



رئاسة الوزراء

Supplementary Analysis of 2009 Water Use and Socio-Economic Survey for Zarqa Governorate

Millennium Challenge Unit
Prime Ministry
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Introduction

The 2009 Water Use and Socio-economic Survey for Zarqa Governorate is considered as one of those important Surveys implemented by the Department of Statistics (DoS) for the first time in cooperation with the Millennium Challenge Unit at the Prime Ministry.

The survey sample was designed to obtain estimates related to the survey variables at the surveyed areas. The sample size was 1224 households, of which 1214 households were successfully interviewed.

The survey aimed at providing data on the socio- economic impact of the additional water supply through the consumption behavior of the surveyed households as well as identifying the socio-economic characteristics of these households.

This report supplements the official analysis of the “2009 Water Use and Socio-Economic Survey for Zarqa Governorate” prepared by the Department of Statistics (DOS).

For a full background on the survey and additional tables, please see the report provided by the Department of Statistics: “Indicators of the 2009 Water Use and Socio-Economic Survey For Zarqa Governorate” – April 2009.

Supplemental Analysis Objectives

This supplemental analysis explores the survey data in greater depth than was possible in the original report. In particular, this supplemental analysis builds on the DOS report in the following area:

1. Gender: This reports disaggregates many variables by the gender of the household head.
2. Poverty: This report disaggregates many variables by socio-economic variable—a rough proxy for poverty.
3. Additional indicators: This report includes some additional issues such as:
 - a. Households sharing water connections
 - b. Activities constrained by lack of water
 - c. Practices related to cesspits/septic tanks
 - d. Use of alternative sources of water (quantities and prices)
 - e. Household water storage capacity
 - f. Problems related to water service and quality
 - g. Installation of water savings devices
4. An English translation of the questionnaire is provided as Annex 1

Caveats to the Supplemental Analysis

The reader should be aware that confidence intervals around some figures could be large (low statistical significance) because of the effort to provide greater disaggregation along gender, geographic, and socio-economic status dimensions. The reader is encouraged to consult the sample frame table No.(1) for information on the size of sub-samples.

Survey objectives

The survey's main objectives are to identify the following:

1. Characteristics of the sample's households members in terms of sex, age, income and expenditure.
2. Basic characteristics of housing unit's in which the households live, such as the type of housing unit, ownership, areaetc.
3. Opinions of households in regard to the lack of Water and its impact on health of household members.
4. Water resources that households receive their needs from.
5. Households that use techniques for water treatment before drinking and the relevant cost.
6. Number and capacity of water reservoirs owned by household.
7. Average quantity and cost of water consumed quarterly by household.

8. Households satisfaction with quality and water services.
9. Number of pumping times to housing units during summer and winter Seasons.

Stratification

The sample frame was divided into four main strata by sub-district and then with respect to urban, rural and big cities. In view of the existing significant variation in the socio-economic characteristics in large cities in particular, and in the urban in general, each stratum of the large cities and the urban strata was divided into four sub-stratums according to the socio-economic characteristics provided by the population and housing census data with the purpose of providing homogeneous strata.

The Socio-Economic Index and Poverty

This report attempts to disaggregate the results by “poverty” status for many of the key results. Unfortunately, it was not possible to use the official Government of Jordan’s poverty line, as expenditures and income were not measured in a comparable manner to the official poverty line.¹ Instead, a socio-economic index was used as a proxy for poverty. The socio-economic index was created by DOS and comes from the 2006 census data. The index is based on the 17 variables listed below.

Variables used to determine the Socio-Economic Index

1. Type of household
2. Presence of a household heating source
3. Household's type of waste water drainage used
4. Type of material that was used for building the household
5. Presence of an elevator inside the building
6. Household's average monthly rent
7. Presence of a satellite
8. Presence of a refrigerator
9. Presence of a washer machine
10. Presence of a solar heater
11. Presence of an oven

¹ The official Government of Jordan’s poverty line is based on data from the periodic Household Income and Expenditure Survey (HIES). While the “2009 Water use and Socio-Economic Survey for Zarqa Governorate” asked for expenditure and income figures, because of time constraints, it only asked for these figures as aggregates. The HIES income/expenditure figures are composite figures based on a lengthy income/expenditure diary. Therefore, the income/expenditure figures, and thus poverty status, are not comparable between the two surveys, nor are the income/expenditure figures of this survey directly comparable to national poverty rates.

12. Presence of a microwave
13. Presence of a car
14. Presence of a telephone
15. Presence of a computer
16. Availability of internet service
17. Level of education

Households are assigned a score from 1 to 4 based on their index score, where “4” represents the most affluent households. Approximately equal numbers of households are given each of the four scores (the scores divide the population into quartiles).

The socio-economic index is a reasonable predictor of poverty rates among a given population, but a relatively poor predictor of the poverty status on an individual household. MCU-Jordan calculated the correlation between the poverty rates in an informal HIES analysis of neighborhood poverty rates and the weighted average socio-economic index for all households in the corresponding neighborhoods. MCU also calculated the correlation between the self-reported income in the “2009 Water use and Socio-Economic Survey for Zarqa Governorate” and the socio-economic index. The results of the regression correlations are:

Correlation between Poverty Rates and the Socio-Economic Index

	Coefficient	Standard Error
Socio-Economic Index (score of 1-4)	-3.68	0.26
Constant	17.48	0.62

(dependent variable is poverty rate, % X 100)

Correlation between Household Expenditure and Socio-Economic Index

	Coefficient	Standard Error
Socio-Economic Index (score of 1-4)	59	21
Constant	263	56

(dependent variable is Household Expenditure per month in JD)

The relationship between neighborhood level poverty and the socio-economic index is quite strong. If the average socio-economic score in a neighborhood is to climb by one point, one would expect the poverty rate to fall by 3.68 percentage points with a negligible margin of error. The relationship between the socio-economic index and household expenditure is less strong, though observable. If a household score on the socio-economic index rises by one point, monthly household expenditure would rise by 59 JD; however there is a significant margin of error around this figure. Furthermore, it appears households systematically underreported their income in this survey, as income levels are much lower than presented in other reports from DOS, so the increase is likely significantly higher than 59 JDs.

The best interpretation of the socio-economic index in this report is not that 1 = poor and 4 = non-poor. Instead, it is more accurate to say that a group of households with an average score of “1” represents a population with a relatively higher rate of poverty than a group with an average score of “4”. MCU estimates the poverty rates by socio-economic scores as shown in the following table:

Recommended Interpretation of Socio-Economic Scores

<i>Socio Economic Index</i>	<i>Poverty Rate</i>
1	13.33%
2	9.66%
3	5.99%
4	2.32%

Based on DOS reports in 2009 and 2010 estimating poverty rates around 15% in Zarqa Governorate, the estimates in the table above may understate the poverty rate by about 6% in each category, though the relative relationship between categories would remain the same.

Main Results

1- Households Characteristics

The following table details the sample strategy employed by DOS.

Table 1
Distribution of the Sample PSUs and Households by District/ Sub-District and Strata

Socio-Economic Strata	District/ Sub-District									
	Zarqa		Russaifa		Hashmeieh		Bireen		Total	
	PSU	HH	PSU	HH	PSU	HH	PSU	HH	PSU	HH
Large Cities	74	592	36	288					110	880
1	18	144	9	72					27	216
2	19	152	9	72					28	224
3	19	152	9	72					28	224
4	18	144	9	72					27	216
Other Urban			10	80	20	160			30	240
1			2	16	4	32			6	48
2			3	24	3	24			6	48
3			3	24	5	40			8	64
4			2	16	8	64			10	80
Rural							13	104	13	104
1							13	104	13	104
Total	74	592	46	368	20	160	13	104	153	1224

Table No (2) indicates that the average household size in Zarqa Governorate is about (5.4) , where Bireen and Hashmeieh have an average household size of (5.7) , followed by Russaifa with an average of (5.5) and finally Zarqa with an average of (5.3).

