				√		
Establishment-42		√				
Establishment-44	√					
Establishment-45		√				
Establishment-47			√			
Establishment-49					√	
Total	1	3	1	1	2	1

The business establishment which were not connected to BWSSB piped water were spending Rs.500 to 22500 monthly for Tanker water and Rs.200 to Rs.15000 for bottled water. The monthly consumption of tanker water varying from 1000 to 30000 liters while bottled water from 200 to 6000 liters (Table-49, 50 & 51).

Table - 49: Other Source of Water Consumption and Cost

Items	Tanker	Bottled water
Expenditure per Month in Rs.	500 to 22500	200 to 15000
Liters/Month	1000 to 30000	200 to 6000

Table - 50: Expenditure on other Water Source per month in Rs.

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Social Condition Survey for BWSSB

Sample Target	Tanker				Bottled Water			
	500 to 1000	1001 to 2000	2001 to 5000	22500	200 to 1000	1001 to 2000	2001 to 5000	15000
Establishment-1	√						√	
Establishment-2		√			√			
Establishment-3	√				√			
Establishment-4	√							
Establishment-5		√				√		
Establishment-6								
Establishment-7								
Establishment-8			√				√	
Establishment-9								
Establishment-10	√				√			
Establishment-11								
Establishment-12		√			√			
Establishment-13		√			√			
Establishment-14		√				√		
Establishment-15			√					
Establishment-16						√		
Establishment-17							√	
Establishment-18		√				√		
Establishment-19						√		
Establishment-20								
Establishment-21			√					
Establishment-22	√					√		
Establishment-23	√				√			
Establishment-24								
Establishment-25								
Establishment-26								
Establishment-27								
Establishment-28								
Establishment-29		√			√			
Establishment-30						√		
Establishment-31								
Establishment-32								
Establishment-33	√					√		
Establishment-34	√					√		
Establishment-35					√			
Establishment-36								
Establishment-37	√				√			
Establishment-38								
Establishment-39								
Establishment-40		√				√		
Establishment-41	√				√			
Establishment-42								
Establishment-43				√				√
Establishment-44			√				√	
Establishment-45			√			√		
Establishment-46		√				√		
Establishment-47			√			√		
Establishment-48	√						√	
Establishment-49			√				√	
Establishment-50								
Total	11	9	7	1	10	13	6	1

Table - 51: Consumption of other Water Source per month in Liters

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Social Condition Survey for BWSSB

Sample Target	Tanker				Bottled Water			
	500 to 1000	1001 to 2000	2001 to 5000	5001 to 30000	200 to 1000	1001 to 2000	2001 to 5000	50001 to 60000
Establishment-1			√				√	
Establishment-2		√			√			
Establishment-3		√			√			
Establishment-4								
Establishment-5			√					
Establishment-6								
Establishment-7								
Establishment-8			√	√				√
Establishment-9								
Establishment-10			√			√		
Establishment-11								
Establishment-12		√				√		
Establishment-13			√			√		
Establishment-14						√		
Establishment-15								
Establishment-16						√		
Establishment-17								√
Establishment-18		√				√		
Establishment-19						√		
Establishment-20								
Establishment-21								
Establishment-22		√				√		
Establishment-23		√						
Establishment-24								
Establishment-25								
Establishment-26								
Establishment-27								
Establishment-28								
Establishment-29						√		
Establishment-30						√		
Establishment-31								
Establishment-32								
Establishment-33	√					√		
Establishment-34	√					√		
Establishment-35								
Establishment-36								
Establishment-37		√			√			
Establishment-38								
Establishment-39								
Establishment-40		√				√		
Establishment-41	√				√			
Establishment-42								
Establishment-43				√				
Establishment-44				√				
Establishment-45				√				
Establishment-46		√				√		
Establishment-47				√				
Establishment-48		√					√	
Establishment-49				√				
Establishment-50								
Total	3	10	5	6	4	14	2	2

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Social Condition Survey for BWSSB

4.7 Satisfaction level of BWSSB Piped Water Supply (Questionnaire Ref No. E 1 to E 10)

As regards the satisfaction level of BWSSB Piped Water Service, 14% of business establishments out of 18% connected to BWSSB water network were not satisfied on the service provided by BWSSB. The main reasons for the dis-satisfaction were reported due to too many disruptions to supply (Table-52).

Table - 52: Satisfaction level of BWSSB Piped Water Supply

Sample Target	BWSSB's Piped water	
	Satisfied	Not satisfied
Establishment-20		√
Establishment-27	√	
Establishment-32		√
Establishment-38		√
Establishment-42		√
Establishment-44	√	
Establishment-45		√
Establishment-47		√
Establishment-49		√
Total	2	7

As regards water availability per day, 14% out of 20% business establishment connected to BWSSB water network reported that they used get water for **< 6 hours** and **4% reported that 6 to 11 hours** and all the business establishment got **water storage tank on their roof top of their work place in case tap water is not available** (Table-53).

Table - 53: BWSSB Piped Water availability

Sample Target	BWSSB's Piped Water Availability	
	< 6 hours	6-11 hours
Establishment-20	√	
Establishment-27	√	
Establishment-32	√	
Establishment-38	√	
Establishment-42	√	
Establishment-44		√
Establishment-45	√	
Establishment-47	√	
Establishment-49		√
Total	7	2



Social Condition Survey for BWSSB

About the pressure of water supply all reported that the pressure **varies but usually weak** and almost all were installed a pump to improve the water pressure.

Regarding the quality of water, they have **never** noticed any bad taste, strong smell, bad colour & never drunk tap water directly without purifying or boiling.

Almost all were reported that they will use less water if BWSSB improves the quality of supply water and increase or decrease the tariff etc.

4.8 Willingness and Affordability to pay to the Water Supply & Sewerage Service (Questionnaire Ref No. F 1 to F 8)

Regarding the willingness and affordability when they have asked about the knowledge of new project which BWSSB is going to implement, 70% of business establishment reported that they do not have any information/knowledge and 10% were not sure and balance were not given any answer (Table-54).

Table - 54: Knowledge/Information on improvement project

Sample Target	Knowledge/Information about improvement project			
	No	Yes	Not Sure	Not available
Establishment-1	√			
Establishment-2	√			
Establishment-3	√			
Establishment-4	√			
Establishment-5			√	
Establishment-6	√			
Establishment-7	√			
Establishment-8	√			
Establishment-9	√			
Establishment-10	√			
Establishment-11	√			
Establishment-12	√			
Establishment-13	√			
Establishment-14	√			
Establishment-15			√	
Establishment-16	√			
Establishment-17	√			
Establishment-18			√	
Establishment-19			√	
Establishment-20				√
Establishment-21	√			
Establishment-22	√			
Establishment-23	√			
Establishment-24	√			
Establishment-25	√			
Establishment-26	√			

Sample Target	Knowledge/Information about improvement project			
	No	Yes	Not Sure	Not available
Establishment-27				√
Establishment-28	√			
Establishment-29	√			
Establishment-30	√			
Establishment-31	√			
Establishment-32				√
Establishment-33	√			
Establishment-34	√			
Establishment-35	√			
Establishment-36	√			
Establishment-37			√	
Establishment-38				√
Establishment-39	√			
Establishment-40	√			
Establishment-41	√			
Establishment-42				√
Establishment-43				√
Establishment-44				√
Establishment-45				√
Establishment-46	√			
Establishment-47				√
Establishment-48	√			
Establishment-49				√
Establishment-50	√			
Total	35	0	5	10

All the business establishment think that the new project will bring safe, clean, reliable piped water and decrease the river pollution and improve the environment.



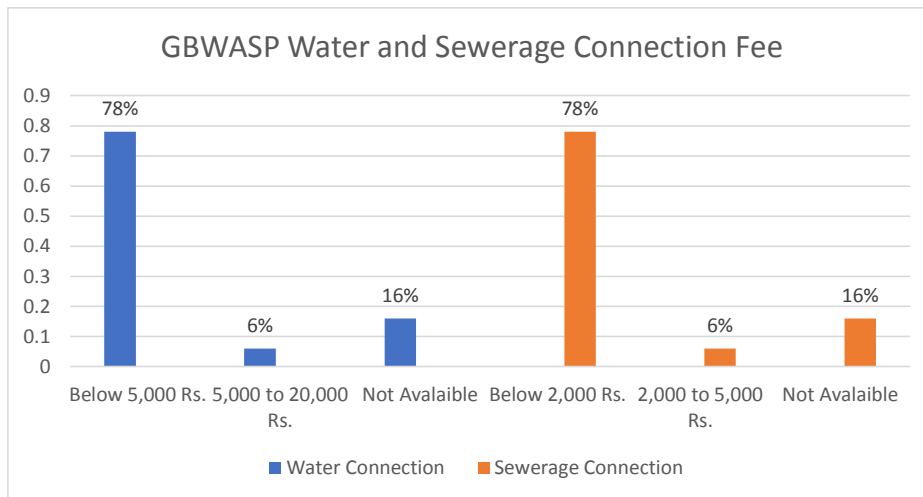
Social Condition Survey for BWSSB

All the business establishments are ready to connect to the new water supply and sewerage network even though the monthly tariff increase.

Regarding the connection fee and monthly tariff all business establishments were ready to pay below 5,000 Rs for water connection and below 2,000 Rs for sewerage.

When asked about the willingness to be connected to the GBWASP, 78% were ready to pay below 5,000 Rs for water connection and below 2,000 Rs for sewerage and 6% were ready to pay 5000 Rs. to 20,000 Rs for water connection and 2,000 Rs to 5,000 Rs for sewerage (Figure-47).

