

# **Domestic Water Consumption Survey**

## **Key Survey Findings - Fact Sheet**

### **Background**

In 2011, the Water Supplies Department (WSD) conducted the Domestic Water Consumption Survey (the Survey) with the assistance of a consultant. The objectives of the Survey were:

1. to evaluate the effectiveness of water conservation education and promotions activities by gauging the public's awareness of and response to such activities;
2. to gauge primary students' awareness of and response to the current water conservation education activities;
3. to gauge the public's awareness of and responses to using water saving devices; and
4. to collect water consumptions of households and consumption by different water-consuming appliance, and subsequently identify the end users patterns on water consumption for in-house uses in different domestic types in Hong Kong.

WSD will make reference to the collected information in identifying focus areas for implementation of water conservation measures, as well as developing more comprehensive and effective water conservation measures, promotions and education activities.

### **Survey Methodology**

A pilot survey was conducted in 9 to 30 August 2011, followed by the main fieldwork between 19 September 2011 and 15 January 2012. 1,028 households were successfully enumerated, constituting a response rate of 62.0%.

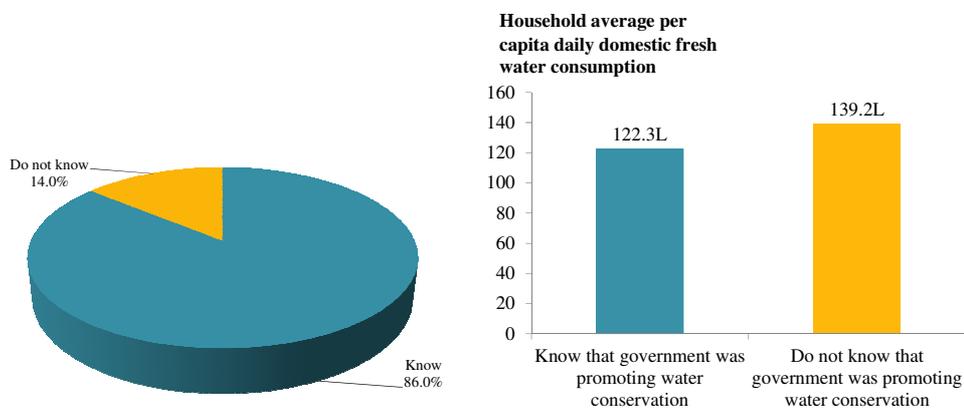
Besides having enumerators conducting face-to-face household survey with the randomly selected households, the households were also required to maintain a self-reported log-book to record details of their water consuming activities for a seven-day period.

## Key Survey Findings

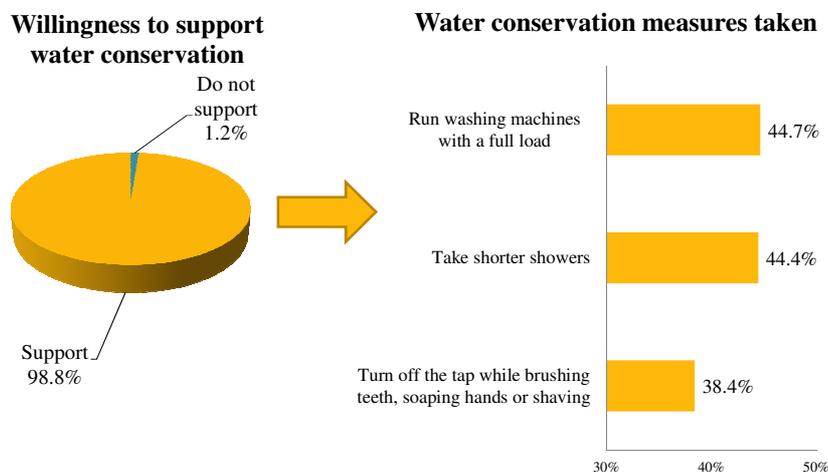
In-depth analyses were conducted to the survey findings with regard to household characteristics (eg. domestic type, building age, useable floor area and average monthly household income, etc.), and household water consumption attitude (eg. whether household was aware of the water conservation promotion by the Government, etc.). The key survey findings are as follows:

### Part 1 – Household’s awareness and opinions towards water conservation

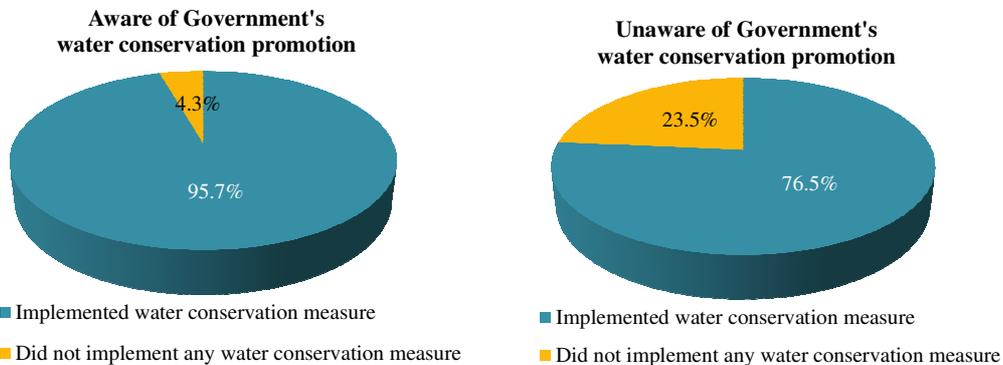
- 86.0% of the households knew that the Government was promoting water conservation. Household being aware that the Government was promoting water conservation had lower household average per capita daily domestic fresh water consumption (122.3L) as compared to those without such awareness (139.2L).



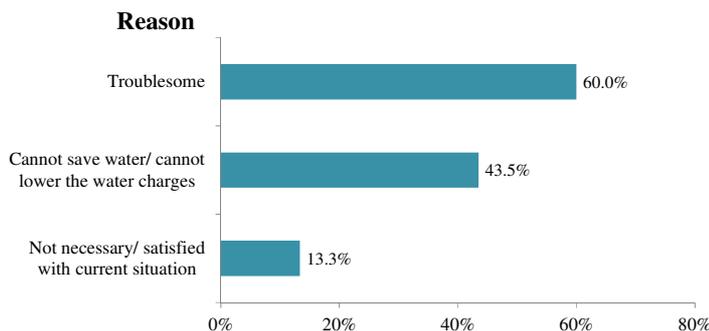
- 98.8% of the households supported water conservation. For households supporting water conservation, the three water conservation measures most commonly taken were “run washing machines with a full load” (44.7%), “take shorter showers” (44.4%) and “turn off the tap while brushing teeth, soaping hands or shaving” (38.4%). On average, a household took more than 2 water conservation measures.



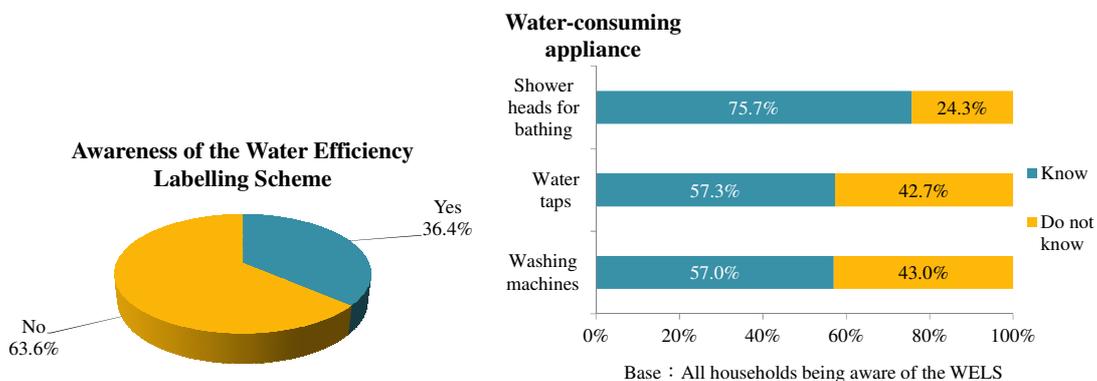
- Only 4.3% of the households being aware of water conservation promotion by the Government did not implement any water conservation measure. On the contrary, 23.5% of the households being unaware of the water conservation promotion did not implement any water conservation measure.



- The cited reasons for not supporting water conservation were “troublesome” (60.0%), followed by “cannot save water/ cannot lower the water charges” (43.5%) and “not necessary/ satisfied with current situation” (13.3%).