Table 2
Average Household Size by District/ Sub-District

District/ Sub-District	Average Household Size
Total	5.4
Zarqa	5.3
Bireen	5.7
Russaifa	5.5
Hashmeieh	5.7

Households Expenditure

According to the Survey findings, the average household expenditures in Zarqa governorate is about JD (318), and it ranges between (284) and (404). By looking at the districts and sub districts we can see that Bireen is the lowest household expenditure average JD (260) and Zarqa is the highest with an average of JD (336).

By looking at the household head by gender, we find that the average expenditures for males exceeded the females average with about (28.5%) and the highest ratio differences between male and female household expenditures was in Hashemiah (39.7%) and the lowest was in Bireen (13.6%) while in Zarqa the ratio was (28.2%) as table No (3) indicates .

Table 3

Average Households Expenditure by District/ Sub-District, Socio-Economic Status and Gender of Household Head

Socio-Economic Status and Gender of Household Head	Total	District/ Sub-District			
		Zarqa	Bireen	Russaifa	Hashmeieh
Socio-Economic Status					
Total	318	336	260	294	322
1	284	299	260	267	249
2	282	292	*	269	250
3	310	311	*	306	327
4	404	447	*	341	366
Gender of Household Head					
Male	330	347	263	305	330
Female	236	249	227	219	199

* No Cases

Households Income

According to the Survey findings, the average household income in Zarqa governorate is about JD (306) , and it ranges between JD (267) for category (1) which is for the poor and JD (395) for the wealthy household. By looking at the districts and sub districts we can see that Bireen is the lowest household income average JD (244) , where Hashemiah is the highest income average with about JD (336) .

Table 4
Average Households Income by District/ Sub-District, Socio-Economic Status and Gender of Household Head

Socio-Economic Status and Gender of Household Head	Total	District/ Sub-District			
		Zarqa	Bireen	Russaifa	Hashmeieh
Socio-Economic Status					
Total	306	322	244	281	336
1	267	278	244	256	236
2	273	283	*	256	310
3	297	304	*	288	300
4	395	429	*	333	394
Gender of Household Head					
Male	318	332	247	294	346
Female	225	248	210	195	180

* No Cases

Table 5: Percentage Distribution of Female Headed Households by District/ Sub-District and Socio-Economic Status

Socio-Economic Status	Total	District/ Sub-District			
		Zarqa	Bireen	Russaifa	Hashmeieh
Total	146	83	2	57	4
Percentage	100.0	100.0	100.0	100.0	100.0
1	30.1	27.8	100.0	31.3	29.9
2	27.1	33.1	0.0	20.3	8.7
3	23.9	17.2	0.0	32.8	48.1
4	19.0	21.9	0.0	15.6	13.3

2- Housing characteristics

Households by Type of Dwelling

According to the survey findings, (60%) of the household in Zarqa governorate are living in apartments , while (39.7%) are living in Houses and only(0.5%) are living in villas.

Table 6
**Percentage Distribution of Households by Type of Dwelling and District/
Sub-District**

District/ Sub-District	Total	Type of Dwelling			
		Percentage	Apartment	House	Villa
Total	1214	100.0	60.0	39.7	0.3
Zarqa	688	100.0	67.5	32.0	0.5
Bireen	20	100.0	0.0	100.0	0.0
Russaifa	444	100.0	55.9	44.1	0.0
Hashmeieh	63	100.0	24.7	75.3	0.0

Households with WAJ Subscription

The Survey results show that the majority of Zarqa governorate households (97.2 %) subscribe to the Jordan Water Authority. Al Hashemiah has the highest WAJ subscription percentage with about (99.4%) comparing with Bireen (91.1%) .

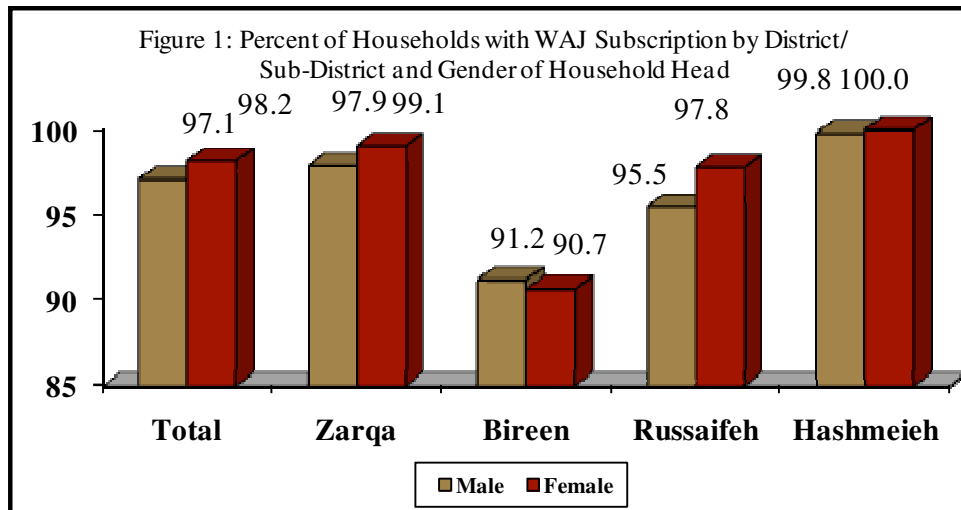
Those in the lowest socio-economic group appear to be less likely to have a WAJ subscription. Only (90.8%) are subscript to WAJ, and the lowest percentage among this category was in Al Rssaifa (87.5%) followed by Bireen (91.1%) and Zarqa (92.4%) while we can see that the household within categories (2.3.4) almost (99.3%) of them subscript to WAJ water networks , as table No. (7) indicates.

Table-7
Percent of Households with WAJ Subscription by District/ Sub-District and Socio-Economic Status

District/ Sub-District	District/ Sub-District				
	Total	Zarqa	Bireen	Russaifa	Hashmeieh
Total	97.2	98.0	91.1	95.9	99.4
1	90.8	92.4	91.1	87.5	96.9
2	99.6	100.0	0.0	98.9	100.0
3	99.2	99.3	0.0	98.9	100.0
4	99.1	100.0	0.0	97.3	100.0

WAJ Subscription by District/ Sub-District and Gender of Household Head

Figure No.(1) shows that (98.2%) of WAJ subscription in Zarqa governorate are household headed by women comparing with (97.1%) household headed by men. This pattern is also apparent in Zarqa (99.1%), comparing with (97.9%) Russaifeh (97.8%) and Al Hashmeieh , but not for Bireen (90.7%) .



Distribution of Households by Houses Sharing Water Meter and District/ Sub-District

Table No (8) shows that (60.5%) of Zarqa governorate households are not sharing their water meter.