Figure – 47

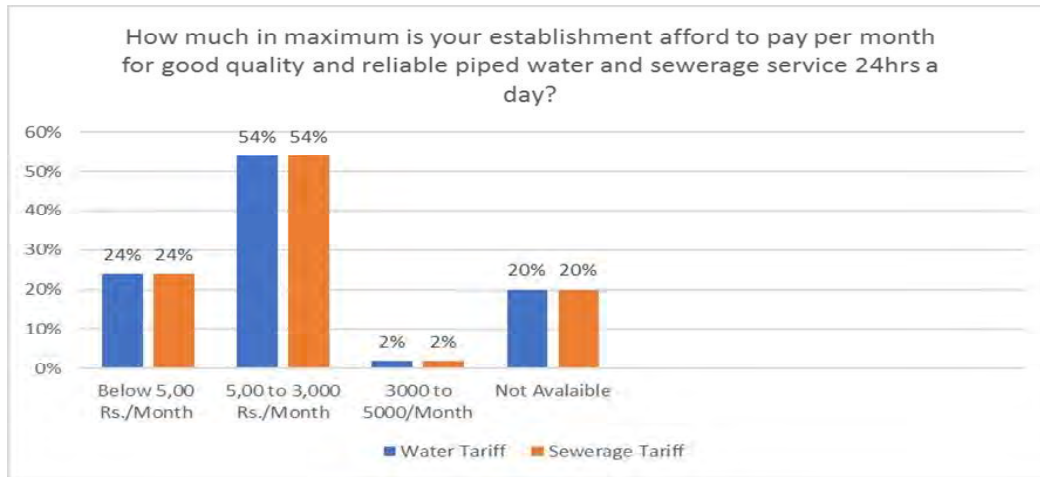


24% were afford to pay below 500 Rs. each /Month as tariff for good quality and reliable piped water and sewerage service of 24 hrs a day. 54% were afford to pay 500 to 3,000 Rs per Month, 2% were afford to pay 3,000 to 5,000 Rs per Month (Figure-48).



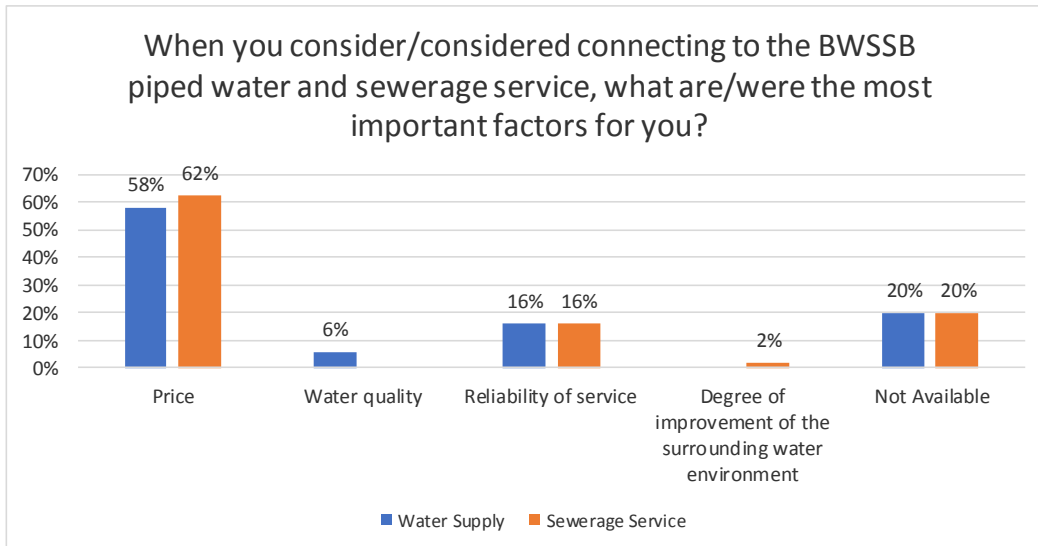
Social Condition Survey for BWSSB

Figure – 48



When asked about the important factor if they are considering connecting water supply and sewerage service, price is the most important factor for 58% and 62% for water supply and sewerage service respectively (Figure-49).

Figure – 49





Social Condition Survey for BWSSB

4.9 Awareness toward Water Conservation, Environment, Sewage Re-use and Public Health (Questionnaire Ref No. G 1 to G 4)

4.9.1 Water Conservation (Questionnaire Ref No. G 1)

80% of business establishments think that there will be **very likely** water shortages in Bengaluru city in the future and 20% think that **likely**.

90% were reported that they practice water conservation at any time while they use the water in daily life and 10% were reported that they practice water conservation to some extent while they use the water in daily life.

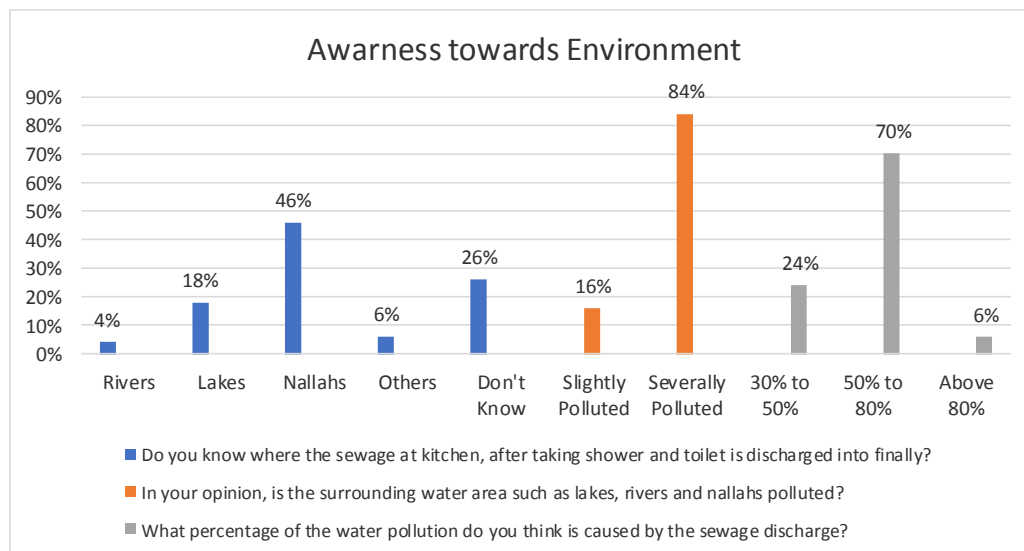
4.9.2 Environment (Questionnaire Ref No. G 2)

46% of business establishments were reported that the waste is discharged finally to nallahs, 18% lakes, 4% rivers, and 6% others (not described) and 26% do not know (Figure-50).

84% of business establishment reported that surrounding water area such as lakes, rivers and nallahs are severely polluted and 16% reported that it is slightly polluted (Figure-50).

70% of business establishments think that 50 to 80% of the water pollution is caused by the sewage discharge and 24% think that 30 to 50% and 6% think that above 80% (Figure-50).

Figure – 50



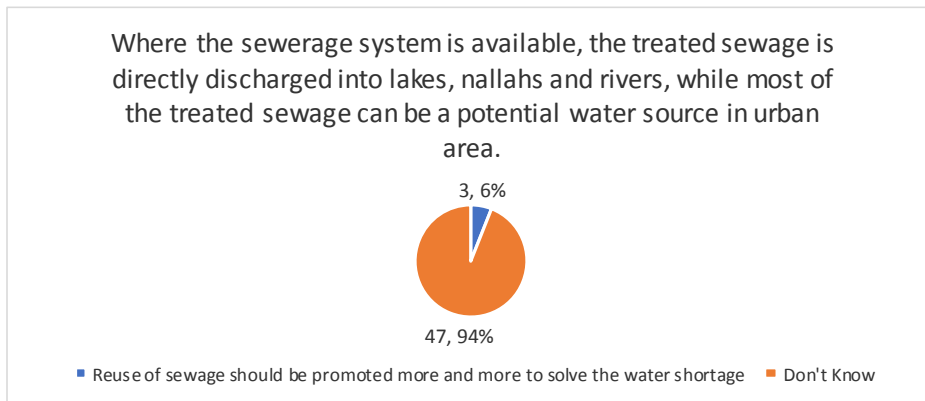
4.9.3 Sewerage Re-use (Questionnaire Ref No. G 3)



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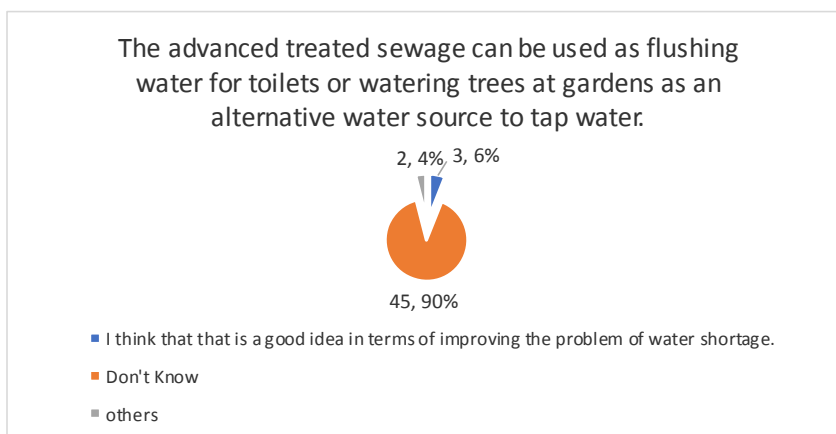
6% of the respondent expressed that reuse of sewage should be promoted more and more to solve the water shortage and 94% of respondents expressed they don't know about the fact that most of the treated sewage can be a potential water source in urban area (Figure-51).

