



# WATER INNOVATION TECHNOLOGIES PROJECT (WIT)

## COMMUNITY ADOPTIONS SURVEY FINAL REPORT

22 SEPTEMBER 2020



THIS REPORT WAS PREPARED FOR MERCY CORPS UNDER THE UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT WATER INNOVATIONS TECHNOLOGIES (WIT) PROJECT. IT WAS PREPARED BY INTERDISCIPLINARY RESEARCH CONSULTANTS (ID:RC).

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#### **DISCLAIMER**

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**COVER LETTER**

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**Subject: Final Report - Community Adoption Survey**

To whom it may concern,

The interdisciplinary research consultants (id:rc) of Jordan is pleased to submit this Final Report for conducting project research activities for the above referenced consultancy. We are a management consulting firm that brings together a unique combination of relevant experience that particularly fits the requirements of this assignment.

The enclosed documents demonstrate the combined experience of the firm and are characterized by advanced expertise in the conduct of management consulting, household surveys, field surveys, Market research and surveys, exist surveys, KAP surveys, Omnibus surveys, polling, and M&E evaluations using a variety of tools and methods. In addition, it presents our expertise in data management, database design, and data entry under standardized quality assurance and control procedures.

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## 1.0 INTRODUCTION

### 1.1 PROJECT OVERVIEW

The Water Innovation Technologies (WIT) Project is a five-year \$35 million project funded by the United States Agency for International Development (USAID) and implemented by Mercy Corps (MC). The Project brings together various international and local research and development partners to work with market actors across the public, private and civil society sectors to market and promote evidence-based water saving practices and innovative technologies in agriculture and households in Jordan. The Project's mission is to support and catalyze the efforts of various market actors to provide improved knowledge, skills, practices and access to affordable innovative technologies that will help save 18.5 million cubic meters of water in agriculture and households in Jordan by 14 March 2022.

### 1.2 PROJECT OBJECTIVES AND COMPONENTS

The Project works to facilitate the uptake of financing and advisory services and use an integrated marketing, social and behavior change approach to help a variety of market actors overcome key water saving barriers and constraints at farm, individual and institutional levels. The Project targets agriculture users in Mafraq and Azraq, as well as households and communities in Mafraq, Ajloun, Irbid, Jerash and Azraq. The main Project Objectives are:

- Improving knowledge, enabling market connections, and facilitating access to affordable and innovative water saving technologies for agriculture and household use.
- Increasing access to finance to facilitate investment in developing, marketing and adoption of innovative water saving technologies for agriculture and households; and
- Enhancing the capacities of community-based organizations (CBOs) and market actors to successfully raise awareness and mobilize action for the adoption of water saving technologies and improved water saving practices in agriculture and households.

### 1.3 PROJECT PURPOSE

Throughout FY19 and FY20, partner Community-Based Organizations (CBOs) and Youth Centers conducted awareness-raising sessions to inform the local community about water issues and solutions, with the ultimate goal of encouraging the adoption of water-saving technologies, devices and practices. Up to 31 March 2020, 10,047 people attended these sessions, spread across the five WIT-targeted areas in the North of Jordan (Mafraq, Ajloun, Irbid, Jerash and Azraq).

The purpose of this consultancy is to capture, by means of a survey, the number of adoptions (technologies and practices) that emerged out of these awareness-raising sessions, and, consequently, to calculate the water savings resulting from these adoptions. The findings of the survey will also guide and support the Households and Communities Component while designing activities and intervention areas for the FY21-22 Work Plan.

## 1.4 PROJECT OBJECTIVES

The key objectives of this survey are to:

- Quantify the number of adoptions in technologies and techniques amongst participants of awareness-raising sessions.
- Measure the water savings resulting from the aforementioned adoptions.
- Count the recorded adoptions and water savings towards the Project's - Indicator 4: Number of adoptions of technologies and/or practices to save water or increase reuse of water (PMP 3.3.1.2) and Indicator 1: Cubic meters of water provided or saved as a result of USG assistance (M-PMP 3.3.c), and indicator 3: Cubic meters of water saved annually from water saving technologies or techniques as a result of USG assistance (PMP-3.3.1b). Thus providing MC team with survey data to assist them in indicators measurement.

## 2.0 EXECUTIVE SUMMARY

This summary highlights the survey findings as the following:

### Adoption of Water-Saving Practices

Promising percentage of the respondents (72%) indicated that they began implementing water-saving practices after attending the awareness-raising sessions by Mercy Corp. For respondents indicating they implemented water-saving practices 37% indicated that they started reusing water for irrigation, 28% indicated that they started to use bucket to wash dishes. 20% doing laundry on a single day of the week. 16% reducing shower time. 16% use bucket to wash fresh produce rather than running water.

On the other hand, the remaining 28% answered with a No for adopting Water saving practices after the sessions. Two-thirds of them (68%) stated that they were applying water saving practices prior to the awareness sessions. 15% indicated that they are not interested in these practices. 11% indicated that they do not personally suffer from the effects of the water shortage problem. Surprisingly there is still a percentage (even if it is as little as 1%) that believe Jordan does not suffer from a severe water shortage.

### Adoption of Water-Saving Technologies and Devices

Out of all the interviewees, 44% answered with a Yes, indicating that they have purchased and installed water-saving technologies/devices at their households. Most of those had implemented water-saving aerators for faucets (67%). More so, 18% installed low flow showerheads, and 6% installed zero-waste water filters. The rest of the water saving technologies tend to cost more. Therefore, only a minority implemented them.

On the other hand, the remaining 56% answered with a No for adopting Water saving technologies after the sessions. The main reason interviewees did not install any water-saving technologies is due to them not being able to afford the price of these technologies (31%). Meanwhile, some tend to save water through their own practices at their household (21%), simply not interested (13%), or intending to invest in these technologies/devices in the future

(9%). Yet, it is good to note that (7%) of the interviewees already had water-saving technologies installed even before the awareness-raising session.

### Water Saving – Adoption of Water-Saving Practices

The total water saved from the adopting water saving practices from March 2018 to September 30<sup>th</sup>, 2020 was 35,652.23 m<sup>3</sup>.

### Water Saving – Adoption of Water-Saving Technologies

The total number of adopted technologies from 2018 to September 30<sup>th</sup>, 2020 was 1,221, and the total water saved or provided over the same duration was 8,049.73 m<sup>3</sup>.

## 3.0 METHODOLOGY

### 3.1 SAMPLE SIZING

Based on the ToR, the survey was supplemented by Mercy Corps team, id:rc team used a digital data collection system (KoBo Toolbox), programmed the survey tool into the platform, where surveys were administered through telephone interviews. The sampling frame is the list of participants that attended awareness-raising sessions between March 20, 2018 and March 31, 2020 – a total of 10,047 participants. Lists of participants were provided by Mercy Corps team, which accounts for the total population to be sampled from. The sample is a representative sample, as per the following table:

Population	Confidence level	Confidence interval	Sample size
10,047	95%	3%	965

### 3.2 SAMPLING

To obtain the best random sample from the lists that were provided to the id:rc team by Mercy Corps teams, id:rc team resorted to the following.

- The sample size was distributed proportionally to the number of participants in each list.
- Apply the random function on Excel to all participants in each list.
- Re-arrange the list for all participants in ascending order.
- Clean all the three lists by removing the participants who did not have a phone number, or phone number is incorrect. Total number of inaccurate numbers removed was around 2200.
- Participants from the three lists were grouped into one list.
- Re-apply the random function on Excel to all participants in the final list.

- Re-arrange the final list for all participants in ascending order.

### 3.3 TRAINING AND PRE-TESTING

After finalization of survey tool and sampling method, the id:rc team conducted the needed pre-tests of the survey tool and the training of its data collection teams. This stage entailed the following Tasks:

- Finalized the design of Data Management and Data Collection Tool.
- Training Field and Data Entry Staff.
- Conducting a Pre-Test.

### 3.4 TRAINING ENUMERATORS

To ensure a survey result of the highest quality, the id:rc team designed and implemented an interviewer and data entry training package that includes both knowledge and practice, using the finalized questionnaire by Mercy Corps team. The designed training emphasized on making the objectives of the survey clear to the interviewers, and how the data collected will serve those objectives.

This had been done to ensure enumerators' thorough understanding of the purpose of the survey as well as the details of the survey questionnaire. The training was conducted by the Survey Manager as follows:

- ✓ The time needed to complete the survey.
- ✓ The format of the questions.
- ✓ The nature of answers.
- ✓ Concise analysis of the data and any restrictions associated with it.

“Survey Tool Training”, Quality Control and Management protocols. In this phase, the goal was to get all trainees comfortable with the survey tool and to master the flow and interview techniques. This part of the training literally goes through each question, explains the reason for it and why it is asked in the manner it is presented. The training was broken down as per the various sections within the survey tool. In the detailed review of each question in the tool, the study team go over the codes that correspond to each question and explain in detail the purpose of each question, issues including exercises on the survey tool, communication skills and how they should deal with respondents when they call them to maximize responsiveness. This includes the way they introduce themselves, the way they should comfort respondents to trigger their participation, how to deal with awkward situations and so on. Therefore, they in turn are able to provide respondents with clarifications about the survey purpose and questions.



## 3.5 CONDUCTING THE PILOT

To finalize the survey tool, and the data management system developed in the earlier Task, the id:rc team tested it on a small number of respondents, according to the ToR, id:rc team piloted the survey with a sample of 20 participants.

This was to check for problems in the questionnaire design that do not become apparent until the questionnaire is tested on some typical respondents from the population of interest, which is the case in almost all new questionnaires.

When conducting the pilot, surveyors used the digital questionnaire on the data management system (Kobo toolbox). This was also to check the applicability of the proposed methodology. The pilot of the questionnaire aimed to test for:

## 3.6 IMPLEMENTATION OF DATA COLLECTION

Once the second stage was completed, the third stage commenced using the finalized and modified survey instrument. The surveyors started phone interviewing with the participants according to the developed work plan, which also were regularly updated. A total of 1004 interviews were done with participants, so that the total number of interviews exceeded what was required by approximately 4%. Key tasks under this phase included the following:

- Supervision and Quality Assurance: From previous survey experience, the id:rc team realizes the crucial importance of the quality of work done by interviewers. Therefore, the id:rc team implemented an effective system of supervision program during this stage of the project.
- To guarantee and improve the quality of the data, the id:rc team observed the following guidelines:
  - a. Organized tight supervision.
  - b. Designed a data-capturing program with many checks (code existence, as well as consistency checks).

## 4.0 MAIN RESULTS AND FINDINGS

### 4.1 CHALLENGES

To obtain 1004 completed interviews, 2129 call attempts were made, the mobile numbers provided in the lists were either switched off, did not answer, were wrong numbers, accounting for a success rate of only 47%.

## 4.2 MAIN SURVEY RESULTS

### 4.2.1 Respondent's Information

Total of 1004 respondents were phone interviewed, this was the result of a random sample of participants that attended awareness-raising sessions between 20 March 2018 and 31 March 2020 with total of 10,047 participants, as was indicated in previous sections. Accordingly, the sample was distributed among the five governorates, as shown in the figure below. Almost one third (35%) of the sample was in Irbid. Approximately a quarter of the sample (26%) was in Mafraq, and the other quarter (23%) was in Ajloun. As for Jerash and the city of Azraq, the percentage of respondents were 12% and 4% respectively.

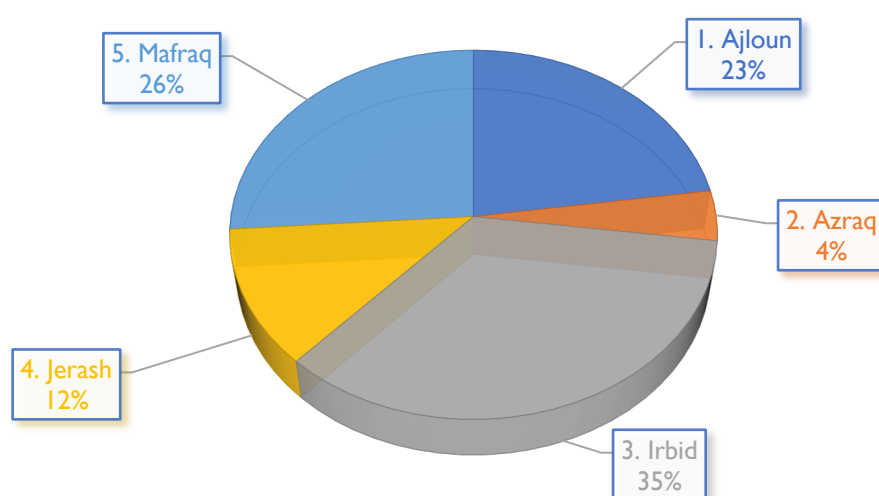


Figure 1: Distribution of Respondents Over The 5 Governorates Where Session Were Held.

Regarding the sex of the respondents, as shown in the figure below, the percentage of females were more than that of males, with a proportion of nearly three-quarters of the sampled respondents (77%). This percentage is almost a reflection of the number of participants who attended the awareness sessions held by Mercy Corp.