Table 8
Percentage Distribution of Households by Houses Sharing Water Meter and District/ Sub-District

Number of Households	District/ Sub-District				
	Total	Zarqa	Bireen	Russaifa	Hashmeieh
Total	1180	674	18	425	62
Percentage	100.0	100.0	100.0	100.0	100.0
1*	60.5	66.4	63.5	50.0	66.2
2	21.4	17.3	21.6	28.2	18.9
3	12.9	11.9	8.4	15.3	9.7
4	3.3	3.0	5.4	3.8	3.5
5	1.2	1.0	0.0	1.5	1.3
6	0.2	0.0	1.1	0.6	0.0
7+	0.5	0.4	0.0	0.6	0.6

* No Sharing

Households Reporting Constraints Caused by Low Quantity of Water Supply

By Activity

The results of the survey indicated that (64.3%) of the total household in Zarqa governorate reported that shortage of water supply will affect their economic activities, while (87.9%) reported that the shortage of water will affect their home activities, and (71.4%) reported that water shortage will affect their health as shown in table No.(9) below.

By District/ Sub-District

By looking at the shortage of water effect by districts and sub districts we can see that most of the answers indicate that this will affect the household activities and health rather than affecting their economic situation as shown in table No (9) .

By Gender of Household Head

Table No.(9) also shows that men and women indicated that shortage of water will affect most the household activities (male 87%, female 94.6%) as shown below , then health (70.90) male , (75) female and last it will affect the economic constraints.

Table 9
Percent of Households Reporting Constraints Caused by Low Amount of Water by Activity, District/ Sub-District and Gender of Household Head

District/ Sub-District and Gender of Household Head	Economic Activities Constrained	Household Activities Constrained	Health of Family Member Constrained
Total	64.3	87.9	71.4
District/ Sub-District			
Zarqa	72.9	93.2	87.0
Bireen	78.4	94.1	94.6
Russaifa	51.5	81.6	87.0
Hashmeieh	55.3	72.2	94.6
Gender of Household Head			
Male	64.7	87.0	70.9
Female	61.0	94.6	75.0

Households Reporting Health Problems Believed to Water Related During the Last 12 Months

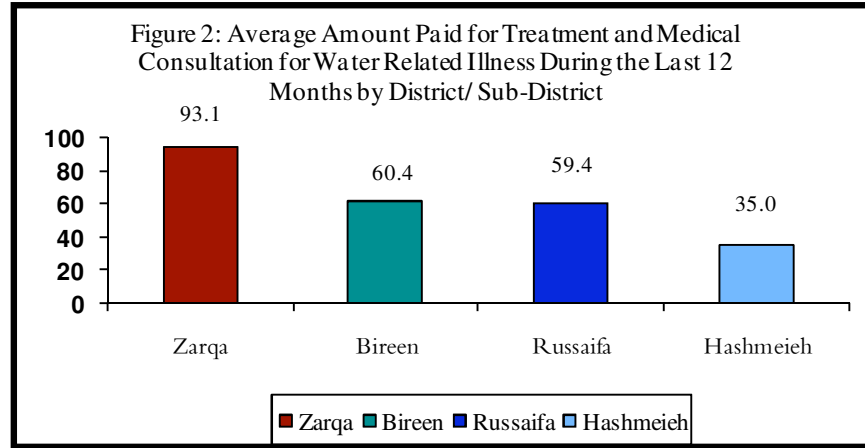
When studying sufferance of any member of the household from health problems related to the quality of public water network during the last 12 months, it is observed that (15.4%) of the total sample reported that they had health problems caused by water quality, the highest was in Al Hashmieh (23%). Male headed households reported water problems ore frequently than those headed by females, (16.4% and 8.4% respectively).

Table 10
Percentage Distribution of Households Reporting Health Problems Believed to be Water Related During the Last 12 Months by District/ Sub-District and Gender of Household Head

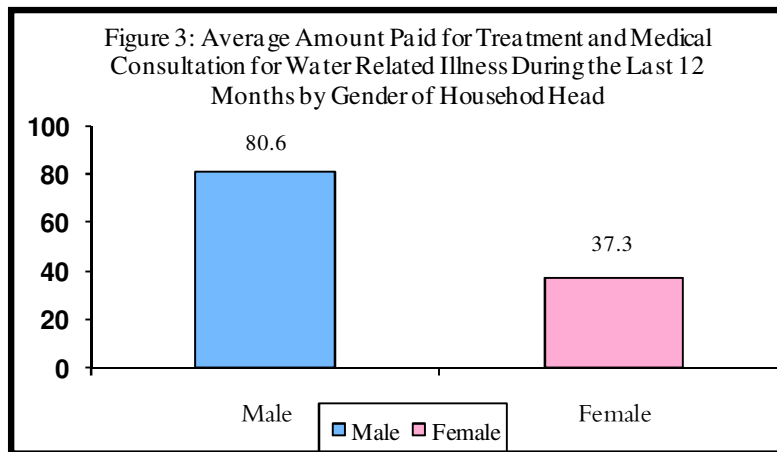
District/ Sub-District and Gender of Household Head	Percentage	Yes/ Reporting a Problem	No/ Don't Know
District/ Sub-District			
Total	100.0	15.4	84.6
Zarqa	100.0	15.1	84.9
Bireen	100.0	15.0	85.0
Russaifa	100.0	14.9	85.1
Hashmeieh	100.0	23.0	77.0
Gender of Household Head			
Male	100.0	16.4	83.6
Female	100.0	8.4	91.6

Amount Paid for Treatment and Medical Consultation for Water Related Illness

The results also show that the average amount paid for treatment and medical consultation during the last 12 months reached to JD (93.1) for Zarqa followed by Bireen JD (60.4), Russaifa JD (59.4) and JD (35) for Hashmeieh as shown in figure (2) below. These figures are only for those who sought medical treatment.



Comparing the payments by sex of head of the household, the results show that households headed by men paid (80.6) JDs in average compared with (37.3) JDs paid by households headed by women as shown in figure (3).



Households Connected to the Public Waste Water Network

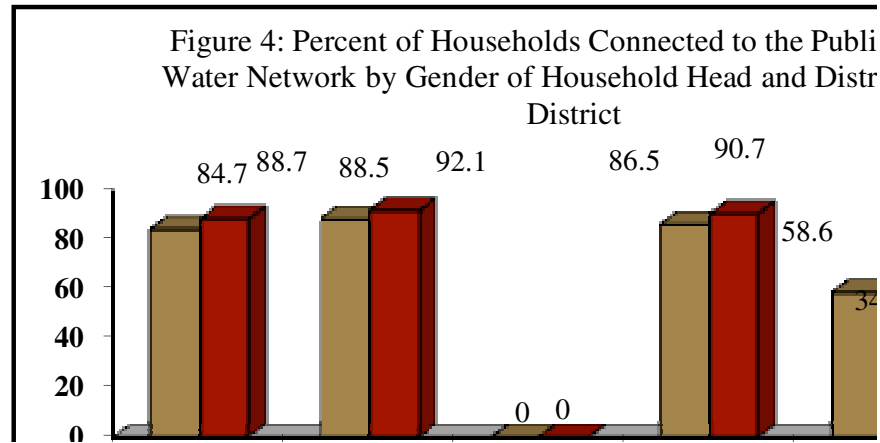
Table No. (11) shows that (85.2%) of the total household in Zarqa governorate are connected to the public wastewater network , the lowest percentage was in Hashmieh (57.3%). In the lowest socio-economic category only (67%) of households are connected to the public wastewater network, with the lowest percentage in Hashmieh (15.6%). There is no wastewater network in Bireen.