Figure – 51



6% of the respondent think that it is a good idea in terms of improving the problem of water shortage as the advanced treated sewage can be used as flushing water for toilets or watering trees at gardens as an alternative water source to tap water. 90% do not know and 4% think it can be used for other purpose (Figure-52).

Figure – 52



76% of the respondents don't know that sewage recycling or water re-use as an alternative solution for helping to solve the issue of water shortages. 22% heard that sewage recycling



Social Condition Survey for BWSSB

or water re-use as an alternative solution for helping to solve the issue of water shortages and 2% were expressed 'No' (Figure-53)

88% of the respondents expressed that they are very supportive to sewage recycling as a means of increasing the amount of water available for supply and balance 12% also expressed they are supportive for the same (Figure-54).

56% of the respondents think that there are some benefits to sewage recycling and 38% reported they don't know and 6% expressed there is no benefit to sewage recycling (Figure-53).

For 94% of the respondents gardening is the acceptable treated sewage reuse while 6% reported toilet flushing (Figure-55).

86% of the respondents think that risks are involved in sewage recycling while 14% reported that they do not know about the risks. And 54% out of 86% of the respondent think that contamination is the main risk in sewage recycling, while 32% out of 86% think that health risks is the main risk in sewage recycling (Figure-53)

Figure – 53

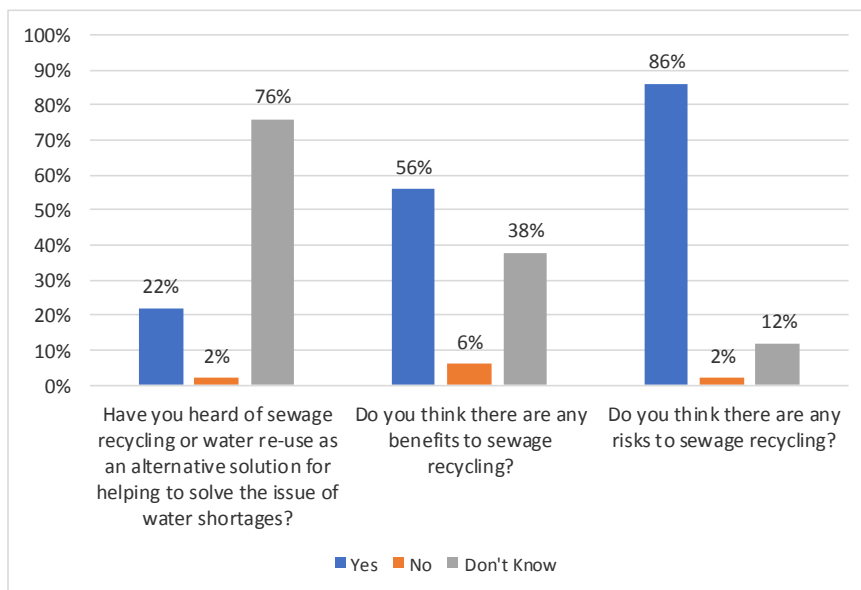


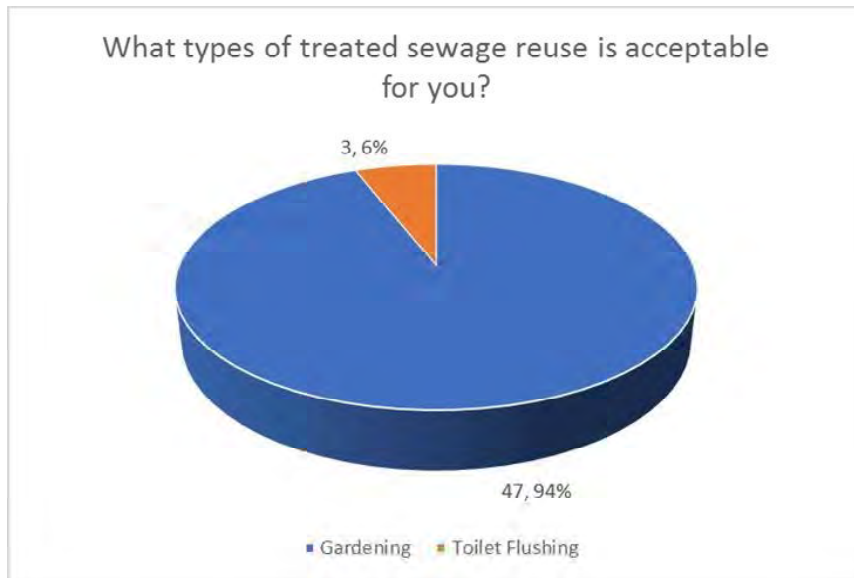
Figure – 54



Social Condition Survey for BWSSB



Figure – 55

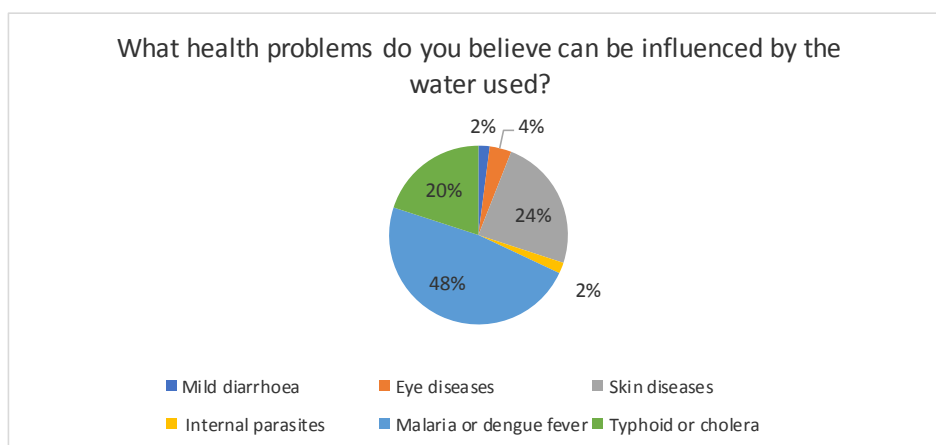


4.9.4 Public Health (Questionnaire Ref No. G 4)

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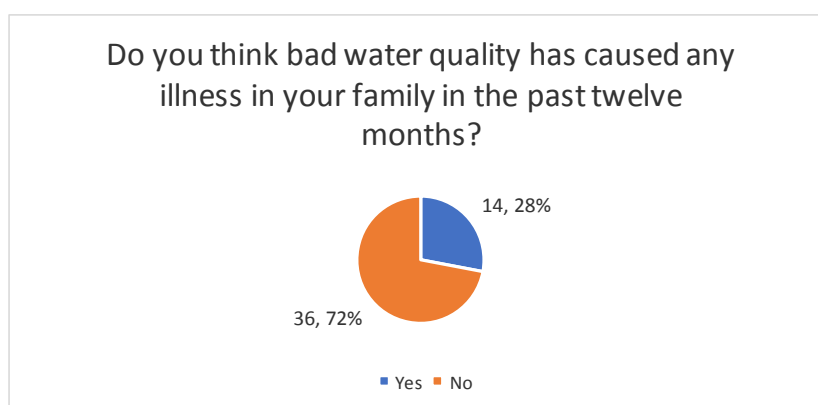
48% of the respondents reported as Malaria-Dengue fever, 24% reported as skin diseases, 20% reported as Typhoid or cholera, 4% as eye diseases, 2% each as mild diarrhea and internal parasites were the health problems influenced by the water used (Figure-56).

Figure – 56



72% of the respondent replied 'No' against the question that whether bad water quality has caused any illness in their family in the past twelve months and 28% replied 'Yes' (Figure-57)

Figure – 57



4.10 Water Related Hazard (Questionnaire Ref No. H 1)



Social Condition Survey for BWSSB

As regards water related hazard all respondent reported that they were not experienced any water related hazard in past 5 years.

5.0 Difficulties Encountered

The practical difficulties faced during survey are as follows.

1. In village area the respondents are least bothered to give us details and asked proof of Identity from BWSSB, sealed and signed copy of the order placed for the agency and contact person phone number.
2. Many a times taking photographs of the locality was a major problem faced, but in few places, it was not at all allowed.
3. In rented house the occupants are not at all willing to share the details and were asking us to take from owner.
4. Many times the respondents threatened the field engineers very badly.
5. In an average more than 4 properties had been visited to collect one property information.

6.0 Questionnaire for Survey

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Social Condition Survey for BWSSB

Questionnaire Sheet for Social Condition Survey

Preparatory Survey on Bengaluru Water Supply and Sewerage Project

- FOR HOUSEHOLD INTERVIEW -

QUESTIONNAIRE NO.....

This page to be completed by interviewer

Interviewer

Supervisor

Date

ADDRESS OF HOUSEHOLD (Confidential)

Ward / Commune

Street

Residence Number

Name of Respondent

Age/ Sex

Please circle:

Male / Female

Educational Background

Please circle:

Junior High School / High School / College or University

Phone Number

1. Which of the following best describes this type of dwelling?

permanent house.....1

semi permanent house of mixed construction.....2

temporary.....3

Introduction (interviewer should always request a permission to conduct an interview prior to conducting the survey).

Hello. My name is _____. This survey is being carried out on behalf of Bengaluru Water Supply and Sewerage Board (BWSSB). Thank you for your cooperation for taking your time for this survey. BWSSB is planning a water supply and sewerage project. The information you give us will be confidential and is for the exclusive use of this project. The aim of this interview is to understand existing living conditions, the demand for water and capacity to pay, so that the appropriate water supply system and sanitation/sewerage facilities can be provided in the future.