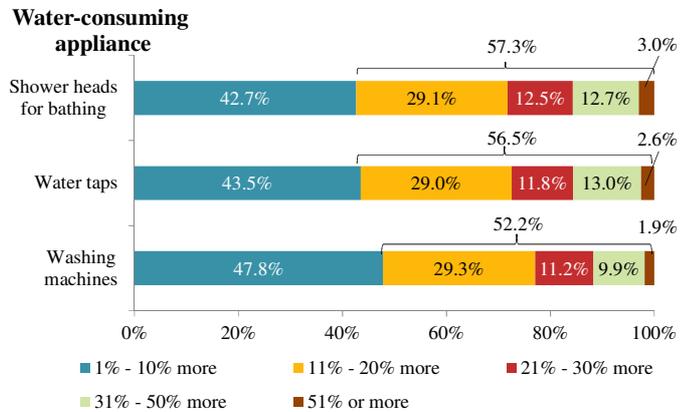
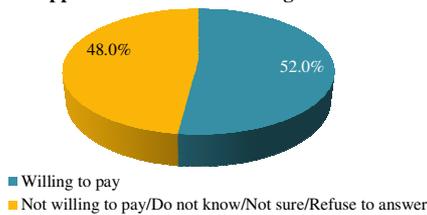


- About one-third (36.4%) of the households were aware of the Water Efficiency Labelling Scheme (WELS). Amongst them, 75.7% knew its coverage on shower heads for bathing while 57.3% and 57.0% of them knew its coverage on water taps and washing machines respectively.



- Around half of the households were willing to pay more for appliances with water-saving function. Over half of the households were willing to pay an extra of 10% or more for water saving shower heads, water taps and washing machines.

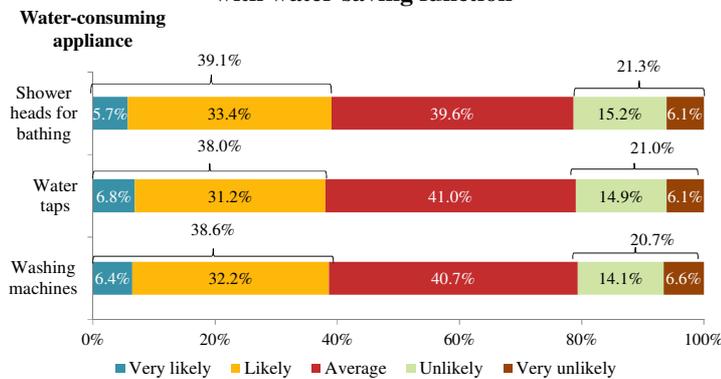
**Average willingness to pay more for appliances with water-saving function**



Base : All households which were willing to pay more to purchase water-consuming appliances with water-saving function

- Around two-fifth (38.0% - 39.1%) of households indicated that they were very likely/likely to install appliances with water-saving function. Around one-fifth (20.7% - 21.3%) of households indicated that they were very unlikely/unlikely to install appliances with water-saving function.

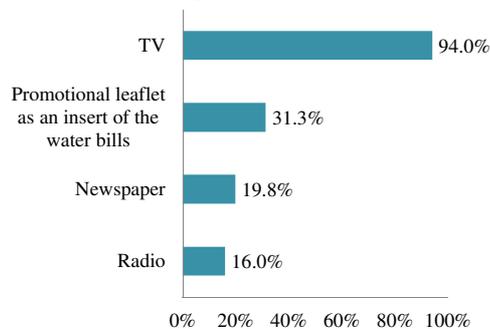
**Likelihood of installing water-consuming appliances with water-saving function**



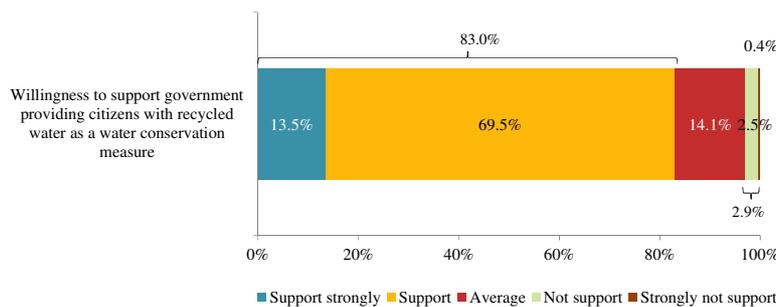
## Part 2 – Individual household member’s awareness and opinions towards water conservation

- The promotion channel on water conservation being most commonly aware of was “TV” (94.0%), followed by “promotional leaflet as an insert of the water bills” (31.3%), “newspaper” (19.8%) and “radio” (16.0%).