Table 11
Percent of Households Connected to the Public Waste Water Network by District/ Sub-District and Socio-Economic Status

Socio-Economic Status	Total	District/ Sub-District			
		Zarqa	Bireen	Russaifa	Hashmeieh
Total	85.2	88.9	0.0	87.1	57.3
1	67.0	74.3	0.0	73.8	15.6
2	90.5	94.1	0.0	90.6	0.0
3	91.1	93.4	0.0	90.2	70.0
4	91.9	93.1	0.0	93.2	81.3

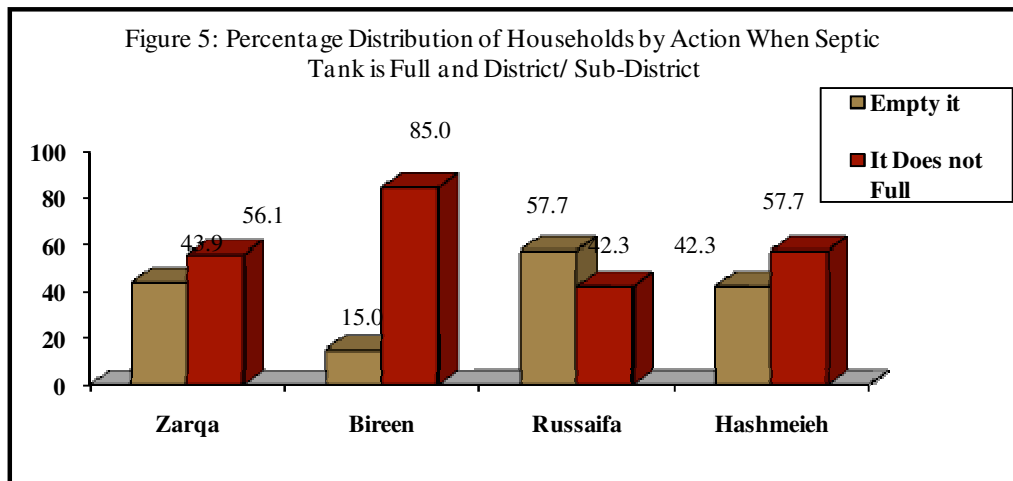
Households Connected to the Public Waste Water Network by Gender of Household Head

Figure (4) shows similar rates of connection to the Wastewater network by men and women. The notable exception is the apparent disparity in Hashmeieh (58.6% vs. 34.6%); this difference could be a statistical anomaly as few female-headed households were observed in Hashmeieh.



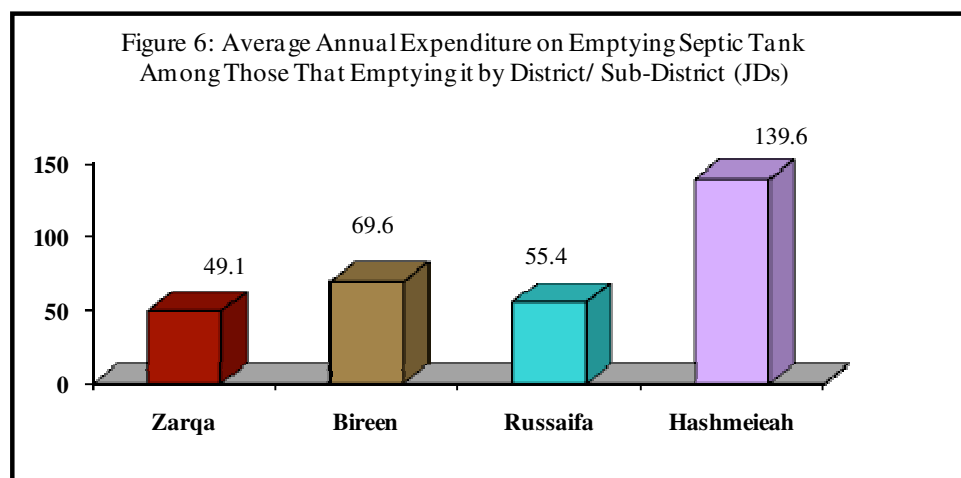
Distribution of Households by Action When Septic Tank is Full

Figure 5 shows that the percent of households reporting that their septic tank does not fill varies significantly by sub-district.



Annual Expenditure on Emptying Septic Tank

Annual average expenditure on septic tank emptying is highest in Hashmeih, where the cost averages JD (139.6), followed by Bireen with an average of JD (69.6), Russaifa JD (55.4) and JD (49.1) for Zarqa, as shown in figure No. 6 below.



Distribution of Households by Reason for not Connecting to Public Waste Water Network

The most common reason for not connecting to the wastewater network was the lack of a network followed by the inability to afford the cost.

Table 12
Percentage Distribution of Households by Reason for not Connecting to Public Waste Water Network and District/ Sub-District

Reason for not Connecting	Total	Zarqa	Bireen	Russaifa	Hashmeieh
Total	180	76	20	57	27
Percentage	100	100	100	100	100
Not Necessary	6.3	9.2	0.0	7.1	1.2
Cannot Afford the Cost	22.1	21.4	0.0	38.8	5.0
No Network Existing	67.1	66.4	100.0	44.0	93.9
Other	4.5	3.0	0.0	10.0	0.0

Households by Source of Water

Regarding the sources of water which households can have to meet their needs, the results indicate that (97.2) percent of sampled households depend on the public water network.

Table 13

Percent of Households by Source of Water and District/ Sub-District

Sources*	Total	District/ Sub-District			
		Zarqa	Bireen	Russaifa	Hashmeieh
Total	1214	689	20	444	63
Public Network	97.2	98.0	91.1	95.9	99.4
Spring	0.1	0.0	6.0	0.0	0.0
Rain Water (Harvesting)	0.1	0.0	7.7	0.0	0.0
Water Treatment Stores	34.2	37.1	13.2	30.3	36.0
Bottled Water	3.3	3.6	11.7	2.1	6.5
Tankers	10.0	9.3	19.9	10.7	9.6
Neighbors	1.4	1.0	3.8	2.2	0.0
Other	0.7	0.8	0.0	0.0	3.8

* The Totals of Sub percentage are not Equivalent to 100% due to different Source of Water Households Use

Monthly Average Quantity Purchased and Amount Paid for Bottled Water Among Those Using Bottled Water

The results indicate that average liters purchased per month among household using bottled water is about (36.25) liters/household, for an average cost of JD (6.5) per month. Given the small size of the population using bottled water (3.3% of the total, see table 13), the accuracy of the estimates for the disaggregated sub-populations should be judged with caution.

Table 14

Monthly Average Quantity Purchased and Amount Paid for Bottled Water Among Those Using Bottled Water by District/ Sub-District, Socio-Economic Status and Gender of Household Head

District/ Sub-District, Socio-Economic Status and Gender of Household Head		Average Liters*	Average JDs*
District/ Sub-District	Zarqa	35	8
	Bireen	22	4
	Russaifa	45	5
	Hashmeieh	43	9
Socio-Economic Status	1	50	8
	2	25	5
	3	49	8
	4	28	8
Gender of Household Head	Male	39	8
	Female	32	4
Total		38	7

* per month

Average Quantity Purchased and Amount Paid for Treatment Stores Water Among Those Using Treatment Stores Water

The results indicate that among those purchasing any treatment store water, the average quantity purchased was (180 L) per month with an average cost of JD (7) per month.