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Social Condition Survey for BWSSB

A GENERAL INFORMATION															
A1.	How many people live in this house: 1. Number of adults in this house (from 15 years to 60)	Male	Female												
A2.	2. Number of senior citizens in this house (over 60)														
A3.	3. Number of children in this house (younger than 15 years)														
Total															
A4	What kind of occupation for the major income source of your household? 1. Independent / Self-employed business 2. Salaried employee 3. Others (<i>Please describe</i>)														
A5.	Other than the above, does any member of the household carry out any income generating activities here in your house? Multiple responses allowed (Probe after each response: Any other?) 1. No 2. Eating place 3. Coffee shop 4. Backyard cultivation of fruit, vegetable, et. 5. Small-scale trade (selling groceries, cigarettes, fruit etc. from house) 6. Preparation of foodstuffs for sale 7. Animal raising 8. Others (<i>Please describe</i>)														
A6.	What is the TOTAL monthly income of your household:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Income sources</th> <th style="width: 40%;">Type</th> <th style="width: 40%;">Income amount (Rs.)</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Major Income</td> <td style="padding: 5px;">Please circle: <i>Job, Agriculture, Industry, Business, Livestock, Rental of lands/houses, Donation, Social(Gov.) aids, Others</i></td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">Other Income</td> <td style="padding: 5px;">Please circle: <i>Job, Agriculture, Industry, Business, Livestock, Rental of lands/houses, Donation, Social(Gov.) aids, Others</i></td> <td style="padding: 5px;"></td> </tr> <tr> <td colspan="2" style="padding: 5px; text-align: center;">Total</td> <td style="padding: 5px;"></td> </tr> </tbody> </table>	Income sources	Type	Income amount (Rs.)	Major Income	Please circle: <i>Job, Agriculture, Industry, Business, Livestock, Rental of lands/houses, Donation, Social(Gov.) aids, Others</i>		Other Income	Please circle: <i>Job, Agriculture, Industry, Business, Livestock, Rental of lands/houses, Donation, Social(Gov.) aids, Others</i>		Total			
Income sources	Type	Income amount (Rs.)													
Major Income	Please circle: <i>Job, Agriculture, Industry, Business, Livestock, Rental of lands/houses, Donation, Social(Gov.) aids, Others</i>														
Other Income	Please circle: <i>Job, Agriculture, Industry, Business, Livestock, Rental of lands/houses, Donation, Social(Gov.) aids, Others</i>														
Total															
A7.	How much is your average monthly expenditure for water, electricity, food, fuel, medicine, education, clothes, footwear, transport, loan payment, house rental)?	1. Water (BWSSB water) _____ Rs. 2. Drinking Water _____ Rs. 3. Other Water (Well etc.) _____ Rs. 4. Electricity _____ Rs. 5. Food _____ Rs. 6. Loan/House Rent _____ Rs. 7. Other Consumables _____ Rs. 8. Total: _____ Rs. ★Please allow us to take photo of the receipt for BWSSB water bill, if possible.													



Social Condition Survey for BWSSB

B PRESENT CONDITIONS OF WATER USE	
B1.	Are you connected to BWSSB piped water network? 1. No - Go to B3 <input type="checkbox"/> No 2. Yes - Go to B2 <input type="checkbox"/> Yes
B2.	If connected: Do you: 1. have a meter that is not shared with any other house? 2. share a meter with one or more other houses? If YES: You share with _____ nos. of houses
B3.	If not connected, what are your reasons for not connecting to the piped water supply? Multiple responses allowed. (Probe after each response: Any other reason?) 1. BWSSB doesn't have any distribution pipes in this area 2. My house is in a long distance from the pipes in the street, 3. Cost of connection is too high, 4. Monthly cost of piped water is too high, 5. Quality or quantity of available piped water is not satisfactory, (please select the reasons, Quantity: Very good (1), Having problems (2), Unsatisfactory (3), Turbidity / Clarity: Very good (1), Having problems (2), Unsatisfactory (3)) Smell: Good(1), Bad (2), Unsatisfactory (3), 6. Already applied, still waiting to be connected, 7. The process of applying for the pipe connection is too complicated 8. I have another satisfactory source of water for all my needs (please describe the water source.....) 9. Others (Please describe.....)
B4.	What is the MAIN source of water used by your household:
B4.a	For drinking and cooking: Multiple responses allowed 1. Piped water (own or shared) 2. River/canal/pond/stream 3. Tanker 4. Your own well 5. Your neighbour's well 6. A communal well/tap stand 7. Bottled water 8. Rainwater 9. Others (Please describe.....)
B4.b	For washing (body and clothes):
C PRESENT SANITATION STATUS	
C1.	Are you connected to "Public sewer"? 1. No - Go to C3 <input type="checkbox"/> No 2. Yes - Go to C2 <input type="checkbox"/> Yes
C2.	If you are connected,
C2.a	Are you satisfied with the BWSSB's sewerage service? 1. Yes - <input type="checkbox"/> Yes 2. No - <input type="checkbox"/> No



Social Condition Survey for BWSSB

If No, please describe the reasons:

C2.b	How many toilets in your premises? 1 : <input type="checkbox"/> 2 : <input type="checkbox"/> Above 2 : <input type="checkbox"/>
C2.c	If you use public toilet, how much do you pay per month? Rs.
C3.	If you are not connected to public sewer, please answer the following questions.
C3.a	Type of toilet, if any? (Multiple answers allowed) 1. Pit latrine : <input type="checkbox"/> 2. Ventilated improved pit latrine (VIP) : <input type="checkbox"/> 3. Pour-flush latrine : <input type="checkbox"/> 4. Composting latrine : <input type="checkbox"/> 5. Flush toilet with Septic Tank : <input type="checkbox"/> 6. Others : <input type="checkbox"/> (Please describe.....) ★Please allow us to take photo of your toilet, if possible.
C3.b	If you have "Toilet w/septic": how many times do you extract sludge per year? And, how much is the cost? 1. Number of times per year : <input type="checkbox"/> 2. Total cost of the extraction per time : Rs.
C3.c	If you have no toilet, how do you or your family relieve yourself or themselves? Please select the following. 1. Use public toilet : <input type="checkbox"/> 2. Use neighbour's toilet : <input type="checkbox"/> 3. Defecate outside : <input type="checkbox"/> 4. Others : <input type="checkbox"/>

D WATER CONSUMPTION AND COST

D1.	On average, how much water does your household use from different sources per month or per day?		
		Monthly Payment (Rs)	LITRES (per month or day)
	1. BWSSB piped water (own or shared)		
	2. Tanker		
	3. Your own or neighbour's well		
	4. A communal well/tap stand		
	5. Bottled water		
	6. River/canal/pond/stream		
	7. Rain water (Dry season)		
	Rain water (Rainy season)		
	8. Others (Describe.....)		
	Total (Dry Season)		
	Total (Rainy Season)		



Social Condition Survey for BWSSB

E. SATISFACTION LEVEL TO THE PIPED WATER SERVICE

E1.	From your household's experience, are you satisfied with BWSSB's (Bengaluru Water Supply and Sewerage Board) customer service? 1. No 2. Yes
E1.a	If no (unsatisfied), please explain the reasons (select all applicable items): 1. too many disruptions to supply 2. Water pressure is too weak 3. Water quality is poor 4. too much leakage 5. the time they take to make connections after applications have been made 6. problems with meter readings, billing or cash collection 7. slow in carrying out repairs 8. lack of warning about disruptions to supply for repairs 9. staff's slow response to queries and customer complaints 10. Others (please describe.....)
E2.	How many hours per day is BWSSB water usually available from your tap? 1. 24 hours 2. 18-23 hours 3. 12-17 hours 4. 6-11 hours 5. < 6 hours If your answer is 3, 4 or 5, please answer E2.a
E2.a	What do you do when the tap water is not available? (Multiple answers allowed) 1. I have water storage tank on our roof top at home in case tap water is not available 2. I will wait until tap water becomes available (do not use water during supply disruption) 3. Others (please describe.....)
E3.	Is your BWSSB water pressure: 1. Strong 2. Weak -----please go to E3.a 3. Varies but usually strong 4. Varies but usually weak ----- please go to E3.a 5. Others (Please specify.)
E3.a	What do you do when you face this problem? (please choose the following applicable item) 1. I have installed a pump to improve water pressure (and I pay Rs. for monthly as an operating cost of the pump) 2. I use alternative sources of water (river/canal water, well, etc.) 3. Others (please describe.....)
E4.	Has your BWSSB piped water ever had a bad taste? 1. Never 2. Rarely 3. Sometimes 4. Usually



Social Condition Survey for BWSSB

E5.	Has your BWSSB piped water ever had a strong smell? 1. <i>Never</i> 2. <i>Rarely</i> 3. <i>Sometimes</i> 4. <i>Usually</i>			
E6.	Has your BWSSB piped water ever had a bad colour? 1. <i>Never</i> 2. <i>Rarely</i> 3. <i>Sometimes</i> 4. <i>Usually</i>			
E7.	Do you drink tap water directly (without boiling)? 1. <i>Never</i> 2. <i>Rarely</i> 3. <i>Sometimes</i> 4. <i>Usually</i>			
E8.	Do you have your suggestions to BWSSB to improve their Service?			
E9.	You will use more / less water from BWSSB pipe if:	More	Less	Same/ don't know
	1. the service is available for 24h/day without disruption			
	2. water pressure is improved			
	3. the quality of water (taste, smell) is improved			
	4. the price of BWSSB water goes up by 10%			
	5. the price of BWSSB water goes up by 30%			
	6. your income goes up by 20%			
	If interviewees answer "less" in any of the question above, please go to F .			
F.	WILLINGNESS / AFFORDABILITY TO PAY TO THE WATER SUPPLY & SEWERAGE SERVICE PLEASE ASK THESE QUESTIONS TO RESPONDENT WHO IS NOT CONNECTED AND CONNECTED TO BWSSB's Services (only for those not connected to BWSSB's services are specified)			
F1.	BWSSB is preparing a new project for water supply and sewerage improvement. Did you know that? 1. No Why not 2. Yes How did you know that 3. Not sure			
F2. (only not connected area)	Do you think that the project will bring safe, clean, reliable piped water and decrease the river pollution and improve the environment? 1. No Why not 2. Yes 3. Not sure			
F3. (only not connected area) F3.a	If the BWSSB provides good quality and reliable piped water to your residential area 24 hours a day, and provide the improved sanitation system due to the new sewerage development, will you connect to the water pipe networks and the public sewer? <u>For the water pipe networks;</u> 1. No Why not 2. Yes 3. Not sure			