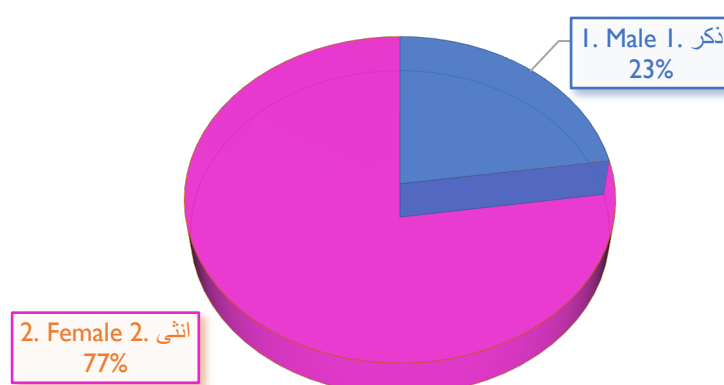


Figure 2: Sex of Respondent.

The average age of the respondents is 37 years old. Usually, this age is an age at which a person is in charge of a household, and the decision-making is conscious, with vast past experiences. Also, the awareness sessions targeted younger and older people to raise their awareness regarding water use.

Table 1: Age of Respondent

Average	37.0
Max	76
Min	12
Total Respondents	1004

As shown in the following table, the average family size in these governorates is 5.9, which is more than the average family size for the kingdom 4.8. Source: DoS (Estimate Number of The Population of The Kingdom by, Locality, Sex & families Size, and households for the end of 2019).

Table 2: Number of Respondent's Family Members Residing in Their Household, Including Their Wife and/or Husband

Average	5.9
Max	20
Min	1
Total Respondents	1004

#### 4.2.2 Adoption of Water-Saving Practices

In an attempt to capture the adoptions of water-saving practices by respondents, the study team asked the interviewees the following:

- Whether they adopted any water-saving practices at their household after attending the awareness-raising session; and
- If they did adopt any water-saving practices, they were asked what were the water-saving practices that they adopted at their household after attending the awareness-raising session.

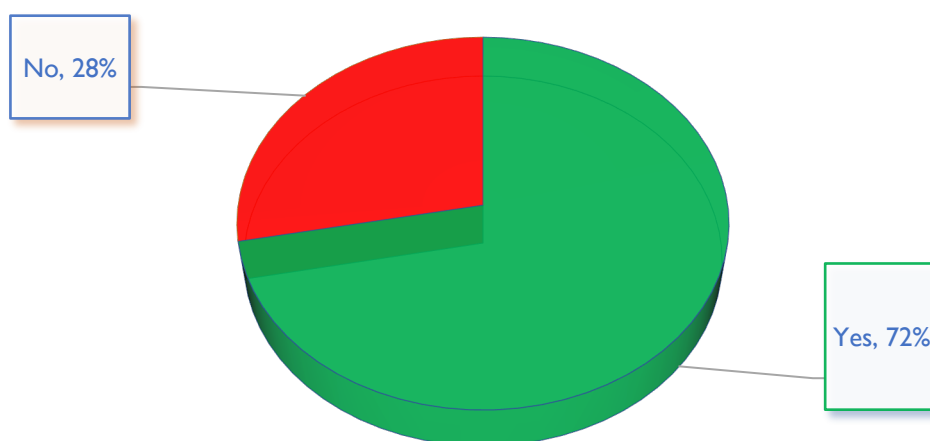
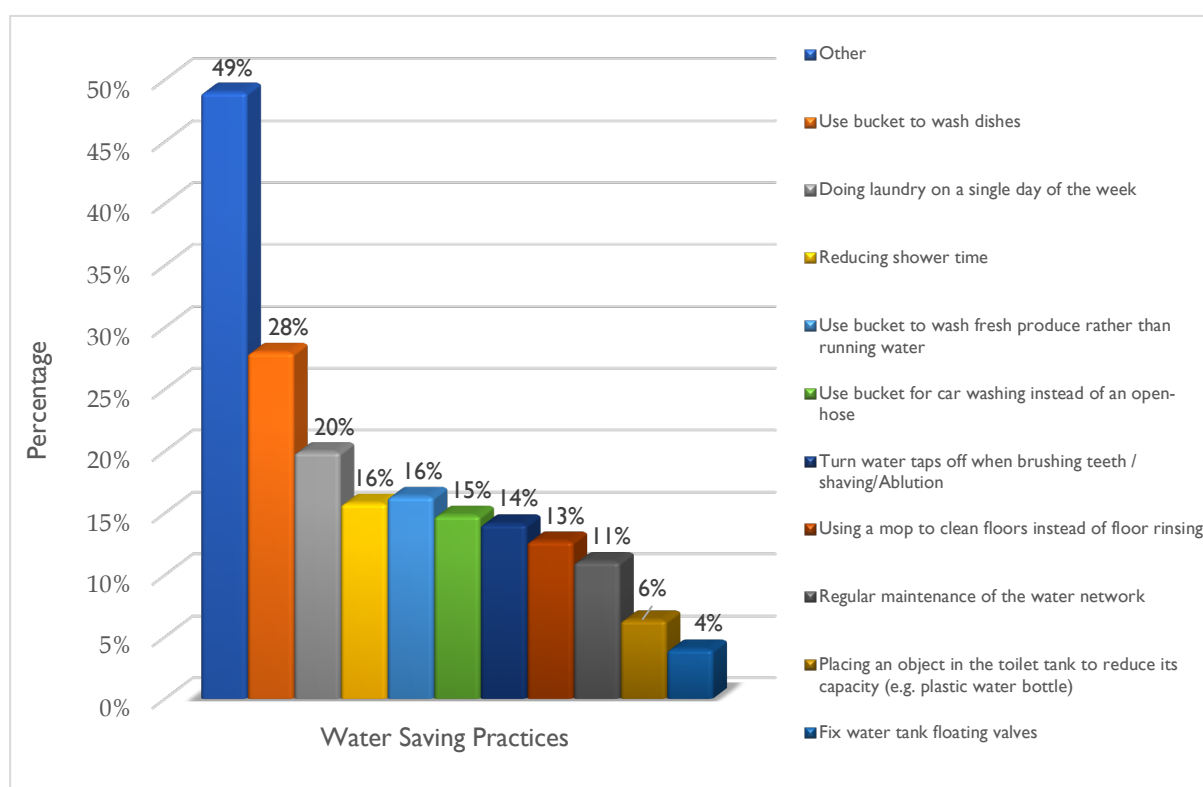
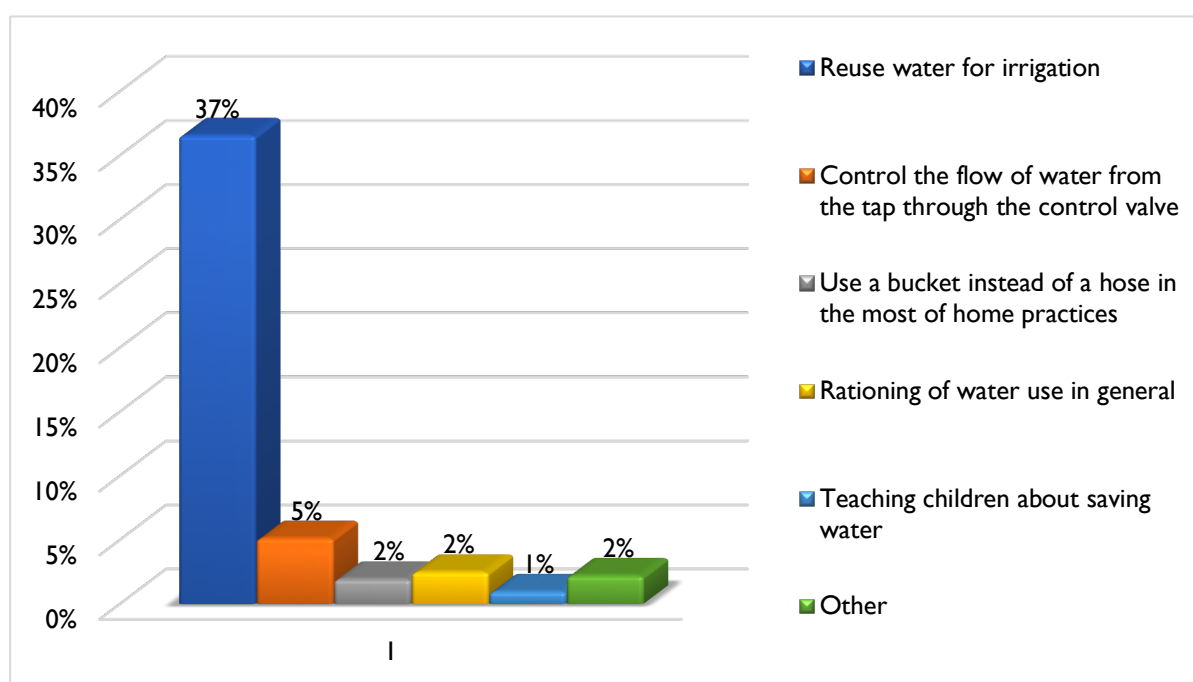


Figure 3: Interviewees Who Implemented Water-Saving Practice(S) After Attending the Awareness-Raising Sessions.

Upon asking the interviewees about whether they implemented any water-saving practices at their household after attending the awareness-raising session, a promising percentage of the respondents (72%) indicated that they began implementing water-saving practices after attending the awareness-raising sessions by Mercy Corp, as can be seen in the Figure 3. This is a good indicator of the effect of this type of those awareness sessions and the level of people's acceptance for it, especially on the issue of water saving. It also indicates the people's need for such programs, that will help them save water, and raise their level of awareness in this regard.



#### 4.a. Types of Water-Saving Practices.



#### 4.b. Other Types of Water-Saving Practices

Figure 4: Types of Water-Saving Practices That Interviewees Implemented.

For respondents indicating they implemented water-saving practices, after attending the awareness-raising sessions, as can be seen in the Figure 4.b, 37% indicated that they started reusing water for irrigation. Around 5% started using other practices to save water, such as, to control the flow of the water in the tap by partially closing the valves. Figure 4.a shows a set of practices followed by respondents to save water, such as, 28% indicated that they started to use bucket to wash dishes. 20% doing laundry on a single day of the week. 16% reducing shower time. 16% use bucket to wash fresh produce rather than running water. Generally, it can be concluded that the awareness raising sessions seems to have increased the participants' knowledge on simple practices that help save water at the household.

Table 3: Adoptions of Water-Saving Practices Per Governorates\*.

Governorate	Number of Participants	Number of Participants Who Adopt Water-saving Practices	Percentage of Adoptions
Ajloun	228	162	71%
Azraq	44	30	68%
Irbid	349	255	73%
Jerash	121	79	65%
Mafrq	262	198	76%

\* Sample was not representative at the governorate level.

**For those who adopted water saving practice after attending the awareness-raising sessions.**

### For those who adopted water saving practice of reducing shower time.

Table 4.1: Reduced Shower Time.

Reduced shower time	Percentage
5 minutes	45%
10 minutes	45%
More than 10 minutes	11%
Total Respondents	114

Table 4.2: Average Number Showers Per Week.

Average	3.9
Max	7
Min	1
Total Respondents	114

### For those who adopted water saving practice of turn tabs off when brushing their teeth/ shaving.

Table 5.1: Average Number of Times Brushing Their Teeth Per Day.

Average	1.9
Max	4
Min	1
Total Respondents	102

Table 5.2: Average Number of Shaves Per Week.

Average	0.98
Max	7
Min	0
Total Respondents	49

**For those who adopted water saving practice of bucket for car washing instead of an open hose.**

Table 6.1: Average Number of Times the Car is Washed Per Week.

Average	1.14
Max	3
Min	0
Total Respondents	107

Table 6.2: Average Number of Cars Per Household.

Average	1.18
Max	3
Min	1
Total Respondents	107

**For those who adopted water saving practice of use bucket to wash fresh produce rather than running water.**

Table 7: Average Number of Times a Day for Washing Fresh Produce.

Average	1.36
Max	7
Min	0
Total Respondents	118

**For those who adopted water saving practice of use bucket to wash dishes.**

Table 8: Average Number of Time a Day for Dish Washing.

Average	3.10
Max	10
Min	1
Total Respondents	202

**For those who adopted water saving practice of using a mop to clean floors instead of floor rinsing.**

Table 9.1: Average Number of Buckets Used in The Past During Each Floor Rinsing

Average	3.02
Max	10
Min	0
Total Respondents	92

Table 9.2: Average Number of Times a Week for Floors Mopping.

Average	4.60
Max	14
Min	0
Total Respondents	92

As shown in Figure 5 below, Two-thirds (68%) of the respondents who indicated that they did not implement water saving practices after the sessions stated that they were applying water saving practices prior to the awareness sessions. This indicates there is some sort of awareness among citizens of the water saving practices and they are applying them.

15% indicated that they are not interested in these practices. While not a very high percent but provide information that there still are segments of citizens that require extra effort to convey the idea of the need to save water and increase their knowledge about the water issue in Jordan, by letting them know that Jordan is among the ten poorest countries in terms of water in the world, and we must conserve water for the near and far future.

11% indicated that they do not personally suffer from the effects of the water shortage problem. another segment that provide insights of topics to include in awareness raising and messaging; that even if they are not affected by the shortage of water at the present time, they will be affected by that soon if they do not deal with water wisely, consciously, and with responsibility.