Table 15

Monthly Average Quantity Purchased and Amount Paid for Treatment Stores Water Among Those Using Treatment Stores Water by District/ Sub-District, Socio-Economic Status and Gender of Household Head

District/ Sub-District, Socio-Economic Status and Gender of Household Head		Average Liters*	Average JDs*
District/ Sub-District	Zarqa	175	8
	Bireen	73	4
	Russaifa	185	7
	Hashmeieh	218	7
Socio-Economic Status	1	175	7
	2	171	7
	3	183	8
	4	186	8
Gender of Household Head	Male	185	7
	Female	137	7
Total		180	7

* per month

Average Quantity Purchased and Amount Paid for Tanker Water During Summer Among Those Using Tanker Water

Table No. (16) shows that among those using tanker water, the average quantity purchased during summer was (8.75 M³) with an average amount of JD (30) per month.

Table 16
Average Quantity Purchased and Amount Paid for Tanker Water During Summer Among Those Using Tanker Water by District/ Sub-District, Socio-Economic Status and Gender of Household Head

District/ Sub-District, Socio-Economic Status and Gender of Household Head	Average M ³	Average JDs	
District/ Sub-District	Zarqa	7	31
	Bireen	8	28
	Russaifa	9	34
	Hashmeieh	11	27
Socio-Economic Status	1	9	34
	2	7	31
	3	7	37
	4	7	26
Gender of Household Head	Male	8	33
	Female	8	25
Total	8	32	

Average Quantity Purchased and Amount Paid for Tanker Water During Winter Among Those Using Tanker Water

Compared to the summer, the quantities purchased and amount paid for tanker is slightly higher in the winter. This result is somewhat unexpected given generally higher rates of water consumption in the summer.

Table 17
Average Quantity Purchased and Amount Paid for Tanker Water During Winter Among Those Using Tanker Water by District/ Sub-District, Socio-Economic Status and Gender of Household Head

District/ Sub-District, Socio-Economic Status and Gender of Household Head		Average M ³	Average JDs
District/ Sub-District	Zarqa	9	41
	Bireen	14	46
	Russaifa	8	28
	Hashmeieh	9	21
Socio-Economic Status	1	9	35
	2	9	33
	3	6	53
	4	9	23
Gender of Household Head	Male	9	35
	Female	4	10
Total		9	34

Average Storage Tank Capacity Per Household and Per Capita

Table No.(18) shows that the average storage tank capacity in Zarqa governorate is (3.3M³) per household.

Table 18
Average Storage Tank Capacity Per Household and Per Capita by District/ Sub-District, Socio-Economic Status and Gender of Household Head

District/ Sub-District, Socio-Economic Status and Gender of Household Head		Average Storage Tank (M ³)	Per Capita (M ³)
District/ Sub-District	Zarqa	3.1	0.71
	Bireen	3.7	0.79
	Russaifa	3.5	0.77
	Hashmeieh	3.4	0.74
Socio-Economic Status	1	3.7	0.81
	2	2.8	0.63
	3	3.1	0.73
	4	3.7	0.77
Gender of Household Head	Male	3.4	0.70
	Female	2.8	1.01
Total		3.3	0.73

Average Satisfaction Score by Aspect and District Sub-District

Average satisfaction scores with water quality and utility service are shown in table (19). Water quality generally scored lower than satisfaction with other elements of water delivery.

Table 19

Average Satisfaction Score by Aspect and District Sub-District

Aspects	District/ Sub-District				
	Zarqa	Bireen	Russaifa	Hashmeieh	Total
Water Quality in Terms of Color	2	3	2	2	2
Water Quality in Terms of Purity (Existence of Particles)	2	3	2	2	2
Water Quality in Terms of Taste	2	3	2	2	2
Potability of Water	2	3	2	2	2
Frequency of Supply	3	2	3	3	3
Duration of Supply	3	2	3	4	3
Pressure of Supply	3	3	3	4	3
Quality of Pipe	3	3	3	4	3
WAJ's Response to Complaints Relating to Leakage	3	3	3	3	3
WAJ's Response to Complaints Relating to Supply Problems	3	3	3	3	3
Accuracy of Reading the Meter	3	3	3	3	3
WAJ's Response to Complaints about Billing	3	3	3	3	3

1= Not Satisfied at all 5= Very Satisfied

Percentage Distribution of Households with WAJ Subscription by Reporting Problems With Water Delivery System

lation reports that there has been problems with their of the popu %36 ,In Zarqa governorate .water delivery

Table 20

Percentage Distribution of Households with WAJ Subscription by Reporting Problems With Water Delivery System and District/ Sub-District

District/ Sub-District	Total	Percentage	Reporting Problems			
			Yes	Seldom	No	Don't Know
Total	1180	100.0	36.0	9.3	48.3	6.4
Zarqa	674	100.0	29.9	5.4	61.6	3.1
Bireen	18	100.0	24.1	46.2	29.7	0.0
Russaifa	425	100.0	45.4	14.3	27.6	12.6
Hashmeieh	62	100.0	42.3	5.1	51.0	1.7

Percentage Distribution of Households with WAJ Subscription Predicting Changes in Their Consumption Behavior if Tariff for Public Network Water Increased by 10%

About two-thirds of households which have subscriptions to the Jordan Water Authority in Zarqa governorate reported that their consumption of water will not be affected in case of price increase, while (4.1 %) of households reported that their consumption of water will decrease as shown in table No. (21) .

Table 21

Percentage Distribution of Households with WAJ Subscription Predicting Changes in Their Consumption Behavior if Tariff for Public Network Water Increased by 10% by District/ Sub-District

District/ Sub-District	Total	Percentage	No Changes	Little Decrease in the Consumption	A lot Decrease in the Consumption
Total	1180	100.0	63.7	32.2	4.1
Zarqa	674	100.0	66.6	28.8	4.5
Bireen	18	100.0	66.4	22.8	10.9
Russaifa	425	100.0	60.4	37.2	2.5
Hashmeieh	62	100.0	54.0	37.2	8.7

Percentage Distribution of Households with WAJ Subscription Predicting Changes in Their Consumption Behavior if The Quality of Public Network Water Improved

When households asked about the increase of water consumption in case of improvements in the quality of water, (66.4%) of households reported that their consumption will “much increase” compared with about (27.3%) of households who reported that their consumption will not increase as shown in table No.(22)

Table 22

Percentage Distribution of Households with WAJ Subscription Predicting Changes in Their Consumption Behavior if The Quality of Public Network Water Improved by District/ Sub-District

District/ Sub-District	Total	Percentage	A lot Increased in the Consumption	No Changes	Don't Know
Total	1180	100.0	66.4	27.3	6.3
Zarqa	674	100.0	63.4	34.9	1.7
Bireen	18	100.0	56.7	41.2	2.1
Russaifa	425	100.0	72.6	14.2	13.3
Hashmeieh	62	100.0	59.4	31.9	8.6

Percentage Distribution of Households with WAJ Subscription Predicting Changes in Their Consumption of Other Source of Water if The Quality of Public Network Water Improved

Moreover, about a quarter of households with subscription to the Jordan Water Authority reported that their consumption of water from other sources will substantially decrease (23.9%) in case of improvement of water quality from the public network, and the highest percentage was in Zarqa (31.5%) followed by Russaifeh (29.7%).