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Social Condition Survey for BWSSB

F3.b	4. Depends on <u>For the public sewer;</u> 1. No – Why not 2. Yes - Go to next 3. Not sure – Go to next 4. Depends on
F4.	Future project may bring an increase the water and sewerage monthly tariff due to the recovery of the increased O&M cost. If you are already connected with the water supply pipe networks or sewer, will you intend to pay the future raised rate? F4.a <u>For the raised rate for the piped water;</u> 1. No Why not 2. Yes 3. Not sure F4.b <u>For the raised rate for the sewer;</u> 1. No Why not 2. Yes 3. Not sure
F5. (Only not connected area)	If the BWSSB provides good quality and reliable piped water to your residential area 24 hours a day, will you connect? 1. No – Why not 2. Yes - Go to next 3. Not sure – Go to next 4. Depends on
F6.	How much would your household be willing to pay for connection fee? F6.a <u>For the piped water supply;</u> 1. Below 500 Rs. 2. 500 to 1,000 Rs. 3. 1,000 to 2000 Rs. F6.b 4. Above 2,000 Rs. <u>For the sewerage service;</u> 1. Below 300 Rs. 2. 300 to 600 Rs. 3. Above 600 Rs.
F6.c F6.d F6.e	How much would your household be willing to pay to get Cauvery Water Connection (GBWASP)? Your house had existing connection? Please circle: Water Supply Yes / No Sewerage System Yes / No F6.c <u>For the piped water;</u> F6.d 1. Below 2,000 Rs. 2. 2,000 to 5,000 Rs. 3. 5,000 to 10,000 Rs. 4. Above 10,000 Rs. <u>For the sewerage service;</u> F6.e 1. Below 2,000 Rs. 2. 2,000 to 5,000 Rs. 3. Above 5,000 Rs.
F7.	How much in maximum is your household could afford to pay per month for good quality and reliable piped

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Social Condition Survey for BWSSB

F7.a	water and sewerage service 24hrs a day? <u>For the piped water:</u> 1. Below 100 Rs./Month 2. 100 to 300 Rs./Month 3. 300 to 500 Rs./Month 4. Above 500 RS./Month <u>For the piped water:</u> 1. Below 50 Rs./Month 2. 50 to 200 Rs./Month
F7.b	3. 200 to 400 Rs./Month 4. Above 400 Rs./Month
F8.	When you consider/considered connecting to the BWSSB piped water and sewerage service, what are/were the most important factors for you? Please rank the following in order of importance.
F8.a	<u>For the piped water:</u> 1. Price; 2. Water quality; 3. Reliability of service
F8.b	<u>For the sewerage service:</u> 1. Price; 2. Degree of improvement of the surrounding water environment 3. Reliability of service <i>If the interviewee has no preference, leave this question blank.</i>
G.	AWARENESS TOWARD WATER CONSERVATION, ENVIRONMENT, SEWAGE REUSE & PUBLIC HEALTH
G1	Water Conservation
G1.b	In the future, how likely do you think it is that there will be water shortages in this Bengaluru city? Do you think they are; 1. Very unlikely 2. Unlikely 3. Neither likely or unlikely 4. Likely 5. Very likely
G1.c	How do you use the water in your daily life? 1. We use the water abundantly without paying any attention to the issue of water conservation. 2. We are aware that the water conservation is necessary, but we use the water abundantly. 3. We use the water and also we practice water conservation <u>to some extent</u> in daily life 4. We use the water and also we practice water conservation <u>at any time</u> in daily life 5. Others:(describe: _____)
G2	Environment
G2.a	Do you know where the sewage at kitchen, after taking shower and toilet is discharged into finally? 1. Rivers 2. Lakes 3. Nallahs 4. Aquifers



Social Condition Survey for BWSSB

	5. Others (describe: _____) 6. Don't know
G2.b	In your opinion, is the surrounding water area such as lakes, rivers and nallahs polluted? 1. Not polluted : 2. Slightly polluted : 3. Severely polluted : 4. Almost dead : 5. Others (describe: _____) 6. Don't know
G2.d	What percentage of the water pollution do you think is caused by the sewage discharge? 1. Below 30 % : 2. 30 to 50 % : 3. 50 to 80 % : 4. Above 80 % :
G2.e	What do you think the Government must do to control the water pollution of lakes, rivers and nallahs? Please describe the details:
G3	Sewage Reuse / Recycling
G3.a	Where the sewerage system is available, the treated sewage is directly discharged into lakes, nallahs and rivers, while most of the treated sewage can be a potential water source in urban area. How do you think the fact? (multiple answers allowed) 1. Reuse of sewage should be promoted more and more to solve the water shortage 2. New water source such as dam reservoirs should be developed to solve the water shortage 3. Water conservation should be promoted to solve the water shortage 4. Don't know 5. Others: (describe: _____)
G3.c	Have you heard of sewage recycling or water re-use as an alternative solution for helping to solve the issue of water shortages? 1. Yes : 2. No : 3. Don't know
G3.e	Do you think there are any benefits to sewage recycling? 1. Yes 2. No 3. Don't know
G3.f	What types of treated sewage reuse is acceptable for you? 1. Agriculture 2. Gardening 3. Toilet flushing 4. Industrial use (Cooling, washing, mix with concrete etc.) 5. Washing cloths 6. Drinking water 7. Others (specify: _____)
G3.g	Do you think there are any risks to sewage recycling? 1. Yes 2. No 3. Don't know
G3.h	For the respondents of 1 in G3.g. And what do you feel those risks are? 1. Contamination



Social Condition Survey for BWSSB

	<ol style="list-style-type: none"> 2. Harmful substances 3. Health risks 4. Germs after recycling 5. Water not treated properly 6. Treatment process fails 7. Others (specify) 																																								
G4	Public Health																																								
G4.a	<p>What health problems do you believe can be influenced by the water used? Note to interviewer: Please do not read the list or make any suggestion. Just circle whichever of the following health problems the respondent mentions. However, please use the ‘Any other’ probe. (Note in instruction – this question is asking about knowledge of links between water and health in general, not about respondent’s own water) Multiple responses allowed</p> <ol style="list-style-type: none"> 1. <i>Mild diarrhoea</i> 2. <i>Severe diarrhoea / dysentery</i> 3. <i>Eye diseases</i> 4. <i>Skin diseases</i> 5. <i>Internal parasites</i> 6. <i>Malaria or dengue fever</i> 7. <i>Typhoid or cholera</i> 8. <i>Gynaecological problems/reproductive tract infection</i> 9. <i>Hepatitis A</i> 10. <i>Other (Please describe:.....)</i> 11. <i>Don’t know</i> 																																								
G4.b	<p>Do you think bad water quality has caused any illness in your family in the past twelve months?</p> <ol style="list-style-type: none"> 1. <i>No</i> 2. <i>Yes</i> 3. <i>Don’t know</i> 																																								
G4.c	<p>Which of the following illnesses has affected member of your family in the last twelve months? Please tick box</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 10%;">Adult (inc. Senior citizen)</th> <th style="width: 10%;">Child</th> <th style="width: 10%;">Total no. in household who sought treatment from a health care provider for this disease</th> </tr> </thead> <tbody> <tr> <td>1. <i>Mild diarrhoea</i></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2. <i>Severe diarrhoea (cannot go to work or school)/dysentery</i></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3. <i>Eye diseases</i></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4. <i>Skin diseases</i></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5. <i>Internal parasites</i></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6. <i>Malaria or dengue fever</i></td> <td></td> <td></td> <td></td> </tr> <tr> <td>7. <i>Typhoid or cholera</i></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8. <i>Gynaecological problems/reproductive tract infection</i></td> <td></td> <td></td> <td></td> </tr> <tr> <td>9. <i>Hepatitis A</i></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Adult (inc. Senior citizen)	Child	Total no. in household who sought treatment from a health care provider for this disease	1. <i>Mild diarrhoea</i>				2. <i>Severe diarrhoea (cannot go to work or school)/dysentery</i>				3. <i>Eye diseases</i>				4. <i>Skin diseases</i>				5. <i>Internal parasites</i>				6. <i>Malaria or dengue fever</i>				7. <i>Typhoid or cholera</i>				8. <i>Gynaecological problems/reproductive tract infection</i>				9. <i>Hepatitis A</i>			
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H	WATER RELATED HAZARDS																																								



Social Condition Survey for BWSSB

H1.	<p>Have you experienced any water-related hazards such as floods and drought in the past 5 years?</p> <ol style="list-style-type: none"> 1. No. 2. Yes <p>If yes, please <i>go to H2</i></p>
H2.	<p>In each of the water-related hazard you experienced, please answer the following.</p> <ol style="list-style-type: none"> 1. Did the hazard cause disruption of water supply? If yes, for how long? 2. In case of inundation above floor level, what is the highest water level?

Questionnaire Sheet for Social Condition Survey

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Social Condition Survey for BWSSB

Preparatory Survey on Bengaluru Water Supply and Sewerage Project

- FOR BUSINESS ESTABLISHMENTS -

QUESTIONNAIRE NO.....