Surprisingly there is still a percentage (even if it is as little as 1%) that believe Jordan does not suffer from a severe water shortage, which places us among the poorest countries in terms of water supply in the world.



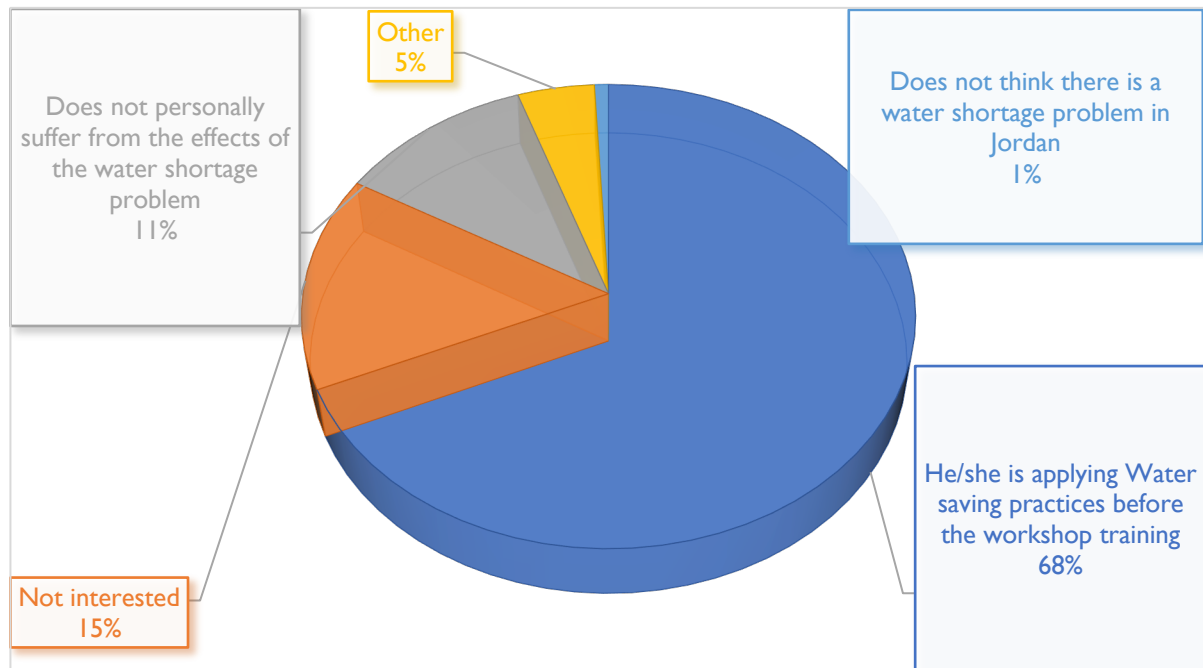


Figure 5: Reasons that the respondents did not implement any water-saving practices at their households after attending the awareness-raising session.

#### 4.2.3 Adoption of Water-Saving Technologies and Devices

In an attempt to capture the adoptions of water-saving technologies/ devices by respondents, the study team asked the interviewees the following.

- Whether they purchased and installed any water-saving technologies/devices at their household after the awareness-raising session they have attended, and
- If they did purchase and install any water-saving technologies/devices, what were the water-saving technologies/devices that they have purchased and installed at their household after attending the awareness-raising session.

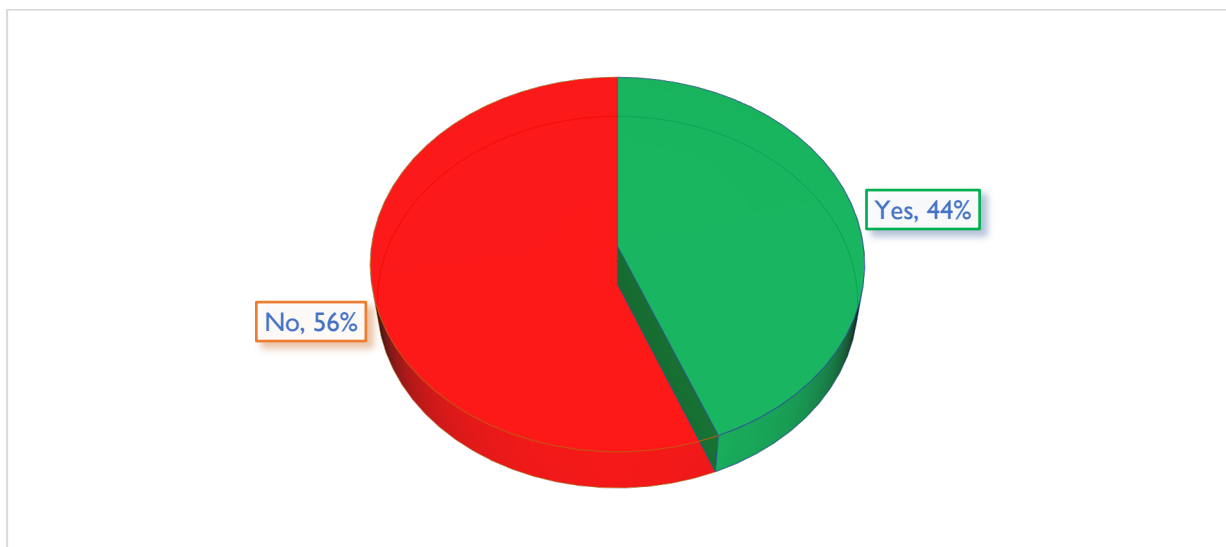


Figure 6: Interviewees Who Implemented Water-Saving Technologies After Attended the Awareness-Raising Sessions.

Out of all the interviewees, 44% answered with a Yes, indicating that they have purchased and installed water-saving technologies/devices at their households (Bearing in mind that they had attended the awareness-raising session conducted). On the other hand, the remaining 56% answered with a No, thus indicating that they did not purchase and install water-saving technologies/devices. This is due to various reasons that will be discussed in the following section.

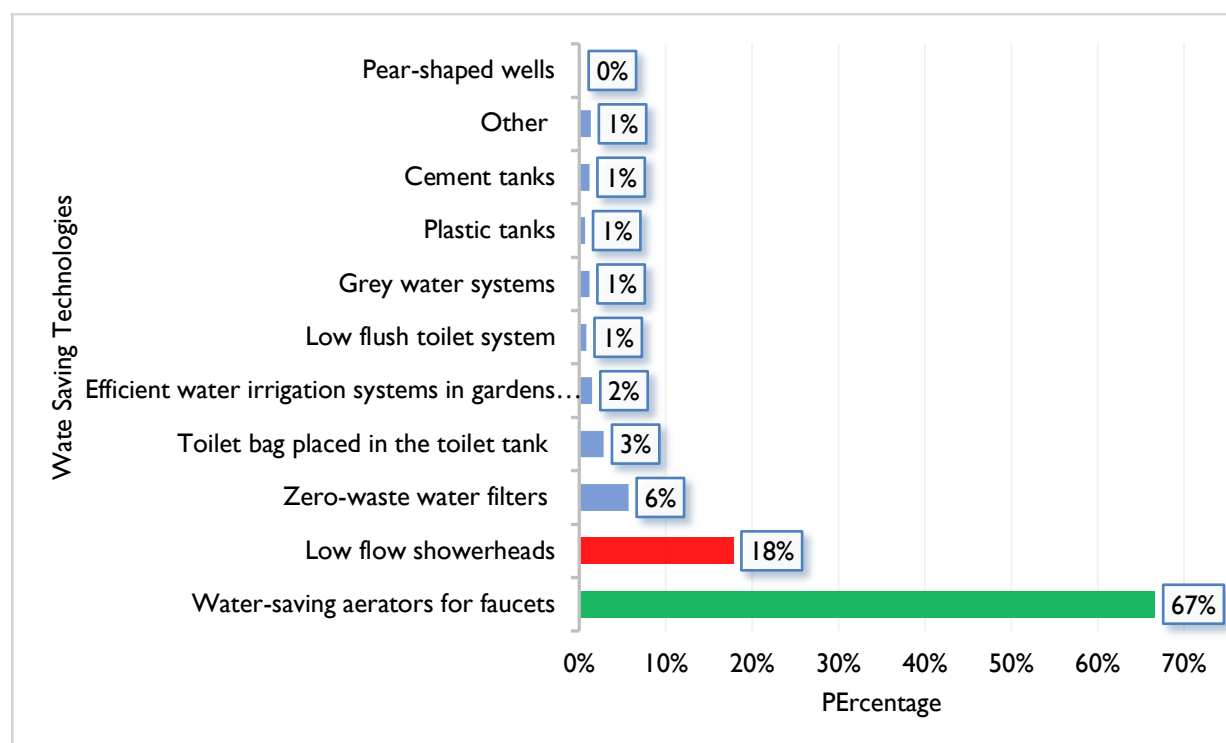


Figure 7: Types of Water Saving Technologies That Interviewees Installed.

Most of the individuals who indicated purchasing water saving devices, had implemented water-saving aerators for faucets (67%). More so, 18% installed low flow showerheads, and 6% installed zero-waste water filters. The rest of the water saving technologies tend to cost more. Therefore, as shown on the figure 7, only a minority implemented them.

Table 10 Adoptions of Water-Saving Technologies Per Governorate\*.

Governorate	Number of Participants	Number of Participants Who Adopt Water-saving Technologies	Percentage of Adoptions
Ajloun	228	117	51%
Azraq	44	14	32%
Irbid	349	131	38%
Jerash	121	52	43%
Mafrq	262	127	48%

\* Sample was not representative at the governorate level.

### For those who have purchased and installed low flow showerheads:

Table 11: Number of Low Flow Showerheads Installed in The Household.

Average	1.61
Max	7
Min	1
Total Number of installed Devices	171

### For those who have purchased and installed water-saving aerators for faucets:

Table 12.1: The Number of Times a Day Each Person in The Household Washes Their Hands.

Average	11.77
Max	50
Min	2
The total number of times respondents wash their hands per day	4661

Table 12.2: The Number of Low Flow Faucets Installed in Your Household.

Average	2.56
Max	12
Min	1
Total Number of installed Devices	1015

### For those who have purchased and installed a low flush toilet system:

Table 13.1: The Capacity of The Previous Toilet System (9 Or 12 Liters).

Tank capacity	Number
9 Liter	1
12 Liter	2
Do not know	2
Total Respondents	5

Table 13.2: Number of Times a Day Each Person in The Household Uses the Toilet.

Average	4.6
Max	5
Min	4
Total Respondents	5

Table 13.3: Number of Toilets in The Household This System Installed.

Average	1
Max	1
Min	1
Total Number of installed Devices	1

**For those who have purchased and installed a toilet bag in the toilet tank:**

Table 14: The Number of Toilet Bags Installed in The Household.

Average	1.59
Max	4
Min	1
Total Number of installed Devices	27

**For those who have purchased and installed efficient water irrigation systems in gardens rather than an open hose:**

Table 15: The Amount of Water (litters) That Was Used for Irrigation Previously.

Average	59.44
Max	400
Min	0
Total Number of installed Devices	9

**For those who have purchased and installed grey water systems:**

Table 16: The Capacity of The System (In Liters).

Average	39.29
Max	100
Min	20
Total Number of installed Devices	7

**For those who have purchased and installed plastic tanks for rain water harvesting:**

Table 17: The Capacity of The Plastic Tank (In Cubic Meters).

Average	8
Max	24
Min	2
Total Number of installed Devices	4

**For those who have installed pear-shaped wells for rain water harvesting:**

Table 18: The Capacity of The Pear-Shaped Well (In Cubic Meters).

Average	60
Max	60
Min	60
Total Number of installed Devices	1

**For those who have installed cement tanks for rain water harvesting:**

Table 19: The Capacity of The Cement Tanks (In Cubic Meters).