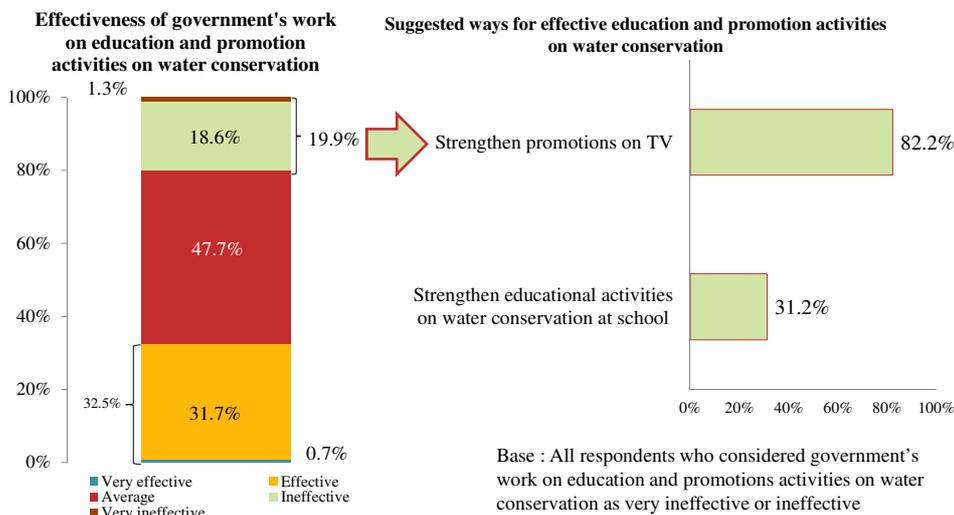
Promotion channels on water conservation that respondents were aware of



- 83.0% of respondents supported the Government in providing citizens with recycled water as a water conservation measure while only a small portion (2.9%) of them did not.

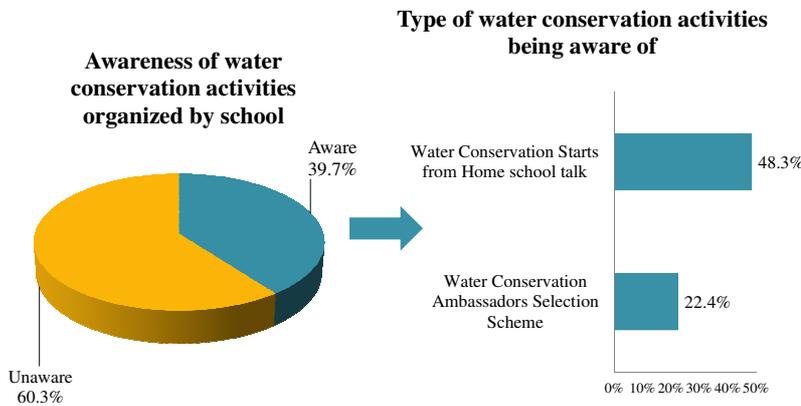


- 32.5% of respondents considered the Government’s work on public education and promotion activities on water conservation were “very effective / effective”. 19.9% of them held an opposite view, and they recommended to “strengthen promotions on TV” (82.2%) and “strengthen educational activities on water conservation at school” (31.2%) to effectively promote and educate about water conservation.



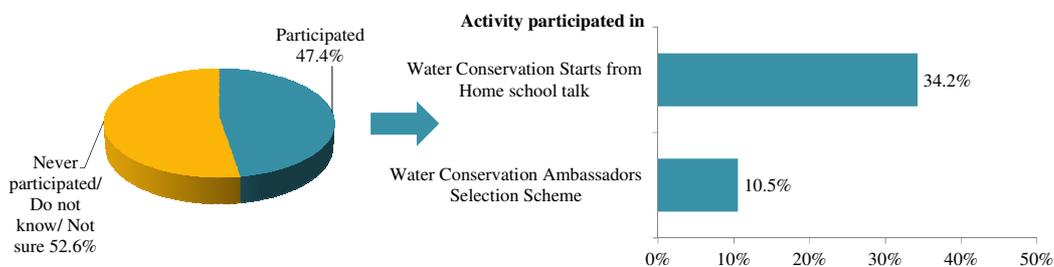
**Part 3 – Primary student’s awareness and opinions towards water conservation education activities**

- 39.7% of primary student members had heard of water conservation activities organized by their schools. Amongst these students, 48.3% of them had heard of “Water Conservation Starts from Home school talk”, followed by “Water Conservation Ambassadors Selection Scheme” (22.4%).