This page shall be completed by the interviewer.

Interviewer	
Supervisor	
Date	

INFORMATION ON BUSINESS ESTABLISHMENTS (Confidential)

Ward / Commune		
Street		
Residence Number		
Name of Business Establishment		
Name of Person in Charge		
Age/ Sex		Please circle: Male / Female
Status	Private/Public/Single Owner/Multiple Owners/International/Group Companies	
Phone Number		

Introduction (interviewer should always request the permission to conduct interview prior to conducting the survey).

Hello. My name is _____. This survey is being carried out on behalf of Bengaluru Water Supply and Sewerage Board (BWSSB). Thank you for taking the time to answer our questions. We are planning water supply and sewerage project. The information you give us will be confidential and is for the exclusive use of this project. The aim of this interview is to understand existing living conditions, the demand for water and capacity to pay, so that the appropriate water supply system and sanitation/sewerage facilities can be provided in the future.

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Social Condition Survey for BWSSB

A GENERAL INFORMATION	
A1.	Type of Business / Service:
A2.	Number of employees:
A3.	Asset Building: <input type="checkbox"/> Y <input type="checkbox"/> N (Area: m ² or ha or acre) Land : <input type="checkbox"/> Y <input type="checkbox"/> N (Extent: m ² or ha or acre) Industrial wastewater treatment facility (if any specify)
A4.	What is the TOTAL monthly income amount of your business? Income Amount (Rs.)
A5.	How much is your average monthly expenditure in your business operation. ? 9. Major item (Describe: _____ Rs.) 10. Total: _____ Rs.
B PRESENT CONDITIONS OF WATER USE	
B1.	Are you connected to BWSSB's piped water network? 1. No - Go to B3 <input type="checkbox"/> No 2. Yes - Go to B2 <input type="checkbox"/> Yes
B2.	If connected: Do you: 3. have a meter that is not shared with any other office? <input type="checkbox"/> Yes <input type="checkbox"/> No Diameter: <u> </u> mm 4. do you share a meter with one or more other offices? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES: You share with <u> </u> nos. of offices
B3.	If not connected, what are your reasons of not connecting to the piped water supply? Multiple responses allowed. 1. BWSSB doesn't have any distribution pipes in this area 2. Our office is in a long distance from the pipes in the street, 3. Cost of connection is too high, 4. Monthly cost of piped water is too high, 5. Quality or quantity of available piped water is not satisfactory, (please select the reasons, Quantity: Very good (1), Having issues (2), Unsatisfactory (3), Turbidity / Clarity: Very good (1), Having issues (2), Unsatisfactory (3)) Smell: Good(1), Bad (2), Unsatisfactory (3), 6. Already applied, still waiting to be connected, 7. The process of applying for the pipe connection is too complicated 8. We have another satisfactory source of water for all my needs (please describe the water source.....) 9. Others (Please describe.....)



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Social Condition Survey for BWSSB

B4.	What is the MAIN source of water used by your establishment:		
B4.a-c	a. For your business activities (e.g. process, commercial activities):	b. For drinking and cooking:	c. For washing (body and clothes):
	Multiple responses allowed 1. Piped water (own or shared) 2. River/canal/pond/stream 3. Tanker 4. Your own well 5. Your neighbour's well 6. A communal well/tap stand 7. Bottled water 8. Rainwater 9. Others (Please describe)	Multiple responses allowed 1. Piped water (own or shared) 2. River/canal/pond/stream 3. Tanker 4. Your own well 5. Your neighbour's well 6. A communal well/tap stand 7. Bottled water 8. Rainwater 9. Others (Please describe)	Multiple responses allowed 1. Piped water (own or shared) 2. River/canal/pond/stream 3. Tanker 4. Your own well 5. Your neighbour's well 6. A communal well/tap stand 7. Bottled water 8. Rainwater 9. Others (Please describe)

C PRESENT SANITATION STATUS

C1.	Are you connected to "Public sewer"?
	1. No - Go to C3 <input type="checkbox"/> No 2. Yes - Go to C2 <input type="checkbox"/> Yes
C2.	If you are connected,
C2.a	Are you satisfied with the BWSSB's sewerage service?
	3. Yes - <input type="checkbox"/> Yes 4. No - <input type="checkbox"/> No <i>If No, please describe the reasons:</i>
C2.b	How many toilets in your premises?
	1. 1 : <input type="checkbox"/> 2. Number. : (if more than 2)
C3.	If you are not connected to public sewer, please answer the following questions.
C3.a	Type of toilet, if any? (multiple answers allowed)
	3. Flushing toilet : <input type="checkbox"/> 4. Pit latrine : <input type="checkbox"/> 5. Toilet w/septic tank: <input type="checkbox"/> 6. Connected to private sewer : <input type="checkbox"/>
C3.b	If you have no toilet, how do you or your employees or customers relieve yourself or themselves? Please select the following.
	1. Use public toilet : <input type="checkbox"/> How much do you pay for:Rs. 2. Use neighbour's toilet : <input type="checkbox"/> 3. Defecate outside : <input type="checkbox"/> 4. Others : <input type="checkbox"/>
C3.c	If you have "Toilet w/septic": how many times do you extract the sewage sludge per year? And, how is the cost?
	1. Number of times per year : <input type="checkbox"/> 2. Total cost of the extraction per time : Rs.

D WATER CONSUMPTION AND COST

D1.	On average, how much water does your establishment use from different sources per month or per day?
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Social Condition Survey for BWSSB

D1.a	Types of water source	Monthly Payment (Rs)	LITRES (per month)
Dry season	1. BWSSB's piped water (own or shared)		
	2. Tanker		
	3. Your own or neighbour's well		
	4. A communal well/tap stand		
	5. Bottled water		
	6. River/canal/pond/stream		
	7. Rain water		
	8. Others (Describe.....)		
	Total		
D1.b			
Rainy season	1. BWSSB's piped water (own or shared)		
	2. Tanker		
	3. Your own or neighbour's well		
	4. A communal well/tap stand		
	5. Bottled water		
	6. River/canal/pond/stream		
	7. Rain water		
	8. Others (Describe.....)		
	Total		

E. SATISFACTION LEVEL TO THE PIPED WATER SERVICE

E1.	From your experience, are you satisfied with BWSSB's (Bengaluru Water Supply and Sewerage Board) customer service? 1. No 2. Yes
E1.a	If no (unsatisfied), please explain the reasons (multiple response allowed): 1. Too many disruptions to supply 2. Water pressure is too weak 3. Water quality is poor 4. Too much leakage 5. Connections with your service after applications take much time 6. Problems with meter readings, billing or cash collection 7. Slow in carrying out repairs 8. Lack of warning about disruptions to supply for repairs 9. Slow staff respond to queries and customer complaints 10. Others (please describe.....)
E2.	How many hours per day is BWSSB's water usually available from your tap? 1. 24 hours 2. 18-23 hours 3. 12-17 hours 4. 6-11 hours 5. < 6 hours



Social Condition Survey for BWSSB

E2.a	<p><i>If your answer is 3, 4 or 5, please answer E2.a</i></p> <p>What do you do when the tap water is not available? (choose one that applies)</p> <ol style="list-style-type: none"> 1. We have water storage tank on our roof top of our work place in case tap water is not available 2. We will wait until tap water becomes available (do not use water during supply disruption) 3. Others (please describe.....) 			
E3.	<p>Is your BWSSB's water pressure:</p> <ol style="list-style-type: none"> 1. <i>Strong</i> 2. <i>Weak</i> ----- <i>please go to E3.a</i> 3. <i>Varies but usually strong</i> 4. <i>Varies but usually weak</i> ----- <i>please go to E3.a</i> 5. <i>Others (Please specify:</i>) 			
E3.a	<p>What do you do when you face this problem? (please choose one that applies)</p> <ol style="list-style-type: none"> 1. We have installed a pump to improve water pressure (and I pay Rs. for monthly operating cost of the pump) 2. We use alternative sources of water (river/canal water, well, etc.) 3. Others (please describe.....) 			
E4.	<p>Does your BWSSB piped water ever have a bad taste?</p> <ol style="list-style-type: none"> 1. <i>Never</i> 2. <i>Rarely</i> 3. <i>Sometimes</i> 4. <i>Usually</i> 			
E5.	<p>Does your BWSSB piped water ever have a strong smell?</p> <ol style="list-style-type: none"> 1. <i>Never</i> 2. <i>Rarely</i> 3. <i>Sometimes</i> 4. <i>Usually</i> 			
E6.	<p>Does your BWSSB piped water ever have a bad colour?</p> <ol style="list-style-type: none"> 1. <i>Never</i> 2. <i>Rarely</i> 3. <i>Sometimes</i> 4. <i>Usually</i> 			
E7.	<p>Do you drink tap water directly (without boiling)?</p> <ol style="list-style-type: none"> 1. <i>Never</i> 2. <i>Rarely</i> 3. <i>Sometimes</i> 4. <i>Usually</i> 			
E8.	<p>Do you have your suggestions to BWSSB to improve their Service?</p> <p>.....</p>			
E9.	You will use more / less water from BWSSB pipe if:	More	Les s	Same/ don't know
	1. the service is available for 24h/day without disruption			
	2. water pressure is improved			
	3. the quality of water (taste, smell) is improved			
	4. the price of BWSSB water goes up by 10%			
	5. the price of BWSSB water goes up by 30%			
	6. your income goes up by 20%			