Average	43.14
Max	70

Min	25
Total Number of installed Devices	7

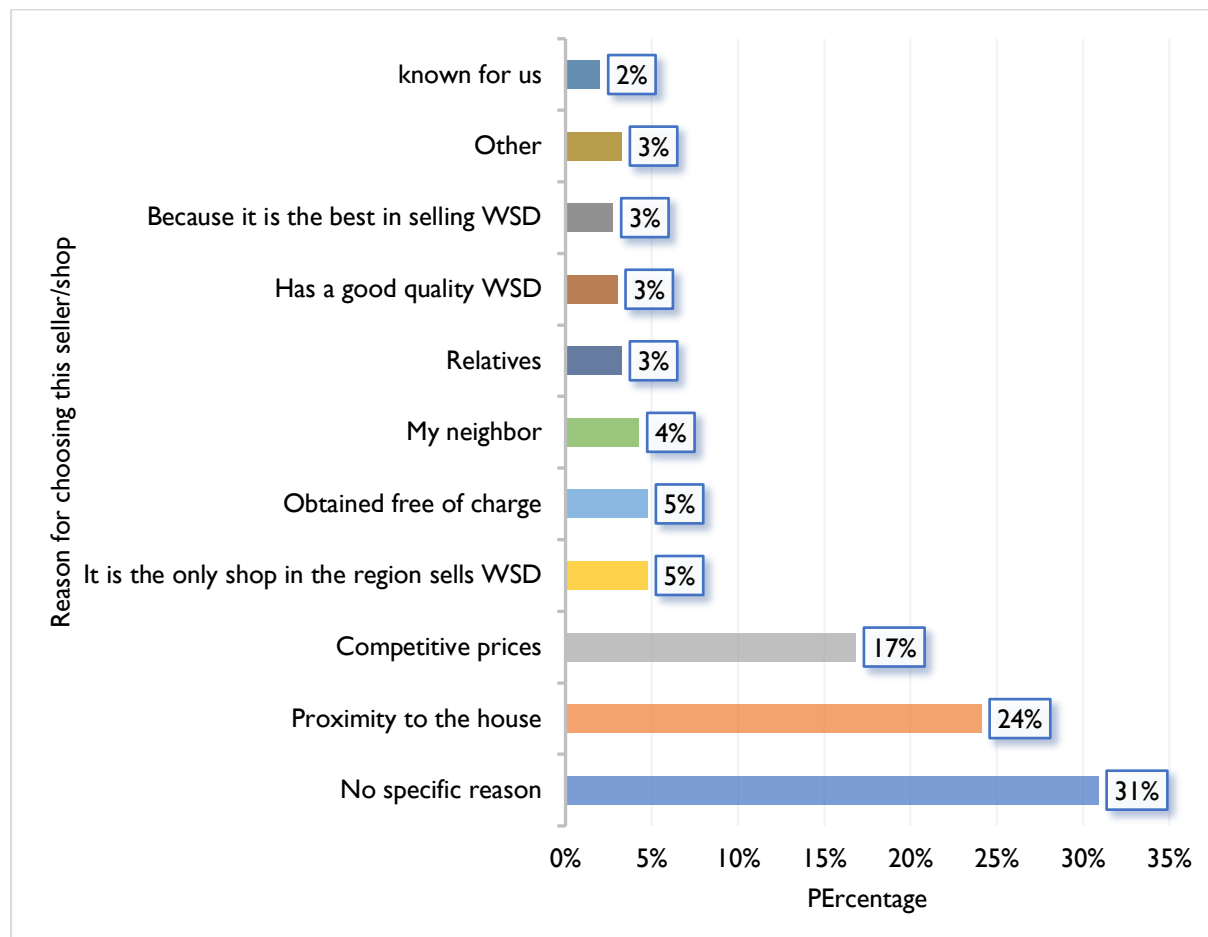


Figure 8: Individuals with Their Preference to Choose a Specific Seller or Shop.

According to the above figure, and other than having no specific reason behind choosing a certain shop, a higher percentage of 24% chose their shop due to its location being near their household. Others tend to choose their shop due to competitive prices (17%), their shop being the only one available to sell water-saving devices (5%), or it being known to the buyers (good reputation, owned by relatives, etc).

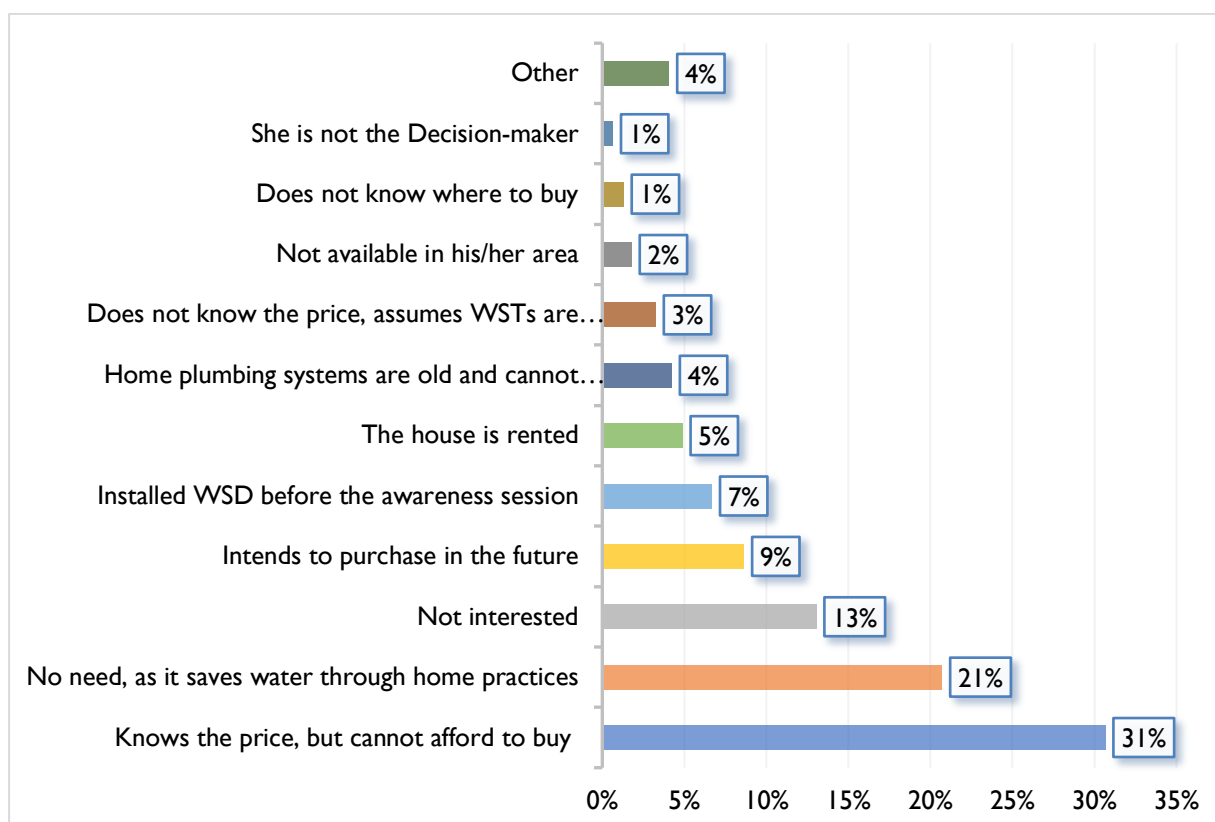


Figure 9: Reasons Behind Not Implementing Any Water-Saving Technologies/Devices at Their Households (Even After Attending the Awareness-Raising Session).

Referring to the first question asked earlier, the main reason interviewees did not install any water-saving technologies is due to them not being able to afford the price of these technologies (31%). Meanwhile, some tend to save water through their own practices at their household (21%), simply not interested (13%), or intending to invest in these technologies/devices in the future (9%). Other reasons include having the interviewees not being able to install such devices due to their households being rented or the plumbing systems being too old. Yet, it is good to note that (7%) of the interviewees already had water-saving technologies installed even before the awareness-raising session.

#### 4.2.4 Water Saving – Adoption of Water-Saving Practices

	Saved water (m <sup>3</sup> )/month	Saved water (m <sup>3</sup> ) From the date of awareness session to September 30, 2020
Total of water saving from adopting water saving practices for the 1,004 participants sample	2,438.460	35,652.23

This section displays the amount of water saved for the sampled participants who attended water awareness sessions. The amount of water saving was through Adopting of Water-Saving Practices. Equations for calculating the water saved at the households were provided by one of

the WIT project partners, Royal Scientific Society (RSS), and data from the community adoption survey was used for the calculation. These equations are found in Appendix No. IV.

Table 20: Total Amount of Water Saved Per Month. From the Date of Awareness Session to September 30, 2020 (In Cubic Meters):<sup>1</sup>

Table 21: Total Amount of Water Saved Per Each Water Practices, Per Month. From the Date of Awareness Session to September 30, 2020 (In Cubic Meters):

Water-Saving Practice	Saved water (m <sup>3</sup> )/month	Saved water (m <sup>3</sup> ) From the date of awareness session to September 30, 2020
Closing water tap while brushing teeth	54.495	692.294
Using a bucket for car washing instead of an open-hose	99.960	1,459.94
Using a mop to clean floors instead of floor rinsing	94.560	1,312.12
Fixing water tank floating valves	1,584.000	23,888.64
Regular maintenance of the household water network	11.840	169.95
Reducing shower duration	96.120	1,241.60
Placing an object in the toilet tank to reduce its capacity (e.g. plastic water bottle)	73.884	1,138.26
Using a bucket to wash dishes	375.600	5,112.08
Using a bucket to wash fresh produce rather than running water	48.000	637.35

Table 22: Total Amount of Water Saved Per Governorate<sup>2</sup>. From the Date of Awareness Session to September 30, 2020 (In Cubic Meters):

	(Ajloun)	(Azraq)	(Irbid)	(Jerash)	(Mafrq)
Total of water saving from adopting water saving practices for the 1,004 participants sample	6,253.84	984.61	11,987.25	2,281.09	14,145.42

<sup>1</sup> Dates of awareness sessions vary between (March. 2018- March 2020).

<sup>2</sup> Sample was not representative at the governorate level.



Table 23: The Total Amount of Water Saved for Per Governorate<sup>3</sup>, Per Each Water Practices. From the Date of Awareness Session to September 30, 2020 (In Cubic Meters).

Water-Saving Practice	(Ajloun)	(Azraq)	(Irbid)	(Jerash)	(Mafraq)
Closing water tap while brushing teeth	163.265	5.765	266.237	78.975	178.053
Using a bucket for car washing instead of an open-hose	427.47	34.45	459.54	102.97	435.49
Using a mop to clean floors instead of floor rinsing	184.13	83.66	498.04	154.64	391.64
Fixing water tank floating valves	3,340.80	543.36	8,123.52	1,159.68	10,721.28
Regular maintenance of the household water network	39.01	9.18	50.23	11.18	60.35
Reducing shower duration	321.11	44.00	415.28	49.15	412.05
Placing an object in the toilet tank to reduce its capacity (e.g. plastic water bottle)	542.95	0	362.30	123.95	109.06
Using a bucket to wash dishes	1,103.52	237.92	1,591.96	517.24	1,661.44
Using a bucket to wash fresh produce rather than running water	131.58	26.27	220.14	83.30	176.06

#### 4.2.5 Water Saving – Adoption of Water-Saving Technologies<sup>4</sup>

<SECTION PREPARED and RECEIVED FROM International Water Management Institute (IWMI)>

#### Community Adoptions– Water saving technologies:

##### Summary

As per the survey report received from idrc, the total number of adopted technologies from 2018 to September 30th, 2020 was 1,221, and the total water saved or provided over the same duration was 8,049.73 m<sup>3</sup>.

<sup>3</sup> Sample was not representative at the governorate level

<sup>4</sup> This section is calculated and prepared by IWMI and shared with idrc for the purpose of introducing within the report as per WIT team request. For Inquiries regarding this section: [namdar@mercycorps.org](mailto:namdar@mercycorps.org); [mmalalha@mercycorps.org](mailto:mmalalha@mercycorps.org);

All water savings provided in this report are estimated assuming all reported technologies are still installed and used by household, and they still maintain a high level of efficiency. All data used to estimate the savings is based on "The id:rc KAP Survey,2018" and "The RSS Lab Test Results, 2018".

Details on adopted technologies and generated savings are provided below.

#### 1- Toilets:

The number of adopted water saving toilets as reported by id:rc was 5 toilets. This includes 3 toilets in Mafraq, 1 in Ajloun and 1 in Irbid. The tank size of old toilets ranges between 7-12 liters while the tank size of all new toilets is only 3 liters.

Savings from the 5 toilets were estimated based on the methodology explained in detail in the Annual Water Accounting Plan, and total water savings generated from the adoption to water saving toilets up to September 30<sup>th</sup>, 2020 was 119.47 m<sup>3</sup>.

Governorate	# Toilets	Savings m <sup>3</sup>
Mafraq	3	77.49
Ajloun	1	25.64
Irbid	1	16.34
Total	5	119.47

#### 2- Showerheads:

The survey indicates the adoption of 171 showerheads in four governorates: Ajloun, Mafraq, Irbid and Jerash. All adoptions reported prior to 2018 were excluded from savings calculations as they can't be attributed to the WIT project. The total number of adopted showerheads from 2018 to September 2020 were 158 and they generated savings of 834.98 m<sup>3</sup> up to September 30<sup>th</sup>, 2020.

Governorate	Ajloun	Mafraq	Irbid	Jerash	Total reported	Total from 2018 onwards
#Devices	57	37	53	11	171	158
Savings m <sup>3</sup>	392.79	123.70	274.44	44.04		834.98

### 3- Aerators:

The total number of adopted aerators up to September 30<sup>th</sup>, 2020, as reported by id:rc was 1,105 aerators. Adoptions were observed in Ajloun, Mafraq, Azraq, Irbid and Jerash. All adoptions reported prior to 2018 were excluded from savings calculations as they can't be attributed to the WIT project.

Only 990 aerators were considered in savings calculations, mainly aerators sold in 2018 onwards. The 990 aerators generated water savings of 4,639.94 m<sup>3</sup> up to September 30<sup>th</sup>, 2020.

Governorate	Ajloun	Mafraq	Irbid	Jerash	Azraq	Total reported	Total from 2018 onwards
#Devices	240	277	323	119	31	1105	990
Savings m <sup>3</sup>	2047.31	831.06	1303.46	378.67	79.44		4,639.94

### 4- Toilet bank:

There was a total of 27 toilet banks reported as adoptions by id:rc in Ajloun, Mafraq and Irbid. The total water savings generated from adopting the 27 toilet banks as of September 30<sup>th</sup>, 2020 was 684.89 m<sup>3</sup>.