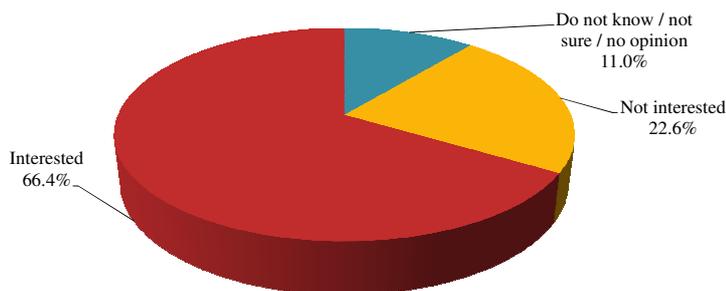
Base : All primary student members who had heard of any water conservation activities organized by their school

- About half of the students who had heard of the water conservation activities had participated in the activities. The most commonly participated activities by these students was “Water Conservation Starts from Home school talk” (34.2%), followed by “Water Conservation Ambassadors Selection Scheme” (10.5%).



Base : All primary student members who had heard of any water conservation activities

- 66.4% of primary student members felt interested in participating in water conservation activities if their school organize these activities in the future while about 22.6% of them did not. 11.0% of primary students members were neutral.



Part 4 – Water-consuming appliances currently used

- 38.7%, 27.1%, 21.5% and 12.7% of the shower heads were with flow rate equivalent to WELS Grade 1, 2, 3 and 4 respectively. The average maximum flow rate for shower heads was 11.1L/min, equivalent to WELS Grade 2.

WELS Grade	Percentage of shower heads with equivalent flow rate
Grade 1 (flow rate ≤ 9.0L/min)	38.7%
Grade 2 (9.0L/min < flow rate ≤ 12.0L/min)	27.1%
Grade 3 (12.0L/min < flow rate ≤ 16.0L/min)	21.5%
Grade 4 (16.0L/min < flow rate)	12.7%

- 11.4%, 14.3%, 22.0% and 52.4% of mixing type water taps were with flow rate equivalent to WELS Grade 1, 2, 3 and 4 respectively. The average maximum flow rate for mixing type water taps was 10.2L/min, equivalent to WELS Grade 4.

WELS Grade	Percentage of mixing type water taps with equivalent flow rate
Grade 1 (flow rate ≤ 5.0 L/min)	11.4%
Grade 2 (5.0 L/min < flow rate ≤ 7.0 L/min)	14.3%
Grade 3 (7.0 L/min < flow rate ≤ 9.0 L/min)	22.0%
Grade 4 (9.0 L/min < flow rate)	52.4%

- 0.5%, 4.5%, 18.2% and 76.8% of non-mixing type water taps were with flow rate equivalent to WELS Grade 1, 2, 3 and 4 respectively. The average maximum flow rate for non-mixing type water taps was 10.2L/min, equivalent to WELS Grade 4.

WELS Grade	Percentage of non-mixing type water taps with equivalent flow rate
Grade 1 (flow rate ≤ 2.0L/min)	0.5%
Grade 2 (2.0L/min < flow rate ≤ 4.0L/min)	4.5%
Grade 3 (4.0L/min < flow rate ≤ 6.0L/min)	18.2%
Grade 4 (6.0L/min < flow rate)	76.8%

- 35.3%, 47.7%, 9.7% and 7.3% of horizontal drum type washing machines were with water consumption equivalent to WELS Grade 1, 2, 3 and 4 respectively. The average water consumption for horizontal drum type washing machines was 9.8L/kg/cycle, equivalent to WELS Grade 2.