Social Condition Survey for BWSSB

	If interviewees answer "less" in any of the question above, please go to E10 . Otherwise, go to F .		
E10.	If you are going to use less water from BWSSB pipe, what you will do (please choose one)? 1. We simply reduce consumption of water (no substitution) 2. We will use water from different sources (please describe: river water, well etc....)		
F.	WILLINGNESS / AFFORDABILITY TO PAY TO THE WATER SUPPLY & SEWERAGE SERVICE PLEASE ASK THESE QUESTIONS TO RESPONDENT WHO IS NOT CONNECTED AND CONNECTED TO BWSSB's Services (only for those not connected to BWSSB's services are specified)		
F1.	BWSSB has been preparing water supply and sewerage improvement project (UFW reduction & Expansion). Did you know that? 1. No Why not 2. Yes How did you know that 3. Not sure		
F2. (only Not connect ed area)	Do you think that the project will bring safe, clean, reliable piped water and decrease the river pollution and improve the environment? 1. No Why not 2. Yes 3. Not sure		
F3. (only not connect ed area)	If the BWSSB provides good quality and reliable piped water to your establishment 24 hours a day, and provide the improved sanitation system through the new sewerage development, will you connect to the water pipe networks and the public sewer?		
F3.a	<u>For the water pipe networks;</u> 5. No Why not 6. Yes 7. Not sure 8. Depends on		
F3.b	<u>For the public sewer;</u> 1. No – Why not 2. Yes - Go to next 3. Not sure – Go to next 4. Depends on		
F4.	Future project may bring an increase the water and sewerage monthly tariff due to the recovery of the increased O & M cost. If you are already connected with the water supply pipe networks or sewer, will you intend to pay the future raised rate for the improved services?		
F4.a	<u>For the raised rate for the piped water;</u> 1. No Why not 2. Yes 3. Not sure		
F4.b	<u>For the raised rate for the sewer;</u> 4. No Why not 5. Yes 6. Not sure		
F5. (only	If the BWSSB provides good quality and reliable piped water to your establishment 24 hours a day, will you connect?		



Social Condition Survey for BWSSB

not connect ed area)	<p>1. No – Why not</p> <p>2. Yes - Go to next</p> <p>3. Not sure – Go to next</p> <p>4. Depends on</p>
F6.	<p>How much would your establishment be willing to pay for connection fee? (The payment amount should be examined by the Contractor prior to the actual survey.)</p> <p>F6.a <u>For the piped water supply;</u></p> <p>1. Below 5,000 Rs. 2. 5,000 to 20,000 Rs. 3. 20,000 to 50,000 Rs. 4. Above 50,000 Rs.</p> <p>F6.b <u>For the sewerage service;</u></p> <p>1. Below 2,000 Rs. 2. 2,000 to 5,000 Rs. 3. 5,000 to 20,000 Rs. 4. Above 20,000 Rs.</p>
F6.c	<p>How much would your establishment be willing to pay to get Cauvery Water Connection (GBWASP)? Your establishment had existing connection? Please circle: Water Supply Yes / No Sewerage System Yes / No</p>
F6.d	<p><u>For the piped water supply;</u></p> <p>1. Below 5,000 Rs. 2. 5,000 to 20,000 Rs. 3. 20,000 to 50,000 Rs. 4. Above 50,000 Rs.</p>
F6.e	<p><u>For the sewerage service;</u></p> <p>1. Below 2,000 Rs. 2. 2,000 to 5,000 Rs. 3. 5,000 to 20,000 Rs. 4. Above 20,000 Rs.</p>
F7.	<p>How much in maximum is your establishment afford to pay per month for good quality and reliable piped water and sewerage service 24hrs a day?</p> <p>F7.a <u>For the piped water;</u></p> <p>1. Below 500 Rs./Month 2. 500 to 3,000 Rs./Month 3. 3,000 to 5,000 Rs./Month 4. 5,000 to 10,000 Rs./Month 5. 10,000 to 30,000 Rs./Month 6. Above 30,000 Rs./Month</p> <p>F7.b <u>For the sewerage service;</u></p> <p>1. Below 500 Rs./Month 2. 500 to 3,000 Rs./Month 3. 3,000 to 5,000 Rs./Month 4. 5,000 to 10,000 Rs./Month 5. 10,000 to 30,000 Rs./Month 6. Above 30,000 Rs./Month</p>



Social Condition Survey for BWSSB

F8.	When you consider/considered connecting to the BWSSB piped water and sewerage service, what are/were the most important factors for you? Please rank the following in order of importance.
F8.a	For the piped water; 1. Price; 2. Water quality; 3. Reliability of service
F8.b	For the sewerage service; 1. Price; 2. Degree of improvement of the surrounding water environment 3. Reliability of service <i>If the interviewee has no preference, leave this question blank.</i>
G.	AWARENESS TOWARD WATER CONSERVATION, ENVIRONMENT, SEWAGE REUSE & PUBLIC HEALTH
G1	Water Conservation
G1.a	In the future, how likely do you think it is that there will be water shortages in this Bengaluru city? Do you think they are; 6. Very unlikely 7. Unlikely 8. Neither likely or unlikely 9. Likely 10. Very likely
G1.b	How do you use the water in your daily life? 6. We use the water abundantly without paying any attention to water conservation. 7. We are aware that the water conservation is necessary, but we use the water abundantly. 8. We practice water conservation <u>to some extent</u> while we use the water in daily life 9. We practice water conservation <u>at any time</u> while we use the water in daily life 10. Others:(describe: _____)
G2	Environment
G2.a	Do you know where the sewage at kitchen, after taking shower and toilet is discharged into finally? 1. Rivers 2. Lakes 3. Nallahs 4. Aquifers 5. Others (describe: _____) 6. Don't know
G2.b	In your opinion, is the surrounding water area such as lakes, rivers and nallahs polluted? 7. Not polluted : 8. Slightly polluted : 9. Severely polluted : 10. Almost dead : 11. Others (describe: _____) 12. Don't know



Social Condition Survey for BWSSB

G2.c	<p>What percentage of the water pollution do you think is caused by the sewage discharge?</p> <p>5. Below 30 % : 6. 30 to 50 % : 7. 50 to 80 % : 8. Above 80 % :</p>
G2.d	<p>What do you think the Government must do to control the water pollution of rivers and nallahs? Please describe the details:</p>
G3	Sewage Reuse
G3.a	<p>Where the sewerage system is available, the treated sewage is directly discharged into lakes, nallahs and rivers, while most of the treated sewage can be a potential water source in urban area. How do you think the fact? (multiple answers allowed)</p> <p>6. Reuse of sewage should be promoted more and more to solve the water shortage 7. New water source such as dam reservoirs should be developed to solve the water shortage 8. Water conservation should be promoted to solve the water shortage 9. Don't know 10. Others: (describe: _____)</p>
G3.b	<p>The advanced treated sewage can be used as flushing water for toilets or watering trees at gardens as an alternative water source to tap water. How do you think about that?</p> <p>1. I think that that is a good idea in terms of improving the problem of water shortage. 2. I feel kind of against using treated sewage. 3. Don't know 4. Others (describe: _____)</p>
G3.c	<p>Have you heard of sewage recycling or water re-use as an alternative solution for helping to solve the issue of water shortages?</p> <p>4. Yes : 5. No : 6. Don't know</p>
G3.d	<p>How supportive are you of sewage recycling as a means of increasing the amount of water available for supply?</p> <p>1. Very unsupportive 2. Unsupportive 3. Neither supportive or unsupportive 4. Supportive 5. Very supportive 6. Others (specify: _____)</p>
G3.e	<p>Do you think there are any benefits to sewage recycling?</p> <p>4. Yes 5. No 6. Don't know</p>
G3.f	<p>What types of treated sewage reuse is acceptable for you?</p> <p>8. Agriculture 9. Gardening 10. Toilet flushing 11. Industrial use (Cooling, washing, mix with concrete etc.) 12. Washing cloths 13. Drinking water</p>



Social Condition Survey for BWSSB

	14. Others (specify: _____)		
G3.g	Do you think there are any risks to sewage recycling? 4. Yes 5. No 6. Don't know		
G3.h	And what do you feel those risks are? 8. Contamination 9. Harmful substances 10. Health risks 11. Germs after recycling 12. Water not treated properly 13. Treatment process fails 14. Others (specify)		
G4	Public Health		
G4.a	What health problems do you believe can be influenced by the water used? Note to interviewer: Please do not read the list or make any suggestion. Just circle whichever of the following health problems the respondent mentions. However, please use the 'Any other' probe. (Note in instruction – this question is asking about knowledge of links between water and health in general, not about respondent's own water) Multiple responses allowed 12. <i>Mild diarrhoea</i> 13. <i>Severe diarrhoea / dysentery</i> 14. <i>Eye diseases</i> 15. <i>Skin diseases</i> 16. <i>Internal parasites</i> 17. <i>Malaria or dengue fever</i> 18. <i>Typhoid or cholera</i> 19. <i>Gynaecological problems/reproductive tract infection</i> 20. <i>Hepatitis A</i> 21. <i>Other (Please describe:.....)</i> 22. <i>Don't know</i>		
G4.b	Do you think bad water quality has caused any illness in your family in the past twelve months? 4. <i>No</i> 5. <i>Yes</i> 6. <i>Don't know</i>		
G4.c	Which of the following illnesses has affected member of your family in the last twelve months? Please tick box		
		Adult (inc. Senior citizen)	Child
			Total no. in household who sought treatment from a health care provider for this disease
	10. <i>Mild diarrhoea</i>		
	11. <i>Severe diarrhoea (cannot go to work or school)/dysentery</i>		
	12. <i>Eye diseases</i>		
	13. <i>Skin diseases</i>		



Social Condition Survey for BWSSB

- | | | | |
|---|--|--|--|
| 14. <i>Internal parasites</i> | | | |
| 15. <i>Malaria or dengue fever</i> | | | |
| 16. <i>Typhoid or cholera</i> | | | |
| 17. <i>Gynaecological problems/reproductive tract infection</i> | | | |
| 18. <i>Hepatitis A</i> | | | |

H 1. WATER RELATED HAZARDS

H1. Have you experienced any water-related hazards in the past 5 years (flood, etc)?