Table 23

Percentage Distribution of Households with WAJ Subscription Predicting Changes in Their Consumption of Other Source of Water if The Quality of Public Network Water Improved by District/ Sub-District

District/ Sub-District	Total	Percentage	A lot Decrease in the Consumption	Little Decrease in the Consumption	No Changes	Don't Know
Total	1180	100.0	23.9	9.0	65.0	2.1
Zarqa	674	100.0	31.5	14.8	51.6	2.1
Bireen	18	100.0	13.9	6.7	75.4	4.0
Russaifa	425	100.0	29.7	8.2	57.2	4.9
Hashmeieh	62	100.0	20.7	8.2	68.1	2.9

Percentage Distribution of Households with WAJ Subscription by Days of Water Supply Per Week in Summer

The results show that about (67.1%) of sampled households received water supply one day to two days per week in summer.

Table 24

Percentage Distribution of Households with WAJ Subscription by Days of Water Supply Per Week in Summer and District/ Sub-District

Days of Water Supply/ Week	Total	District/ Sub-District			
		Zarqa	Bireen	Russaifa	Hashmeieh
Total	1180	674	18	425	62
Percentage	100.0	100.0	100.0	100.0	100.0
1	34.1	23.8	89.9	50.8	14.8
2	33.0	32.3	8.9	36.4	23.3
3	16.9	21.5	0.0	7.9	32.7
4	5.2	7.6	0.0	1.2	8.4
5	4.5	5.9	0.0	1.9	8.6
6	3.7	5.0	0.0	1.0	9.5
Other	2.1	3.2	1.2	0.3	2.6
Don't Know	0.6	0.7	0.0	0.6	0.0

Percentage Distribution of Households with WAJ Subscription by Days of Water Supply Per Week in Winter

The results show that (58.6%) of households receive water one to two days per week in winter indicating slightly better water supply in the winter compared to the summer.

Table 25

Percentage Distribution of Households with WAJ Subscription by Days of Water Supply Per Week in Winter and District/ Sub-District

Days of Water Supply/ Week	Total	District/ Sub-District			
		Zarqa	Bireen	Russaifa	Hash meieh
Total	1180	674	18	425	62
Percentage	100.0	100.0	100.0	100.0	100.0
1	26.1	18.3	54.9	40.8	2.3
2	32.5	29.5	39.5	40.7	6.6
3	17.0	22.1	4.4	10.2	12.8
4	7.7	10.2	1.2	2.8	16.6
5	6.0	6.9	0.0	2.8	18.7
6	6.7	7.4	0.0	2.1	31.4
Other	3.4	4.9	0.0	0.0	11.6
Don't Know	0.6	0.7	0.0	0.6	0.0

Average Daily Hours of Water Supply

The survey results also indicate that the average number of daily water pumping hours to the housing unit that are subscribing to the Jordan water Authority is 16 hours during summer season compared with 17 hours in winter season.

Table26

Average Daily Hours of Water Supply by District/ Sub-District and Season

Season	Total	District/ Sub-District			
		Zarqa	Bireen	Russaifa	Hashmeieh
Summer	16	15	9	17	22
Winter	17	16	10	19	23

Distribution of Households by Having Installed a Water Saving Device in the Past Two Years

Table No (27) shows that (92%) of the socio-economic in Zarqa governorate have not installed a water saving device in the past two years.

Table 27

Percentage Distribution of Households by Having Installed a Water Saving Device in the Past Two Years by District/ Sub-District, Socio-Economic Status and Gender of Household Head

District/ Sub-District, Socio-Economic Status and Gender of Household Head		Total	Percentage	Yes, Installed a Device	No, Don't Installed a Device	Don't Know
Total		1214	100.0	7.6	92.0	0.4
District/ Sub-District	Zarqa	688	100.0	8.7	91.1	0.2
	Bireen	20	100.0	7.7	91.3	1.0
	Russaifa	444	100.0	6.1	93.3	0.6
	Hashmeieh	63	100.0	6.0	93.5	0.5
	1	300	100.0	5.5	94.5	0.1
Socio-Economic Status	2	314	100.0	9.5	90.0	0.4
	3	313	100.0	6.8	92.3	0.9
	4	287	100.0	8.5	91.5	0.0
	Gender of Household Head	Male	1068	100.0	8.2	91.7
	Female	146	100.0	3.4	94.8	1.7

Households by Socio-Economic Status

Table 28

Total of Households by Socio-Economic Status

Socio-Economic Status	Total	Zarqa	Bireen	Russaifa	Hashmeieh
1	35271	18520	2210	11759	2782
2	34648	20178	0	13648	822
3	34531	19309	0	13707	1515
4	31725	18156	0	10225	3344
Total	136175	76163	2210	49339	8463

Unit: Number of Households

Source: Sample Frame

Distribution of the Sampled Households by District/ Sub-District and Gender of Household Head

Table No.(29) shows that(88%) of the socio-economic in Zarqa governorate are headed by men and only (12%) are headed by women.

Table 29

Percentage Distribution of the Sampled Households by District/ Sub-District and Gender of Household Head

Gender of Household Head	Total	District/ Sub-District			
		Zarqa	Bireen	Russaifa	Hashmeieh
Total	1214	687	20	444	63
Percentage	100.0	100.0	100.0	100.0	100.0
Male	88.0	87.9	90.0	87.2	93.7
Female	12.0	12.1	10.0	12.8	6.3

Estimated Total Population

Table 30

Estimated Total Population by District/ Sub-District and Sex

District/ Sub-District	Sex		
	Male	Female	Total
Zarqa	238880	223230	462110
Bireen	737	631	1368
Russaifa	137981	127384	265365
Hashmeieh	15516	14167	29683

Annex(1) **DOS QUESTIONNAIRE**

1. Identification Data

101	Governorate:	_ _	109 Cluster number in sample	_ _ _
102	District	_ _	110 Block number	_ _ _
103	Sub District	_	111 Building number	_ _ _
104	Location	_ _ _	112 Household number	_ _ _
1.1	105	1.2 AREA	1.3	_
1.4	106	1.5 SUB AREA	1.6	_
			113 Cluster number	_ _ _ _
			114 Family number	_ _
107	Flat number	_	115 Tel number / Cell phone number (if available)	_ _ _ _ _ _ _ _ _ _
108	Respondent number	_ _	116 Sex of interviewer	1. Male 2. Female

Interviewer's Field Visits				
	1	2	3	
Date:	_ _	_ _	_ _	Final visit
Name of Interviewer:	_ _	_ _	_ _	DAY _ _
Result*:	_ _	_ _	_ _	Month _ _
				Year _2_ _ _0_ _0_ _9_
Next visit: date and time	_ _	_ _	_ _	Interviewer's code _ _ _
	-	-	-	Result _
*The visit's result: _				Total No. of visits _
1. Done 2. No one at house/ no one was eligible for answering. 3. The family has not been present for a long time. 4. Postponed 5. Rejected 6. Empty house/ the occupancy nature of the house has changes 7. HOUSE HAS BEEN DEMOLISHED. 8. Could not reach the house 9. Other, please state _____				Total number of family members _ _

Supervisor _ _ Name Date	Auditor Name _____ _ _	Data Entry Name _____ Date _____
---------------------------------	----------------------------	--

Interviewer: If you used a supplementary questionnaire, then place an x in the box

Hello, my name is.....I work at the Department of Statistics, and we are now working on a socio-economic study for the governorate of Zarqa. We appreciate a lot your contribution to this study by filling out the information that will only take 10 to 15 minutes. All given information will be confidential, and only people working on the study will be permitted to review it.