Governorate	Ajloun	Mafraq	Irbid	Total reported	Total from 2018 onwards
#Devices	15	3	9	27	27
Savings m <sup>3</sup>	397.23	82.61	205.05		684.89

### 5- RO filters:

The total number of reported RO filters was 34. The number of filters adopted after 2018 after excluding adoptions through revolving loans was 26 in Ajloun, Irbid, Mafraq, Jerash and Azraq collectively. The total number of water saved from all adopted filters up to September 30<sup>th</sup>, 2020 was 1,386 m<sup>3</sup>.

Governorate	Ajloun	Mafraq	Irbid	Jerash	Azraq	Total reported	Total from 2018 onwards
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#Devices	4	8	6	4	4	34	26
Savings m <sup>3</sup>	292.875	503.37	232.703	181.913	175.125		1385.985

## 6- Rainwater harvesting

The total number of adopted rainwater harvesting structures and technologies was reported to be 13 by id:rc. Adoptions either reported prior to 2018 or through revolving loans were excluded from the savings calculations and the total number of rainwater harvesting structures or tanks included in the calculation was 10, and total water provided was 217.16 m<sup>3</sup>

The detailed methodology to estimate water provided from pear-shape and concrete tanks is included in the Annual Water Accounts Plan and it is based on actual rainfall and refill factors in each governorate. However, for the plastic tanks, the methodology was slightly different. Id:rc data shows that the volume of plastic tanks is quite small compared to other types of tanks, that it is unrealistic to assume that it is connected to rooftops. Therefore, only the capacity was considered to estimate water provided from plastic tanks, and refill factors were not used due to lack of evidence that such tanks would be connected to rooftops.

Governorate	Ajloun	Mafraq	Irbid	Jerash	Azraq	Total
Plastic tanks	1	1	1	1		4
Savings m <sup>3</sup>	4	48	4	4		60
Concrete tanks	2	2	1	1 <sup>5</sup>		6
Savings m <sup>3</sup>	88.44	68.72	0	0		157.16
Total from all						217.16

## 7- Greywater reuse units

The data collected from respondents by id:rc contained an outlier that when verified with id:rc, it belonged to a user that claimed he built his own system with a capacity that exceeded the average and reached more than 20,000 L, therefore it was agreed with WIT HH team, the capacity for all reported systems will be considered to 100 l/day. This size is the most common in the market and it is reasonable for household level use. The total number of adopted greywater reuse units as reported by id:rc was 6 units and the volume of water provided from

<sup>5</sup> The tank didn't provide savings as it was constructed in April 2020 and there is no monthly rainfall data available to estimate water provided from rainfall events in May and June 2020.

these units was 167.3 m<sup>3</sup>. Adoptions reported prior to 2018 or those through revolving loans were excluded from the calculation.

Governorate	Ajloun	Mafraq	Irbid	Jerash	Total reported	Total from 2018 onwards
#units	2	1	1	1	7	5
Savings m <sup>3</sup>	88.2	57.9	15.3	27.3		167.3

## 5.0 ANNEXIES

### ANNEX I: SURVEY TOOL

#	English	Arabic	Notes
1	Surveyor's name	اسم الباحث/ة	
2	Date	التاريخ	
	Respondent's Information	بيانات المجيب/ة	
3	Respondent's full name	الاسم الثلاثي للمجيب/ة	Pre-filled from attendance sheet
4	Date of attended session	تاريخ حضور الجلسة التوعوية	Pre-filled from attendance sheet
5	Location of attended session (enter name of CBO or Youth Center)	(اسم الجمعية أو المركز الشبابي) مكان عقد الجلسة التوعوية	Pre-filled from attendance sheet
6	Governorate where session was held <ul style="list-style-type: none"> <li>○ Ajloun</li> <li>○ Azraq</li> <li>○ Irbid</li> <li>○ Jerash</li> <li>○ Mafrq</li> </ul>	المحافظة التي حضر فيها الجلسة التوعوية <ul style="list-style-type: none"> <li>○ عجلون</li> <li>○ الأزرق</li> <li>○ إربد</li> <li>○ جرش</li> <li>○ المفرق</li> </ul>	Pre-filled from attendance sheet
7	Sex <ul style="list-style-type: none"> <li>○ Female</li> </ul>	الجنس	Pre-filled from attendance sheet

	<input type="radio"/> Male	<input type="radio"/> أنثى <input type="radio"/> ذكر	
8	Age	العمر	
9	Number of family members residing in the household, including wife and husband	عدد أفراد الأسرة المقيمين في المنزل بما فيهم المضيف/ة وزوجته/زوجها	
	Information on the adoption of water-saving practices	معلومات عن تبني سلوكيات توفير المياه	
10	Did you implement any water-saving practices at your household after attending the awareness-raising session? <input type="radio"/> Yes (Go to 10.1) <input type="radio"/> No (Go to 10.3)	هل قمت بتطبيق أي من سلوكيات توفير المياه في منزلك بعد حضورك للجلسة التوعوية؟ <input type="radio"/> نعم (اذهب إلى 10.1) <input type="radio"/> لا (اذهب إلى 10.3)	Positive response will fulfil Condition 1 for Adoption Category A
10.1	What are the water-saving practices that you implemented? 1. Reducing shower time <input type="radio"/> By how much have you reduced shower time? [5 minutes – 6 to 10 minutes – more than 10 minutes] <input type="radio"/> How many times a week do you shower? 2. Turn water taps off when brushing teeth / shaving <input type="radio"/> How many times a day do you brush your teeth / how many times a week do you shave? 3. Fix water tank floating valves	ما هي سلوكيات توفير المياه التي قمت بتطبيقها؟ 1. التقليل من مدة الاستحمام <input type="radio"/> كم قمت بتخفيض مدة استحمامك؟ (5 دقائق – 10 دقائق – أكثر من 10 دقائق) <input type="radio"/> كم مرة أسبوعيا يتم الاستحمام؟ 2. إغلاق حنفية المياه عند غسيل الأسنان/الحلاقة <input type="radio"/> كم مرة يتم تنظيف الأسنان في اليوم / كم مرة في الأسبوع يتم الحلاقة؟	Valid response will fulfil Conditions 2 and 3 for Adoption Category A

<p>4. Regular maintenance of the water network</p> <p>5. Use bucket for car washing instead of an open hose</p> <ul style="list-style-type: none"> <li>○ How many times a week do you wash your car?</li> </ul> <p>6. Use bucket to wash fresh produce rather than running water</p> <ul style="list-style-type: none"> <li>○ How many times a day do you wash fresh produce?</li> </ul> <p>7. Use bucket to wash dishes</p> <ul style="list-style-type: none"> <li>○ How many times a day do you wash dishes?</li> </ul> <p>8. Doing laundry on a single day of the week</p> <p>9. Using a mop to clean floors instead of floor rinsing</p> <ul style="list-style-type: none"> <li>○ How many buckets were used in the past during each floor rinsing?</li> <li>○ How many times a week do you currently mop floors?</li> </ul> <p>10. Placing an object in the toilet tank to reduce its capacity (e.g. plastic water bottle)</p> <p>11. Other (Go to 10.2)</p>	<p>3. إصلاح الخزانات العائمة لخزان المياه</p> <p>4. الصيانة الدورية للشبكة</p> <p>5. استخدام دلو لغسل السيارة بدلا من البريش</p> <ul style="list-style-type: none"> <li>○ كم مرة أسبوعيا يتم غسيل السيارة؟</li> </ul> <p>6. غسل الفواكه والخضار في إناء أو دلو بدلا من الحنفية المفتوحة</p> <ul style="list-style-type: none"> <li>○ كم مرة يوميا يتم غسل الفواكه والخضار؟</li> </ul> <p>7. غسل الأطباق عن طريق ملئ دلو</p> <ul style="list-style-type: none"> <li>○ كم مرة يوميا يتم غسل الأطباق؟</li> </ul> <p>8. تجميع الغسيل في يوم واحد في الاسبوع</p> <p>9. استخدام الممسحة لتنظيف أرضيات المنزل بدلا من الشطف</p> <ul style="list-style-type: none"> <li>○ كم دلو كان يستخدم للشطف سابقا في المرة الواحدة؟</li> <li>○ كم مرة يتم حاليا المسح في الأسبوع؟</li> </ul> <p>10. وضع حاجز أو مجسم يشغل حيز في خزان النياجرا (مثلا علبة مياه)</p>	
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		11. غيرها (اذهب إلى 10.2)	
10.2	Please specify	الرجاء التحديد	
10.3	Why not? <input type="checkbox"/> Not interested <input type="checkbox"/> Does not think there is a water shortage problem in Jordan <input type="checkbox"/> Does not personally suffer from the effects of the water shortage problem <input type="checkbox"/> Other	لماذا لا؟ <input type="checkbox"/> غير مهتم <input type="checkbox"/> لا يعتقد أن هناك مشكلة نقص مياه في الأردن <input type="checkbox"/> لا يعاني شخصيا من آثار مشكلة نقص المياه <input type="checkbox"/> غيرها	
	Information on the adoption of water-saving technologies and devices	معلومات عن تبني قطع توفير المياه	
11	Did you purchase and install any water-saving technologies/devices at your household after the awareness-raising session you attended? <input type="radio"/> Yes (Go to 11.1) <input type="radio"/> No (Go to 12)	هل قمت بشراء وتركيب أي قطع أو تقنيات موفرة للمياه في منزلك بعد حضورك للجلسة التوعوية؟ <input type="radio"/> نعم (اذهب إلى 11.1) <input type="radio"/> لا (اذهب إلى 12)	Positive response will fulfil Condition I for Adoption Category B