1. No.
2. Yes

If yes, please *go to I2*

H2. In each of the water-related hazard you experienced, please answer the following.

1. Did the hazard cause disruption of water supply? If yes, for how long?
2. In case of inundation above floor level, what is the highest water level?



Social Condition Survey for BWSSB

Photographs showing Survey locations

Mahadevapura ULB

Photographs Households



Questionnaire No.1



Questionnaire No.2



Questionnaire No.4



Questionnaire No.10

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Social Condition Survey for BWSSB

Photographs Households



Questionnaire No.3



Questionnaire No.5



Questionnaire No.6



Questionnaire No.7



Questionnaire No.8



Questionnaire No.9

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Social Condition Survey for BWSSB

Mahadevapura Zone

1. Gunjur Village

Photographs of Households



Questionnaire No.12



Questionnaire No.13

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Social Condition Survey for BWSSB

Photographs of Households



Questionnaire No.14



Questionnaire No.15



Questionnaire No.11

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Social Condition Survey for BWSSB

2. Panathur Village

Photographs of Households



Questionnaire No.17



Questionnaire No.18



Questionnaire No.19



Questionnaire No.20



Questionnaire No.16

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Social Condition Survey for BWSSB

3. Balagere Village

Photographs of Households



Questionnaire No.21



Questionnaire No.25



Questionnaire No.22



Questionnaire No.23



Questionnaire No.24



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Social Condition Survey for BWSSB

4. Sorahunise Village

Photographs of Households



Questionnaire No.26



Questionnaire No.27



Questionnaire No.29



Questionnaire No.30



Questionnaire No.28



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Social Condition Survey for BWSSB

5. Kalkere Village

Photographs of Households



Questionnaire No.31



Questionnaire No.32



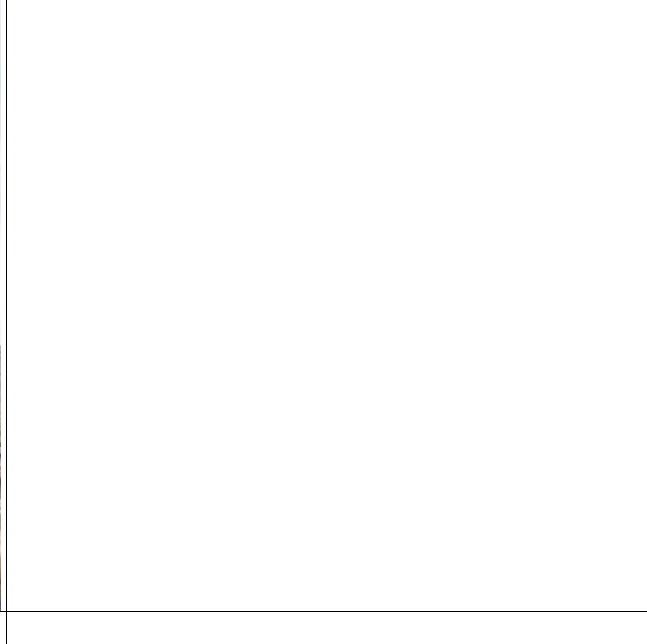
Questionnaire No.33



Questionnaire No.34



Questionnaire No.35



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Social Condition Survey for BWSSB

6. Varanasi Village

Photographs of Households



Questionnaire No.36



Questionnaire No.37



Questionnaire No.38



Questionnaire No.39



Questionnaire No.40

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Social Condition Survey for BWSSB

7. Channasandra Village

Photographs of Households



Questionnaire No.41



Questionnaire No.42



Questionnaire No.43



Questionnaire No.44



Questionnaire No.45



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Social Condition Survey for BWSSB

8. K Channasandra Village

Photographs of Households



Questionnaire No.46



Questionnaire No.47



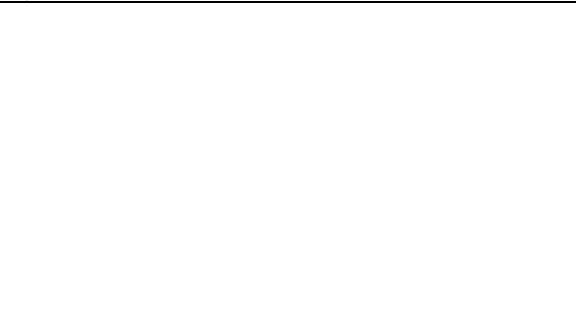
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Questionnaire No.49



Questionnaire No.50



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Social Condition Survey for BWSSB

9. Kadubeesanahalli Village

Photographs of Households



Questionnaire No.51



Questionnaire No.52



Questionnaire No.54



Questionnaire No.55



Questionnaire No.53



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Social Condition Survey for BWSSB

10. Hagadur Village

Photographs of Households



Questionnaire No.56



Questionnaire No.57



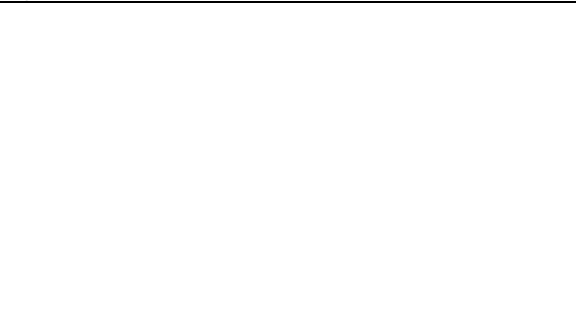
Questionnaire No.58



Questionnaire No.59



Questionnaire No.60



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Social Condition Survey for BWSSB

Byatarayanapura ULB

Photographs Households



Questionnaire No.61



Questionnaire No.62

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Social Condition Survey for BWSSB

Photographs Households



Questionnaire No.63



Questionnaire No.64



Questionnaire No.65



Questionnaire No.66

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Social Condition Survey for BWSSB

Photographs Households



Questionnaire No.67-1



Questionnaire No.67-2



Questionnaire No.68



Questionnaire No.69

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Social Condition Survey for BWSSB

Photographs Households



Questionnaire No.70

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Social Condition Survey for BWSSB

Byataranayapura Zone

1. Ananthapura Village

Photographs of Households



Questionnaire No.92



Questionnaire No.93



Questionnaire No.94



Questionnaire No.95



Questionnaire No.91

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Social Condition Survey for BWSSB

2. Thanisandra Village

Photographs of Households



Questionnaire No.96



Questionnaire No.97



Questionnaire No.98



Questionnaire No.100



Questionnaire No.99

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Social Condition Survey for BWSSB

3. Doddabettahalli Village

Photographs of Households



Questionnaire No.101



Questionnaire No.102



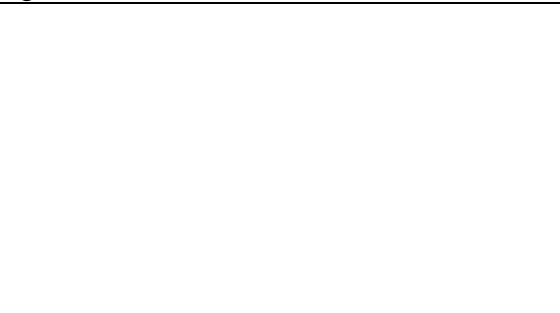
Questionnaire No.103



Questionnaire No.104



Questionnaire No.105



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Social Condition Survey for BWSSB

4. Katigenahalli Village

Photographs of Households



Questionnaire No.106



Questionnaire No.107



Questionnaire No.108



Questionnaire No.110



Questionnaire No.109

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Social Condition Survey for BWSSB

5. Kottanur Village

Photographs of Households



Questionnaire No.111



Questionnaire No.112



Questionnaire No.113



Questionnaire No.114



Questionnaire No.115



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Social Condition Survey for BWSSB

6. Bilishivale Village

Photographs of Households



Questionnaire No.116



Questionnaire No.117



Questionnaire No.118



Questionnaire No.119



Questionnaire No.120



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Social Condition Survey for BWSSB

7. Thirumenahalli Village

Photographs of Households



Questionnaire No.121



Questionnaire No.125



Questionnaire No.122



Questionnaire No.123



Questionnaire No.124



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Social Condition Survey for BWSSB

8. Belahalli Village

Photographs of Households



Questionnaire No.126



Questionnaire No.127



Questionnaire No.128



Questionnaire No.129



Questionnaire No.130



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Social Condition Survey for BWSSB

9. Kylasanahalli Village

Photographs of Households



Questionnaire No.131



Questionnaire No.132

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Social Condition Survey for BWSSB

Photographs of Households



Questionnaire No.133



Questionnaire No.134



Questionnaire No.135

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Social Condition Survey for BWSSB

10. Geddalahalli Village

Photographs of Households



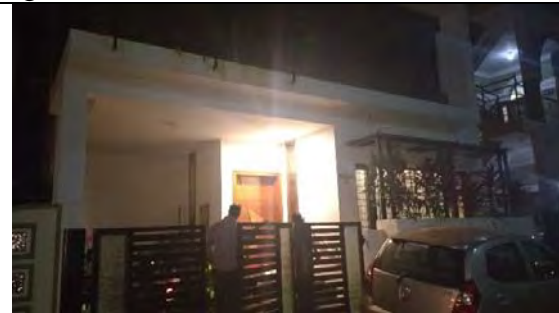
Questionnaire No.136



Questionnaire No.137



Questionnaire No.138



Questionnaire No.139

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Social Survey Location Map for BWSSB Scheme Phase 3