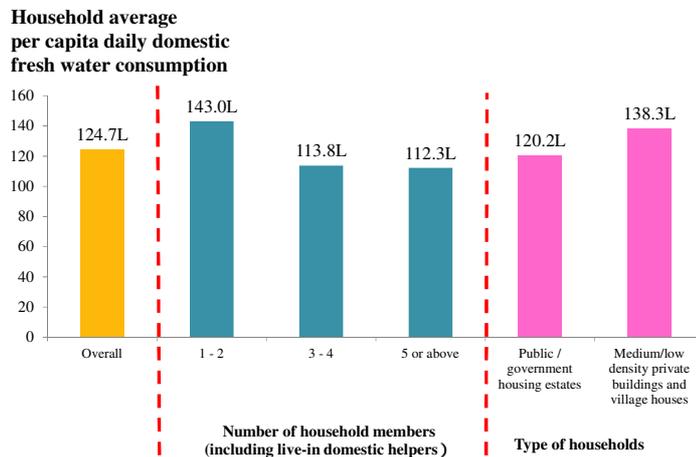
<b>WELS Grade</b>	<b>Percentage of horizontal drum type washing machines with equivalent water consumption</b>
Grade 1 (water consumption $\leq$ 9.0L/kg/cycle)	35.3%
Grade 2 (9.0 L/kg/cycle < water consumption $\leq$ 11.0 L/kg/cycle)	47.7%
Grade 3 (11.0 L/kg/cycle < water consumption $\leq$ 13.0L/kg/cycle)	9.7%
Grade 4 (13.0L/kg/cycle < water consumption)	7.3%

- 42.7%, 19.5%, 7.3% and 30.5% of impeller type/agitator type washing machines were with water consumption equivalent to WELS Grade 1, 2, 3 and 4 respectively. The average water consumption for impeller type/agitator type washing machines was 17.3L/kg/cycle, equivalent to WELS Grade 2.

<b>WELS Grade</b>	<b>Percentage of impeller type/ agitator type washing machines with equivalent water consumption</b>
Grade 1 (water consumption $\leq$ 16.0L/kg/cycle)	42.7%
Grade 2 (16.0 L/kg/cycle < water consumption $\leq$ 19.0 L/kg/cycle)	19.5%
Grade 3 (19.0 L/kg/cycle < water consumption $\leq$ 22.0L/kg/cycle)	7.3%
Grade 4 (22.0L/kg/cycle < water consumption)	30.5%

## Part 5 – Consumption patterns

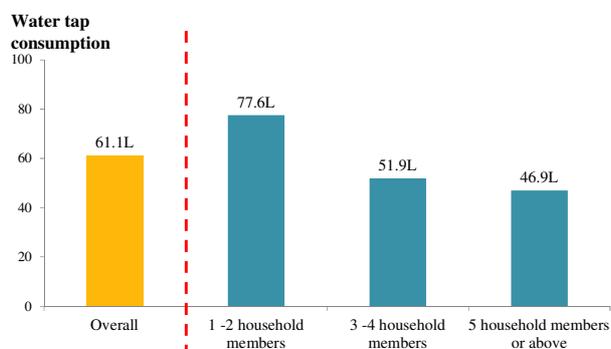
- The household average per capita daily domestic fresh water consumption was 124.7L. The figure was higher for households with 1-2 members (143.0L) than those with 3 or more members (112.3L–113.8L). The figure was also higher for households in low/medium density private housing and village houses (138.3L) than those in public / government housing estates (120.2L).



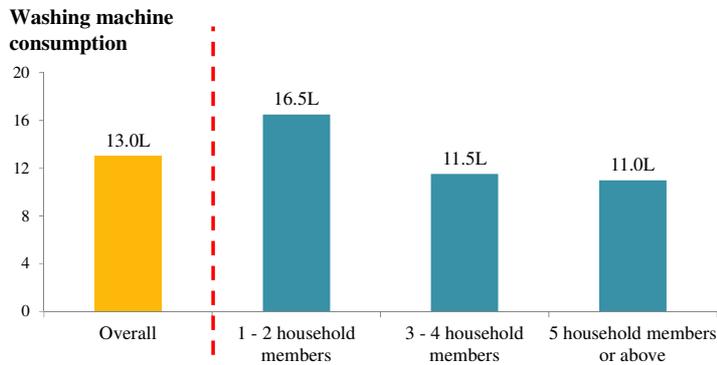
- The household average per capita daily consumption of shower heads for bathing was 55.2L. The household average daily per capita frequency of showering was 1.04 times and the duration per shower was 6.7 minutes in average.