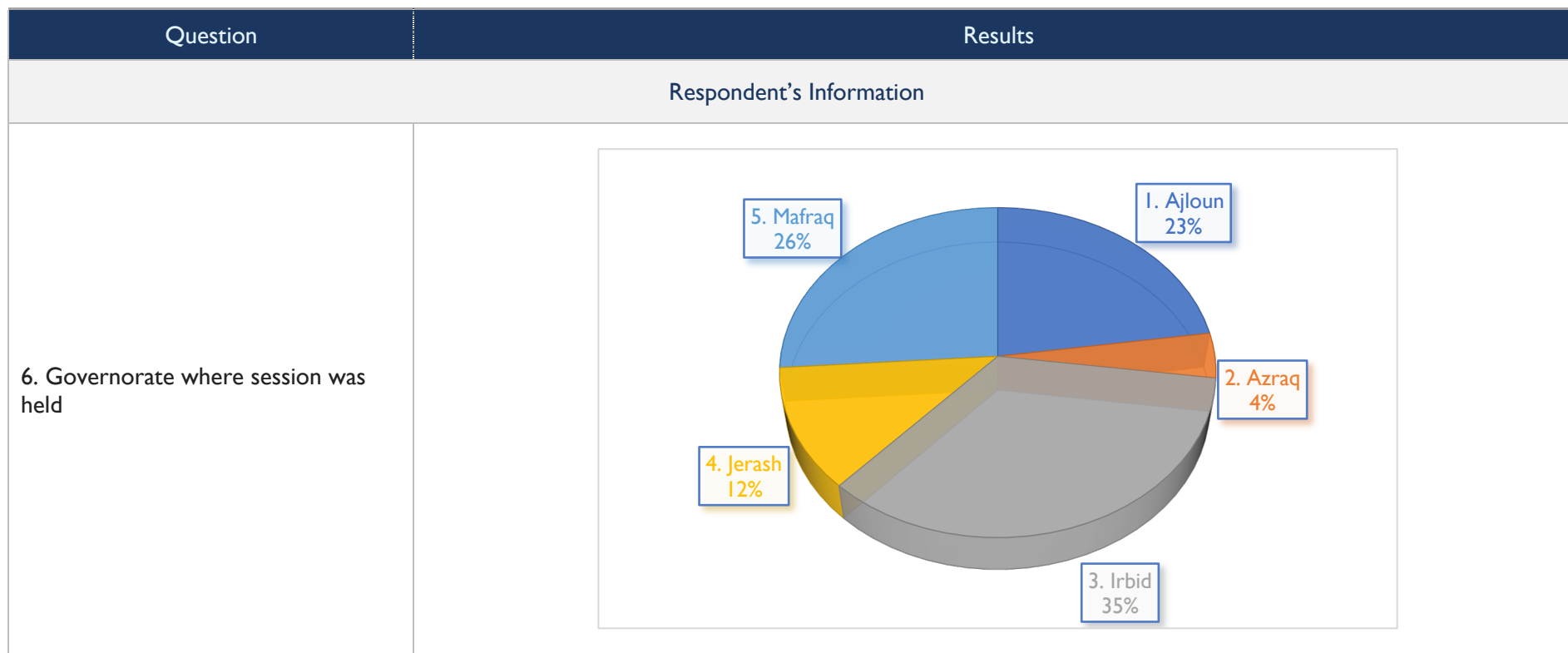
11.1	<p>What are the water-saving technologies/devices that you purchased?</p> <ol style="list-style-type: none"> <li>Low flush toilet system <ul style="list-style-type: none"> <li>What was the capacity of the previous system (9 or 12 liters)?</li> <li>How many times a day does each person in the household use the toilet?</li> <li>For how many toilets in your household have you installed this system?</li> <li>When did you purchase these systems?</li> </ul> </li> <li>Low flow showerheads <ul style="list-style-type: none"> <li>How many low flow showerheads have you installed in your household?</li> <li>When did you purchase this technology?</li> </ul> </li> <li>Water-saving aerators for faucets <ul style="list-style-type: none"> <li>How many times a day does each person in the household wash their hands?</li> <li>How many low flow faucets have you installed in your household?</li> <li>When did you purchase these aerators?</li> </ul> </li> <li>Toilet bag placed in the toilet tank <ul style="list-style-type: none"> <li>How many toilet bags have you installed in your household?</li> <li>When did you purchase the toilet bags?</li> </ul> </li> <li>Efficient water irrigation systems in gardens rather than open-hose <ul style="list-style-type: none"> <li>How much water was used for irrigation previously (in cubic meters or liters)?</li> <li>When did you purchase this system?</li> </ul> </li> <li>Grey water systems <ul style="list-style-type: none"> <li>What is the capacity of the system?</li> </ul> </li> </ol>	<p>ما هي التقنيات الموفرة للمياه التي قمت بشرائها؟</p> <ol style="list-style-type: none"> <li>نظام مرحاض منخفض التدفق <ul style="list-style-type: none"> <li>كم كانت سعة النظام السابق (9 او 12 لتر)؟</li> <li>كم مرة يتم استخدام المرحاض لكل شخص يوميا؟</li> <li>كم عدد المراحيض منخفضة التدفق التي قمت بتركيبها؟</li> <li>متى قمت بشراء هذه المراحيض؟</li> </ul> </li> <li>رؤوس الدش منخفضة التدفق <ul style="list-style-type: none"> <li>كم عدد رؤوس الدش التي قمت بالتركيب لها هذه القطع الموفرة للمياه؟</li> <li>متى قمت بشراء هذه القطع؟</li> </ul> </li> <li>قطع توفير المياه للحنفيات (الهواية) <ul style="list-style-type: none"> <li>كم مرة يتم غسل الايدي لكل شخص يوميا؟</li> <li>كم عدد قطع توفر المياه التي قمت بتركيبها للحنفيات؟</li> <li>متى قمت بشراء هذه القطع؟</li> </ul> </li> </ol>	Valid response will fulfil Conditions 2 and 3 for Adoption Category B
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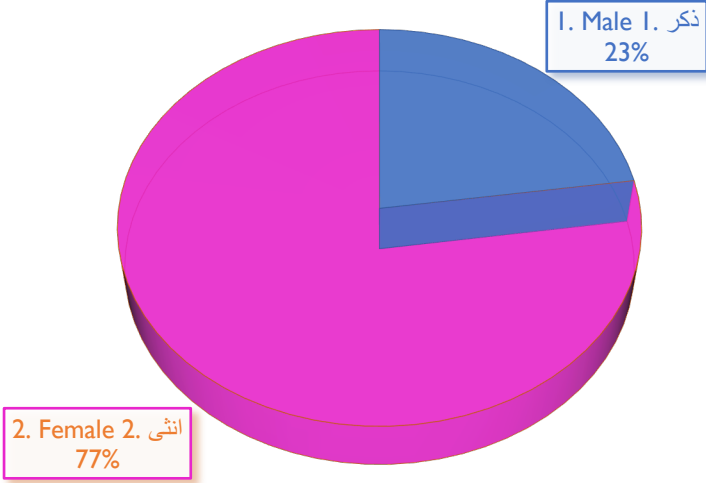
	<p>○ When did you purchase this system?</p> <p>7. Zero-waste water filters</p> <p>○ When did you purchase the filter?</p> <p>8. Plastic tanks</p> <p>○ What is the capacity of the plastic tank?</p> <p>○ When did you purchase the plastic tank?</p> <p>9. Pear-shaped wells</p> <p>○ What is the capacity of the well?</p> <p>○ When was the well-built?</p> <p>10. Cement tanks</p> <p>○ What is the capacity of the cement tank?</p> <p>○ When did you purchase the cement tank?</p> <p>11. Other (Go to 11.2)</p>	<p>4. كيس المرحاض الترشيدي (بنك المرحاض)</p> <p>○ كم عدد أكياس المرحاض التي قمت بتركيبها في منزلك؟</p> <p>○ متى قمت بشراء هذه الأكياس؟</p> <p>5. نظام ري بالتنقيط للحديقة</p> <p>○ ما هي كمية المياه التي كانت تستهلك للري قبل تركيب النظام أسبوعيا (متر مكعب أو لتر)؟</p> <p>○ متى قمت بشراء هذا النظام؟</p> <p>6. أنظمة المياه الرمادية</p> <p>○ ما هي سعة النظام؟</p> <p>○ متى قمت بشراء هذا النظام؟</p> <p>7. فلتر المياه الصحي بدون فاقد</p> <p>○ متى قمت بشراء هذا الفلتر؟</p> <p>8. خزان بلاستيكي</p> <p>○ ما هي سعة الخزان؟</p>	
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		<p>○ متى قمت بشراء الخزان البلاستيكي؟</p> <p>9. بير انجاصة</p> <p>○ ما هي سعة البير؟</p> <p>○ متى قمت بحفر البير؟</p> <p>10. خزان اسمنتي</p> <p>○ ما هي سعة الخزان؟</p> <p>○ متى قمت بشراء الخزان الاسمنتي؟</p> <p>11. غيرها (اذهب إلى 11.2)</p>	
11.2	Please specify	الرجاء التحديد	
11.3	Where did you purchase these technologies/ devices? Please specify the name and address of the shop if possible.	من أين قمت بشراء هذه القطع أو التقنيات؟ الرجاء ذكر اسم وعنوان المحل التجاري إذا أمكن	
11.4	Why did you choose this specific seller or shop?	لماذا قمت باختيار هذا البائع أو المحل تحديداً؟	
12	<p>Why not?</p> <ol style="list-style-type: none"> <li>1. Knows the price, but cannot afford to buy</li> <li>2. Does not know the price, assumes WSTs are too expensive</li> <li>3. Does not know where to buy</li> <li>4. Not available in his/her area</li> <li>5. Intends to purchase in the future</li> <li>6. Not interested</li> </ol>	<p>لماذا لا؟</p> <ol style="list-style-type: none"> <li>1. على علم بسعر التقنيات / القطع، ولكن لا يستطيع تحميتها تكاليفها</li> <li>2. لا يعرف سعر التقنيات / القطع، ويفترض أنها مكلفة جدا</li> <li>3. لا يعرف من أين يشتري التقنيات / القطع</li> </ol>	

	7. Other	<p>4. التقنيات / القطع غير متوفرة في منطقته</p> <p>5. ينوي شراءها في المستقبل</p> <p>6. غير مهتم</p> <p>7. غيرها</p>	
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## ANNEX II: DATA ANALYSIS

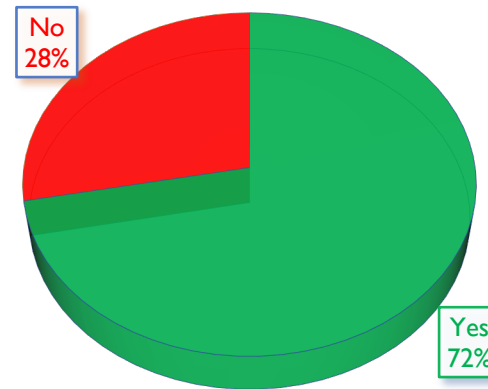


7. Sex	 <p>A 3D pie chart illustrating the gender distribution of respondents. The chart is divided into two segments: a large pink segment representing females (77%) and a smaller blue segment representing males (23%). Two callout boxes provide labels in both English and Arabic: '1. Male 1. ذكر 23%' for the blue segment and '2. Female 2. انثى 77%' for the pink segment.</p>								
8. Age	<table border="1"> <tr> <td>Average</td><td>37.0</td></tr> <tr> <td>Max</td><td>76</td></tr> <tr> <td>Min</td><td>12</td></tr> <tr> <td>Total Respondents</td><td>1004</td></tr> </table>	Average	37.0	Max	76	Min	12	Total Respondents	1004
Average	37.0								
Max	76								
Min	12								
Total Respondents	1004								
9. Number of family members residing in the household, including wife and husband	<table border="1"> <tr> <td>Average</td><td>5.9</td></tr> <tr> <td>Max</td><td>20</td></tr> <tr> <td>Min</td><td>1</td></tr> <tr> <td>Total Respondents</td><td>1004</td></tr> </table>	Average	5.9	Max	20	Min	1	Total Respondents	1004
Average	5.9								
Max	20								
Min	1								
Total Respondents	1004								

## Information on the adoption of water-saving practices

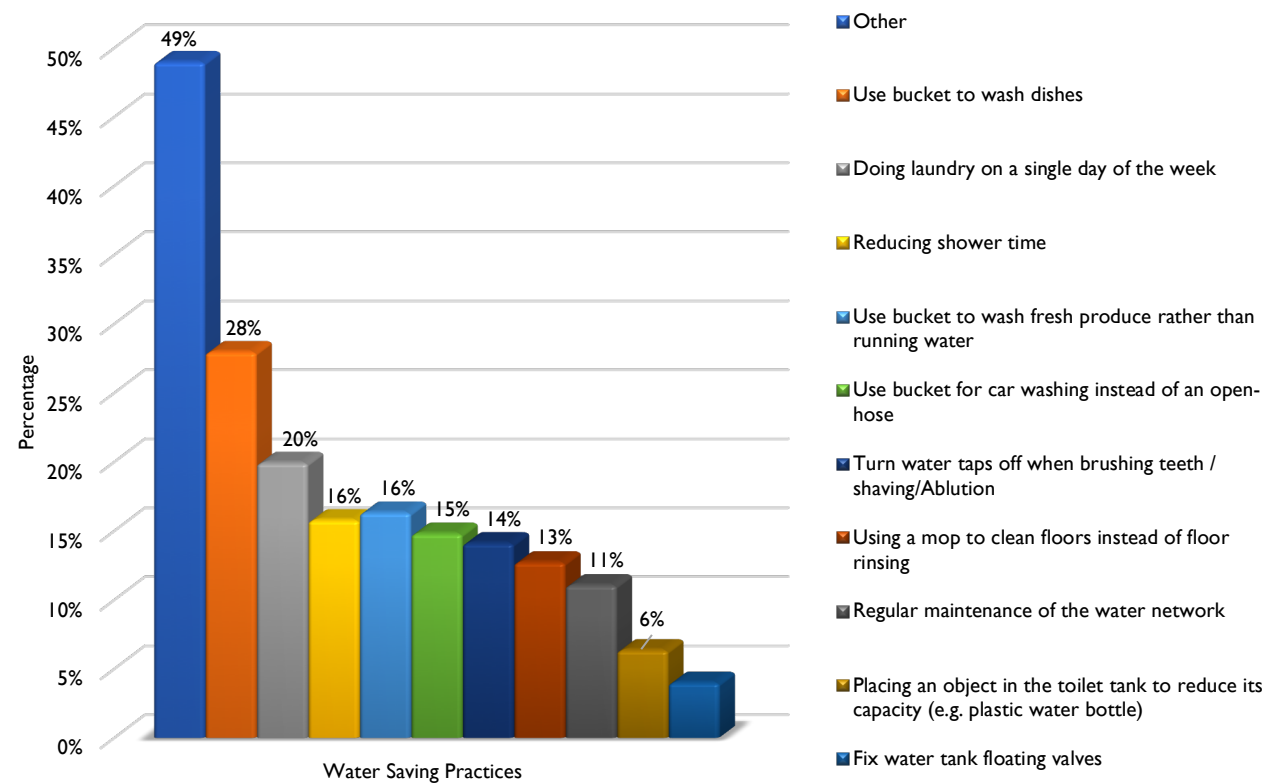
10. Did you implement any water-saving practices at your household after attending the awareness-raising session?  
If No (Go to Q10.3)  
If Yes (Go to Q10.1)