2. Family Members Data

2	202	203	204		205		206
	Name (given name, fathers name, family name)	Relationship to household	Gender		Date of Birth		Age
		1. Husband/ Wife 2. Daughter/ Son 3. Father/ Mother 4. Grandson/ granddaughter 5. Brother/ Sister 6. Other relatives 7. Servant 8. other	Gender of the persons name mentioned?		What is the birth date of the name mentioned? (in month And year) In case month is not known: 98 In case year is not known: 9998 Month Year		What is the age of the persons name mentioned? If the age of the person was less than one, then enter 00, meanwhile, if the age was more than 97 then enter 97.
			Male	Female			
x		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0		Household head	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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1			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Household and Family Data

301	How many persons are living in this house? (including relatives and servants)	_ _ Number _____																													
302	How many of them are children (less than 18 years old)?	_ _ Number _____																													
303	Since when have you lived in the village/suburb? Interviewer: record the year	_ _ _ Year _____ All their Lives _____ 0000 I do not know _____ 9998																													
304	Type of house Interviewer: record by observing	Apartment.....1 House2 Villa.....3 Shelter.....4 Other.....6																													
305	Type of house tenure?	Owner.....1 Rent.....2 I do not pay.....3 I work in return.....4 Other, specify _____ 6																													
306	What is the area of the house in square meter?	Area _ _																													
307	How many bathrooms does this house have?	_ Number _____ Do not have.....0																													
308	Do you have a house garden (vegetables, flowers)?	Yes.....1 No.....0																													
309	Is the family currently subscribed with the Jordanian Water Authority?	Yes.....1 No.....0	→ 312																												
310	What is your water subscriber's number or meter number on your water bill? (Ask to see the water bill)	Beneficiaries number _ _ _ _ _ _ _ _ _ _ _ _ _ Meter number I do not know 999998																													
311	How many houses share your water meter? Interviewer: if the number was 7 or more, place 7 in the box.	Number _____ _																													
312	Are there any water related economic activities in your house? Interviewer: read the responses from 1 to 6.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Alternatives</th> <th style="text-align: center;">Yes</th> <th style="text-align: center;">No</th> <th style="text-align: center;">I do not Know</th> </tr> </thead> <tbody> <tr> <td>1. Livestock</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">8</td> </tr> <tr> <td>2. Farming</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">8</td> </tr> <tr> <td>3. Trade</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">8</td> </tr> <tr> <td>4. Restaurant</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">8</td> </tr> <tr> <td>5. No activities</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">8</td> </tr> <tr> <td>6. Others, specify _____</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">8</td> </tr> </tbody> </table>	Alternatives	Yes	No	I do not Know	1. Livestock	1	0	8	2. Farming	1	0	8	3. Trade	1	0	8	4. Restaurant	1	0	8	5. No activities	1	0	8	6. Others, specify _____	1	0	8	
Alternatives	Yes	No	I do not Know																												
1. Livestock	1	0	8																												
2. Farming	1	0	8																												
3. Trade	1	0	8																												
4. Restaurant	1	0	8																												
5. No activities	1	0	8																												
6. Others, specify _____	1	0	8																												
313	In your opinion, does the presence of water in low amounts form a constraint on the following activities?	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Alternatives</th> <th style="text-align: center;">Yes</th> <th style="text-align: center;">No</th> <th style="text-align: center;">I do not Know</th> </tr> </thead> <tbody> <tr> <td>1. Economic (house farming, livestock ...etc)</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">8</td> </tr> <tr> <td>2. Household activities (cleaning the household regularly, swimming pool...etc)</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">8</td> </tr> <tr> <td>3. Health of family members. (water presence in low amounts cause sickness)</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">8</td> </tr> </tbody> </table>	Alternatives	Yes	No	I do not Know	1. Economic (house farming, livestock ...etc)	1	0	8	2. Household activities (cleaning the household regularly, swimming pool...etc)	1	0	8	3. Health of family members. (water presence in low amounts cause sickness)	1	0	8													
Alternatives	Yes	No	I do not Know																												
1. Economic (house farming, livestock ...etc)	1	0	8																												
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3. Health of family members. (water presence in low amounts cause sickness)	1	0	8																												

Supplementary Analysis of
2009 Water Use and Socio-Economic Survey for Zarqa Governorate

	6. Other (specify) _____	1	0	8	
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314	Has any member of the family experienced any health problems that you believe are related to the water quality that you received from WAJ during the past twelve months?	Yes.....1 No.....0 I do not know.....8	} 317
315	What were the symptoms or the health problems that were related to the water received by WAJ, during the past 12 months? "You can check more than one answer"	Diarrhea.....A Stomach Ache.....B Dry Skin.....C Hair Loss.....D Eye Irritation.....E Other, specify.....X	
316	How much money did the family pay for treatments or medical consultation on these health problems during the past 12 months?	Amount (JD) _____	
317	Does the family own a car? Interviewer: if the answer was no place 0, if the number was more than 7, place 7 in the box.	Number _____	
318	Are there members in the family that have cell phones? Interviewer: if the answer was no place 0, if the number was more than 7, place 7 in the box.	Number _____	
319	Is this house connected to the public waste water (sewerage) network?	Yes.....1 No.....0	→ Move to section 4
320	What is the reason for not being connected to the public network?	Not considered necessary.....1 Cannot afford the cost.....2 No network existing.....3 Other, specify.....6	
321	Is the house connected to a septic tank (concrete)?	Yes.....1 No.....0	→ Move to section 4
322	What does the family do once it is full?	Empty it.....1 Did not get full yet.....2 Other, specify.....6	} Move to section 4
323	How often does the family empty it during the year?	Once.....1 Twice.....2 Three times or more.....3	
324	How much does it cost to empty the septic tank throughout the year?	Amount(JD) _____	

4. Water Services

401	From what sources do you get your household water? More than one answer	From public network.....A From springB From Stream/Furrow.....C From Pond/surface water collection.....D Borehole/Pump.....E Rainwater/harvesting.....F water treatment shops.....G Bottled water.....H Tankers.....I Neighbors.....J Other, specify _____ X	
402		3.1 403	
3.4 DO YOU TREAT WATER COMING FROM DIFFERENT SOURCES, BEFORE DRINKING IT? (MENTION SOURCE) Interviewer: if yes for any of the sources, then ask for the monthly treatment cost, in case there was no cost, place 000 in the box.		3.2 COST OF TREATING WATER 3.3 JD/MONTH	
Alternatives	3.6	No	3.5 COST
Public network.....A	1	0	_ _ _
Spring.....B	1	0	_ _ _
Stream/Furrow.....C	1	0	_ _ _
Pond/ surface water collection.....D	1	0	_ _ _
Rainwater / harvesting.....F	1	0	_ _ _
Water treatment shops.....G	1	0	_ _ _
Bottled water.....H	1	0	_ _ _
Tankers.....I	1	0	_ _ _ _
Neighbors.....J	1	0	_ _ _
Other, specify _____ X	1	0	_ _ _
Interviewer: if the answer for 401 is "H" (which is bottled water), then ask questions 404 to 404 B, otherwise move to question 405.			
404	How often does the family buy bottled water?	More than once a week.....1 Once a week.....2 Every 2 to 3 times a week.....3 Once a month4	
404 A	About how much bottled water does the family buy each month?	Liters _____ _ _ _	
404 B	About how much does the family spend for bottled water each month?	Amount (JD) _____ _ _	
Interviewer: if the answer for 401 is "G" (which is Water treatment shops), then ask questions 405 to 405 B, otherwise move to question 406.			
405	How often does the family buy water from the water treatment shops?	More than once a week.....1 Once a week.....2 Every 2 to 3 times a week.....3 Once a month4	
405 A	About how much water does the family buy from the	_ _ _ Liters _____	