Item	Result
Household average per capita daily consumption of shower heads for bathing	55.2L
Household average daily per capita frequency of showering	1.04 times
Average duration per shower	6.7minutes

- The household average per capita daily consumption of water taps was 61.1L. The figure was higher for households with 1-2 members (77.6L) than those with 3 or more members (46.9L – 51.9 L).



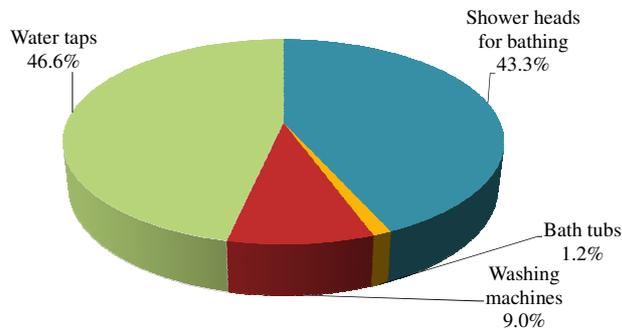
- The household average per capita daily consumption of washing machines was 13.0L. The figure was higher for households with 1-2 members (16.5L) than those with 3 or more members (11.0L – 11.5 L).



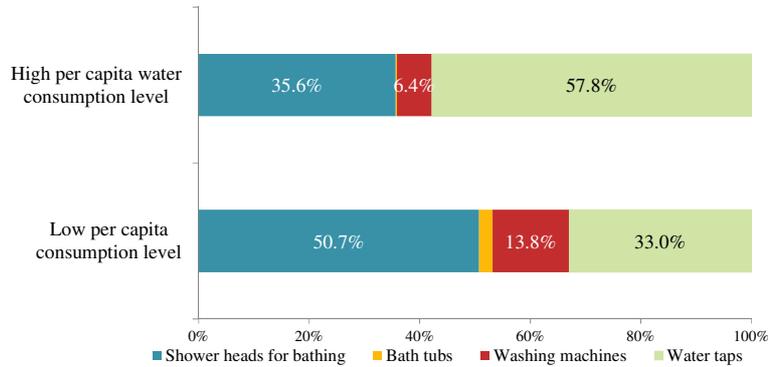
- The average shower durations for respondents aged 14 or below, 15-34, 35-54 and 55 or above were 6.2 minutes, 7.8 minutes, 6.5 minutes and 6.0 minutes respectively. The average shower duration for those aged 15 – 34 was longer.

Age group	Average shower duration
14 or below	6.2 minutes
15-34	7.8 minutes
35-54	6.5 minutes
55 or above	6.0 minutes

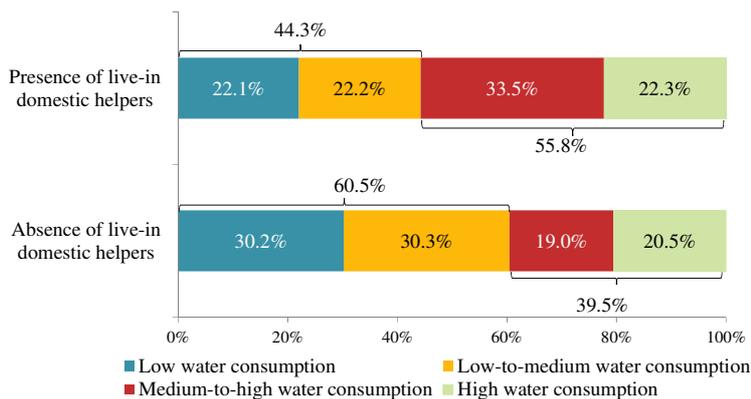
- Domestic fresh water was mainly consumed through water tap (46.6%) and shower (43.3%), followed by washing machine (9.0%) and bath tub (1.2%).



- In households with high per capita consumption level, 57.8% and 35.6% of their water was consumed through water tap and shower respectively. In households with low per capita consumption level, 33.0% and 50.7% of their water was consumed through water tap and shower respectively.



- Households with live-in domestic helpers were found more likely to consume more water per capita than those without. 55.8% of households with live-in domestic helpers were with medium-to-high/high per capita consumption level, while for households without live-in domestic helpers, the percentage was only 39.5%.



- Households aware of the Government's water conservation promotion were more likely to consume less water per capita than those without such awareness. 59.8% of these households were with low/low-to-medium per capita consumption level, while for households being unaware of the Government's water conservation promotion the percentage was only 53.1%.