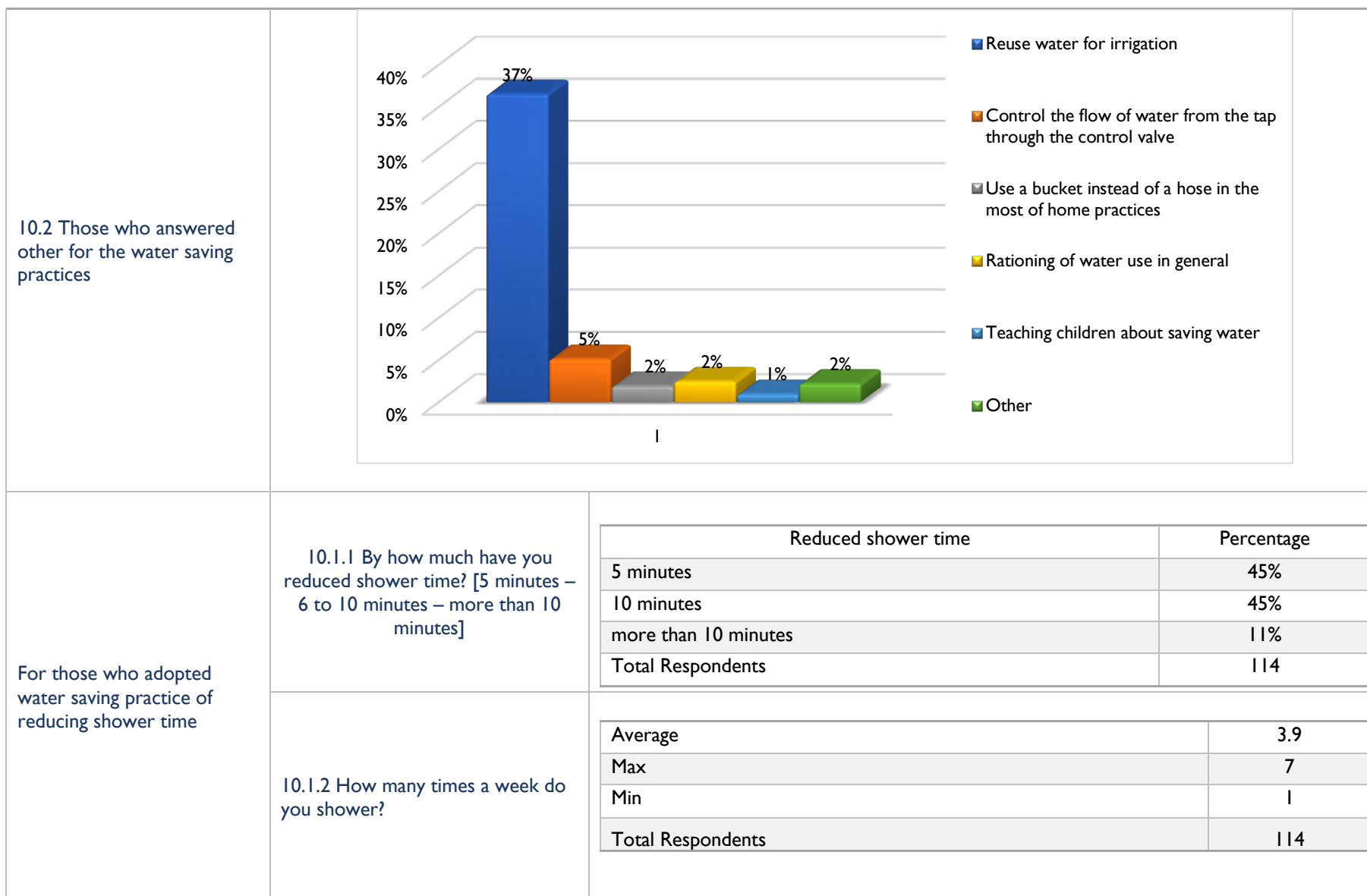
DID YOU IMPLEMENT ANY WATER-SAVING PRACTICES AT YOUR HOUSEHOLD AFTER ATTENDING THE AWARENESS-RAISING SESSION?





### 10.1 What are the water-saving practices that you implemented?

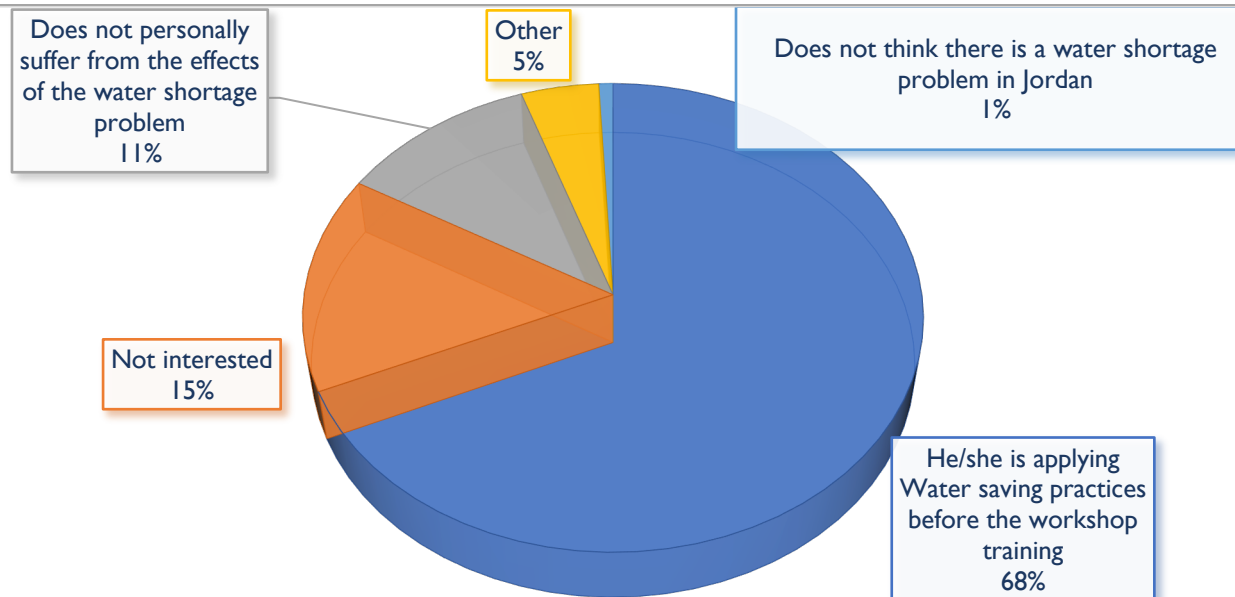




For those who adopted water saving practice of turn tabs off when brushing their teeth/ shaving/ ablution	10.1.3 How many times a day do you brush your teeth?	Average	1.9
		Max	4
		Min	1
		Total Respondents	102
	10.1.4 How many times a week do you shave?	Average	0.98
		Max	7
		Min	0
		Total Respondents	49
For those who adopted water saving practice of bucket for car washing instead of an open-hose	101.1.5 How many times a week do you wash your car?	Average	1.14
		Max	3
		Min	0
		Total Respondents	107
	10.1.5.1 How many cars do you have?	Average	1.18
		Max	3
		Min	1
		Total Respondents	107
For those who adopted water saving practice of use bucket to wash fresh produce rather than running water	10.1.6 How many times a day do you wash fresh produce?	Average	1.36
		Max	7
		Min	0
		Total Respondents	118

For those who adopted water saving practice of use bucket to wash dishes	10.1.7 How many times a day do you wash dishes	Average	3.10
		Max	10
		Min	1
		Total Respondents	202
For those who adopted water saving practice of using a mop to clean floors instead of floor rinsing	10.1.8 How many buckets were used in the past during each floor rinsing?	Average	3.02
		Max	10
		Min	0
		Total Respondents	92
	10.1.9 How many times a week do you currently mop floors?	Average	4.60
		Max	14
		Min	0
		Total Respondents	92

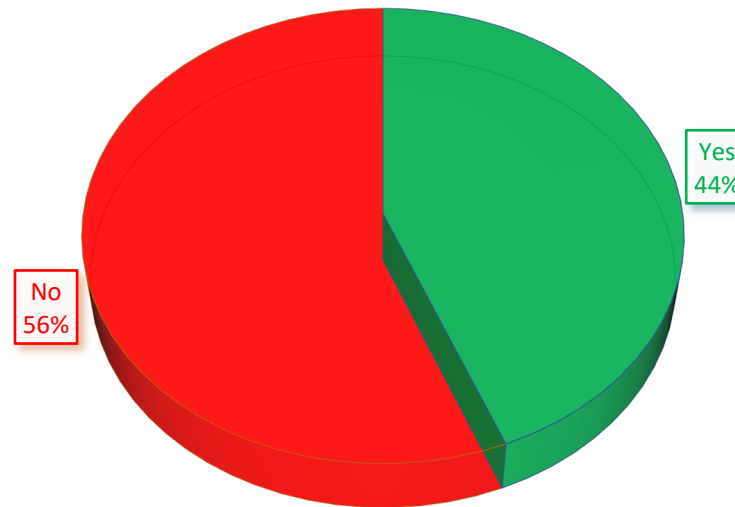
10.3 Why you did not implement any water-saving practices at your household after attending the awareness-raising session?

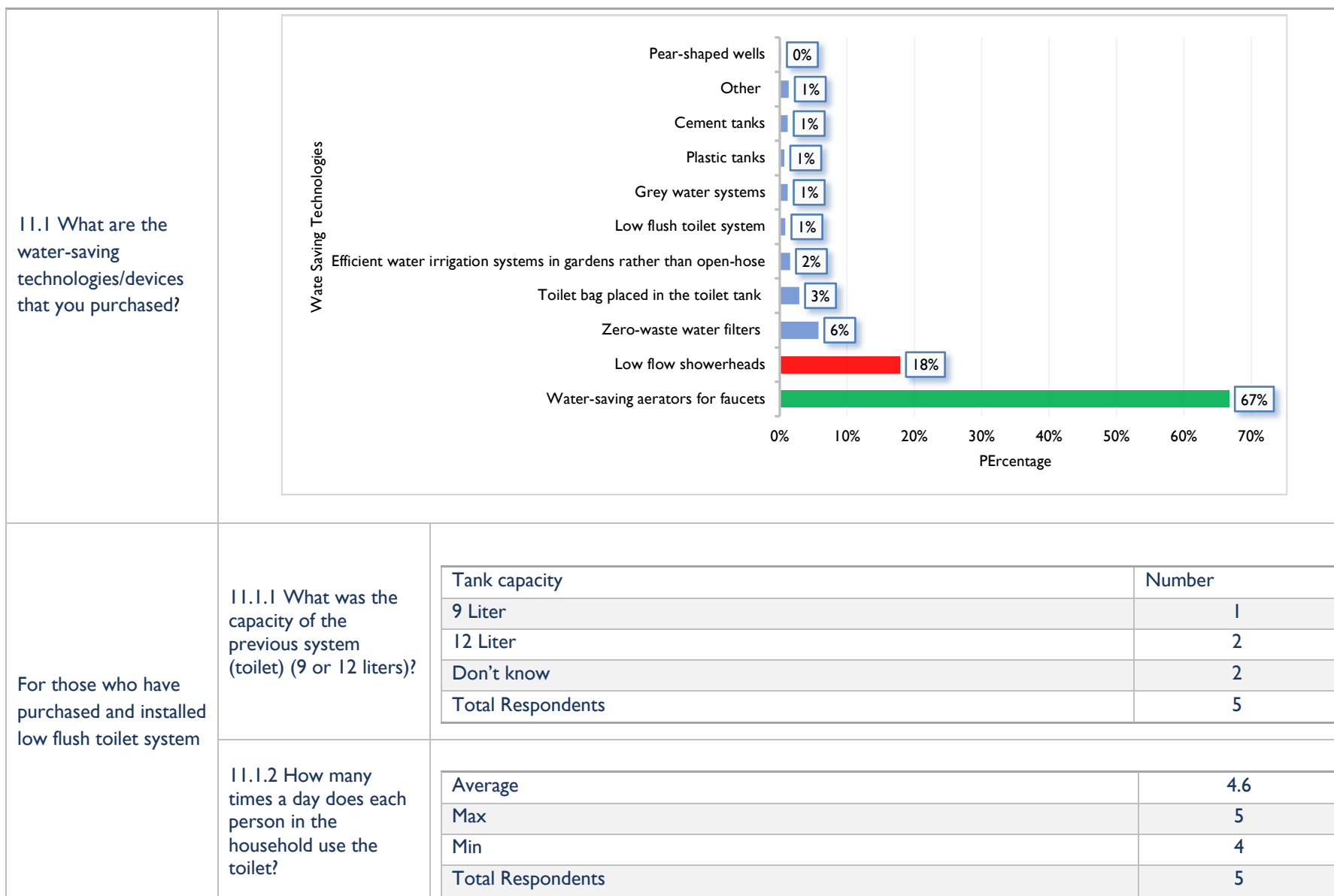


## Information on the adoption of water-saving technologies and devices

DID YOU PURCHASE AND INSTALL ANY WATER-SAVING TECHNOLOGIES/DEVICES AT YOUR HOUSEHOLD AFTER THE AWARENESS-RAISING SESSION YOU ATTENDED?