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	water treatment shops each month?			
405 B	About how much does the family spend on water coming from water treatment shops each month?	Amount (JD)_____	□□□	
Interviewer: if the answer for 401 is "I" (which is Tankers), then ask questions 406 to 406 B, otherwise move to question section 5.				
406	How often does the family buy water from water tankers per month during both, summer and winter seasons?	Alternatives	In Summer Season (May to October)	In winter Season (April to November)
		Once a month.....	1	1
		Twice a month.....	2	2
		Three to four times a month.....	3	3
		Five times or more a month.....	4	4
		The family does not buy	0	0
Other, specify_____	6	6		
406 A	About how much water does the family buy from water tankers each month?	Cubic meter _____	□□□□	□□□□
406 B	About how much does the family spend on water coming from water tankers each month?	Amount (JD)_____	□□□□	□□□□

5. Water Storage

501	Does your family own a water storage tank at home?	Yes _____ 1 No _____ 0 I do not know _____ 8	} Section Six																																
502	How many water storage tanks does the family own? <i>Excluding the water harvesting tank</i>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;">Choices</th> <th style="width: 7%;">One Tank</th> <th style="width: 7%;">Two tanks</th> <th style="width: 7%;">Three tanks</th> <th style="width: 7%;">Four tanks</th> <th style="width: 7%;">Five more tanks</th> <th style="width: 7%;">or</th> <th style="width: 7%;">None</th> </tr> </thead> <tbody> <tr> <td>1. On the roof</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td></td> <td style="text-align: center;">0</td> </tr> <tr> <td>2. Basement/Underground</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td></td> <td style="text-align: center;">0</td> </tr> <tr> <td>3. On the ground level</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td></td> <td style="text-align: center;">0</td> </tr> </tbody> </table>	Choices	One Tank	Two tanks	Three tanks	Four tanks	Five more tanks	or	None	1. On the roof	1	2	3	4	5		0	2. Basement/Underground	1	2	3	4	5		0	3. On the ground level	1	2	3	4	5		0	
Choices	One Tank	Two tanks	Three tanks	Four tanks	Five more tanks	or	None																												
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2. Basement/Underground	1	2	3	4	5		0																												
3. On the ground level	1	2	3	4	5		0																												
502A	What is the total capacity of these tanks?	Total capacity (in cubic meters) __ __ __																																	
502B	Does the family pay to have tanks cleaned up?	Yes _____ 1 No _____ 0 Don't know _____ 8	} 503																																
502C	How much does the family pay to have the tanks cleaned?	amount (in JD) _____ __ __																																	
<p>Interviewer: look Q502 section 2 basement/underground, if the family owns a tank or more in the basement/underground; ask the following otherwise, move on to Q504</p>																																			
503	Does the water storage tank has a pump?	Yes _____ 1 No _____ 0 I do not know _____ 8	} 504																																
503A	What is the source of water for the basement water storage tank?	Public network _____ 1 Rainfall _____ 2 Both, the public network and rainfall _____ 3																																	

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		Other (specify) _____ 6	
504	Do you have a storage tank for rain water harvesting?	Yes _____ 1	} 601
		No _____ 0	
		I do not know _____ 8	
505	What is the total capacity in cubic meters for the rain water harvesting tank?	Capacity (in cubic meters) _____	

6. Water Billing

601	What is the average water consumption according to the available water bill?	Amount (cubic meters) _____	
		I do not know _____ 998	
602	What is the JD amount of your available water bill?	Amount (JD) _____	
		I do not know _____ 998	
603	On average, what is the JD amount of your water quarterly bill?	Amount (JD) _____	
		I do not know _____ 998	

7. Satisfaction with Water Quality and Services

Please let us know whether you are very dissatisfied, quite dissatisfied, neither nor, quite satisfied, very satisfied or uncertain regarding the water supplied by WAJ.						
Please read the aspects considered						
Aspect	Very dissatisfied	Quite dissatisfied	Neither nor	Quite satisfied	Very satisfied	Uncertain
1. Water quality in terms of color	1	2	3	4	5	6

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2. Water quality in terms of purity (existence of particles)	1	2	3	4	5	6
3. Water quality in terms of taste	1	2	3	4	5	6
4. Potability of water	1	2	3	4	5	6
5. Frequency of supply	1	2	3	4	5	6
6. Duration of supply	1	2	3	4	5	6
7. Pressure of supply	1	2	3	4	5	6
8. Quality of pipes	1	2	3	4	5	6
9. WAJ's response to complaints relating to leakage	1	2	3	4	5	6
10. WAJ's response to complaints relating to supply problems	1	2	3	4	5	6
11. Accuracy of reading the meter	1	2	3	4	5	6
12. WAJ's response to complaints about billing	1	2	3	4	5	6

702	Did the water delivery system near your home ever suffer from leakage or breakage during the last 12 months?	Yes _____	1	} 704
		Seldom _____	2	
		No _____	0	
		Don't know _____	8	
703	Do these leaks or breaks cause you to not get water delivered to your house?	Yes, always _____	1	
		Seldom _____	2	
		No _____	0	
704	If the water tariff is increased by 10% would that change your water consumption?	No _____	0	
		Cause me to decrease my consumption a little _____	1	
		Cause me to decrease my consumption a lot _____	2	

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705	If the public network water quality improved, would you consume additional amounts of water?	Yes a lot _____	1
		No _____	0
		Don't know _____	8
706	If the public network water quality improved, would you reduce your consumption of water from other sources (such as bottled water, water tankers, etc)	Yes a lot _____	1
		Yes, a little _____	2
		No _____	0
		Don't know _____	8

8. Water Supply

80801	During both, summer and winter how many days per week do you get water supply?	Choice	
		Summer May - October	Winter April - November
	Once a week	1	1
	Twice a week	2	2
	Three times	3	3
	Four days	4	4
	Five days	5	5
	Six days	6	6
	Other (specify)	7	7
	I do not know	8	8
802	During both summer and winter, how many hours per day is the water supplied to your home?		
	Number of hours	□□□	□□□
803	Is the water being supplied enough to satisfy your water needs during both summer and winter?		
	Yes _____	1	1
	No _____	0	0

9. Water Saving

901	Is there a system at your house for the treatment of grey water (water used for cleaning and bathing)	Yes _____	1		
		No _____	0		
		I do not know _____	8		
902	Have any one from the family members installed any water saving devices at your house, such as low-flow faucets, low-volume flush toilets during the last two years?	Yes _____	1		
		No _____	0		905 } }
		I do not know _____	8		
903	What are the devices you have installed?	Law water use faucets	1		
		Law water use toilets	2		
		Other (specify)	6		
904	Have those devices reduced your water consumption and lowered your metered bill?	Yes, a lot _____	1		
		Yes, a little _____	2		
		No _____	0		
		I do not know _____	8		
905	Do you think that the information aired on TV or through the radio promoting water conservation helps reduce people's water consumption?	Yes _____	1		
		No _____	0		
		I do not know _____	8		

10 . Household Income and Expenditure

1001	What is the monthly household expenditure during last month in JDs?	Amount of expenditure _____ ____ ____ ____ 9995 and more 9995 Don't know 9998	
1002	What is the monthly household income for all family members from all income sources during the last month in JDs?	Amount of income _____ ____ ____ ____ 9995 and more 9995 Don't know 9998	