11. Did you purchase and install any water-saving technologies/devices at your household after the awareness-raising session you attended?  
If No (Go to Q11.5)  
If Yes (Go to Q11.1)





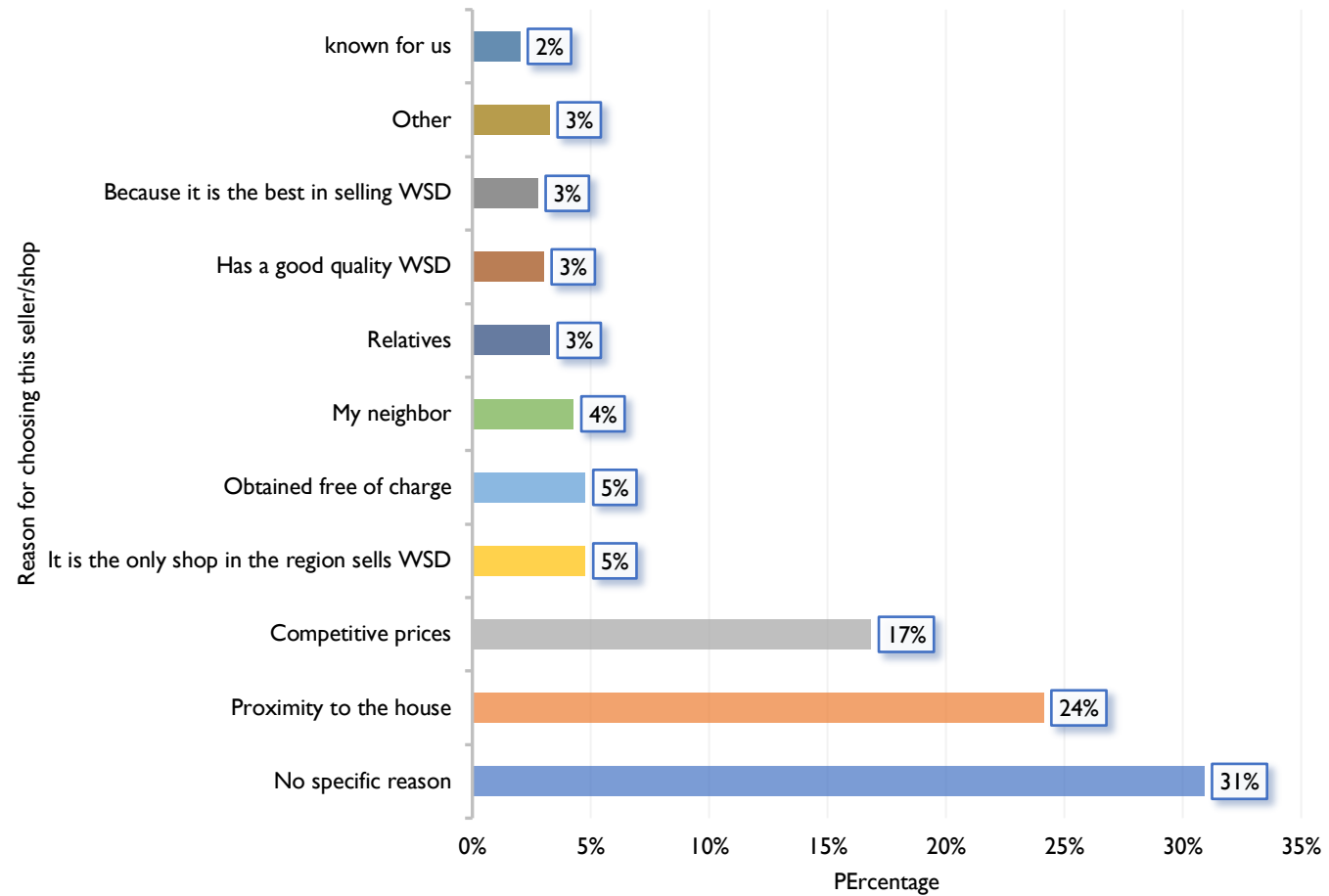
	11.1.3 For how many toilets in your household have you installed this system?	<table><tr><td>Average</td><td>1</td></tr><tr><td>Max</td><td>1</td></tr><tr><td>Min</td><td>1</td></tr><tr><td>Total Number of installed Devices</td><td>1</td></tr></table>	Average	1	Max	1	Min	1	Total Number of installed Devices	1
	Average	1								
Max	1									
Min	1									
Total Number of installed Devices	1									
	11.1.4 When did you purchase these Low flush toilet systems?	See Annex								
For those who have purchased and installed low flow showerheads	11.1.5 How many low flow showerheads have you installed in your household?	<table><tr><td>Average</td><td>1.61</td></tr><tr><td>Max</td><td>7</td></tr><tr><td>Min</td><td>1</td></tr><tr><td>Total Number of installed Devices</td><td>171</td></tr></table>	Average	1.61	Max	7	Min	1	Total Number of installed Devices	171
	Average	1.61								
Max	7									
Min	1									
Total Number of installed Devices	171									
	11.1.6 When did you purchase this technology?	See Annex								
For those who have purchased and installed Water-saving aerators for faucets	11.1.7 How many times a day does each person in the household wash their hands?	<table><tr><td>Average</td><td>11.77</td></tr><tr><td>Max</td><td>50</td></tr><tr><td>Min</td><td>2</td></tr><tr><td>The total number of times respondents wash their hands per day</td><td>4661</td></tr></table>	Average	11.77	Max	50	Min	2	The total number of times respondents wash their hands per day	4661
	Average	11.77								
Max	50									
Min	2									
The total number of times respondents wash their hands per day	4661									
	11.1.8 How many low flow faucets have you installed in your household?	<table><tr><td>Average</td><td>2.56</td></tr><tr><td>Max</td><td>12</td></tr><tr><td>Min</td><td>1</td></tr><tr><td>Total Number of installed Devices</td><td>1015</td></tr></table>	Average	2.56	Max	12	Min	1	Total Number of installed Devices	1015
Average	2.56									
Max	12									
Min	1									
Total Number of installed Devices	1015									
	11.1.9 When did you purchase these aerators?	See Annex								



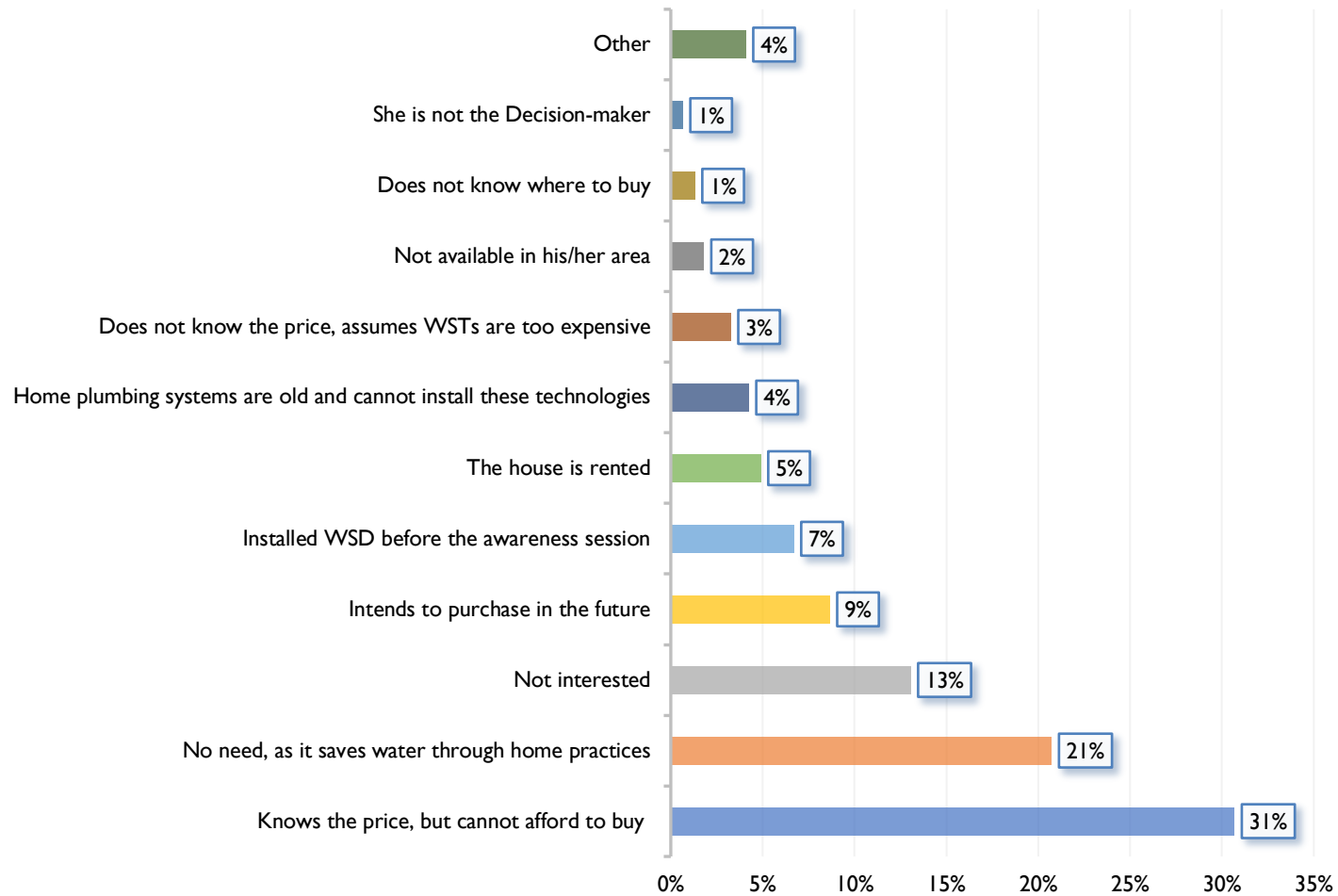
For those who have purchased and installed Toilet bag in the toilet tank	11.1.10 How many toilet bags have you installed in your household?	Average	1.59
		Max	4
		Min	1
		Total Number of installed Devices	27
	11.1.11 When did you purchase the toilet bags?	See Annex	
For those who have purchased and installed efficient water irrigation systems in gardens rather than open-hose	11.1.12 How much water was used for irrigation previously (in cubic meters or liters)?	Average	59.44
		Max	400
		Min	0
		Total Number of installed Devices	9
	11.1.13 When did you purchase this system?	See Annex	
For those who have purchased and installed grey water systems	11.1.14 What is the capacity of the system? (liter)	Average	39.29
		Max	100
		Min	20
		Total Number of installed Devices	7
	11.1.15 When did you purchase this system?	See Annex	
For those who have purchased and installed zero-waste water filters	11.1.16 When did you purchase the filter?	See Annex	
For those who have purchased and installed plastic tanks	11.1.17 What is the capacity of the plastic tank? (m3)	Average	8
		Max	24
		Min	2
		Total Number of installed Devices	4

	11.1.18 When did you purchase the plastic tank?	See Annex	
For those who have installed pear-shaped wells	11.1.19 What is the capacity of the Pear-shaped well? (m3)	Average	60
		Max	60
		Min	60
		Total Number of installed Devices	1
	11.1.20 When was the Pear-shaped well built?	See Annex	
For those who have installed cement tanks	11.1.21 What is the capacity of the cement tank? (m3)	Average	43.14
		Max	70
		Min	25
		Total Number of installed Devices	7
	11.1.22 When did you purchase the cement tank?	See Annex	
11.3 Where did you purchase these technologies / devices? Please specify the name and address of the shop if possible.	See Annex		

11.4 Why did you choose this specific seller or shop?



11.5 Why you didn't purchase and install any water-saving technologies/devices at your household after the awareness-raising session you attended not?



## ANNEX III: DATA SET

Sent on Excel Sheet.

## ANNEX IV: RSS LIST OF WATER SAVINGS EQUATIONS

### List of Water Savings Equations

The following equations were developed by RSS for calculating water savings from the water-saving practices reported by the surveyed sample of awareness session participants.

All of these equations calculate the monthly water savings from any given practice, so the duration of implementing these practices needs to be considered in each case. It is assumed that any participant that reported implementing any practice would have begun implementing it from the date of the awareness session that s/he attended.

#	Water-Saving Practice	Equation
1	Reducing shower duration by 5 minutes	$(40 \text{ liters} * \text{Number of times per week a family member showers} * \text{Number of family members}) * 4$ “For those who reduce shower duration by 10 minutes (Multiply the savings coming from 5min reduction by 2), and for those who reduce it more than 10 minutes (I suggest making it 15 minutes, then multiply the savings coming from 5min reduction by 3)”
2	Closing water tap while brushing teeth	$(1.5 \text{ liters} * \text{Number of times per day a family member brushes teeth} * \text{Number of family members}) * 30$
3	Fixing water tank floating valves	$(2400 \text{ liters} * \text{Number of times the water tank is filled by water from the water authority per month})$ See below
4	Regular maintenance of the household water network	$(37 \text{ liters} * 4)$
5	Using a bucket for car washing instead of an open-hose	$(170 \text{ liters} * \text{Number of times the car is washed per week} * \text{Number of cars owned by the household}) * 4$
6	Using a bucket to wash fresh produce rather than running water	$(10 \text{ liters} * \text{Number of times fresh produce is washed daily}) * 30$
7	Using a bucket to wash dishes	$(20 \text{ liters} * \text{Number of times dishes are washed daily}) * 30$

8	Using a mop to clean floors instead of floor rinsing	(Previous amount of water used in every floor rinsing * Current number of floor mopping times per week) * <u>For calculating water saved from using a mop to clean floors instead of floor rinsing: Assume water bucket capacity is 20 liters</u>
9	Placing an object in the toilet tank to reduce its capacity (e.g. plastic water bottle)	(Size of object or water bottle * Number of times the toilet is used per day * Number of family members) 30 <u>For calculating water saved from placing an object in toilet tank: Assume object size is 2 liters</u>

**Water saved per month from fixing water tank floating valves = (600 liters \* Water pumping hours per month).**

The table below has the values needed to perform the calculation of Fixing water tank floating valves.

Governorate	Number of water pumping hours per month
Irbid	96
Ajloun	96
Jerash	48
Mafrq	96
Azraq	96

# **WATER INNOVATION TECHNOLOGIES PROJECT**

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