**Appendix 1**

This Appendix presents the questions that were included in the survey, taking into account the possible answers available.

|  |  |  |
| --- | --- | --- |
| **Section 1 – General Characterization** | | |
| Select your age group: | | |
|  | 17 – 20  21 – 23  24 – 26  27 – 33  Over 33 | |
| Select your gender: | | |
|  | Female  Male  Other | |
| Select your institution: | | |
|  | Instituto Politécnico de Beja  Instituto Politécnico de Leiria  Instituto Politécnico de Lisboa  Instituto Politécnico de Setúbal  Instituto Politécnico de Tomar  Instituto Politécnico de Viana do Castelo  Universidade de Lisboa  Universidade de Trás-os-Montes e Alto Douro | |
| What is your field of study? | | |
|  | Instituto Politécnico de Beja  Instituto Politécnico de Beja  Instituto Politécnico de Beja  Instituto Politécnico de Beja  Instituto Politécnico de Beja  Instituto Politécnico de Beja  Universidade de Lisboa  Universidade de Trás-os-Montes e Alto Douro | |
| **Section 2 – Importance of water resources** | | |
| 2.1. On a scale of 1 to 5 (where 1—Completely disagree and 5—Strongly agree). How much do you agree or disagree with the following statements? | | |
|  | Water resources are essential for the livelihood and health of the environment.  Fresh water is an important natural resource needed for the survival of all ecosystems.  Water resources are essential for human activities.  The availability of fresh water is low and limited globally.  Today’s society faces problems of water scarcity and pollution.  Drinking water is an inexpensive resource | |
| 2.2. On a scale of 1 to 4 (where 1—Increases, 1 – No change, 3 - Decreases and 4 – No opinion). What changes in water resources could occur in Portugal in the next 50 years? | | |
|  | Precipitation  River flow  Aquifer recharge  Flood frequency.  Drought frequency  Average sea level  Biodiversity | |
| **Section 3 – Water efficiency practices** | | |
| 3.1. On a scale of 1 to 5 (where 1—Very high and 5—Very low). Classify the water consumption in your daily tasks? | | |
|  | Daily bath  Hand washing  Toilet flushing  Food preparation  Use of laundry machine  Use of dishwasher  Garden irrigation | |
| 3.2. On a scale of 1 to 5 (where 1 - More than 100 L, 2 - 51 L – 100 L, 3 - 21 L – 50 L, 4 - 11 L – 20 L and 5 - 0 L – 10 L). Identify your perception of the individual water consumption of each daily activity? | | |
|  | 5-minute shower  Immersion bath  Hand washing  Toilet flushing  Food preparation  Use of laundry machine  Use of dishwasher  Hand laundry  Hand dishwashing  Car Washing | |
| 3.3. What is the average daily water consumption per inhabitant in Portugal? | | |
|  | More than 190 L  From 190 to 150 L  From 150 to 120 L  From 120 to 90 L  Less than 90 L  I Don't know | |
| 3.4. How much does a liter of tap water cost? | | |
|  | Less than 0.5 cents  Between 0.5 and 1 cents  Between 1 and 1.5 cents  Between 1.5 and 5 cents  More than 5 cents  I Don't know | |
| 3.5. What actions do you consider essential to reduce water consumption: (choose the three most important) | | |
|  | Take a shower instead of a bath  Take a quick shower.  In the shower, before the water gets hot, collect for household tasks.  Close the water in the shower when soaping.  Use washing machines only when fully charged.  Close the water while brushing your teeth.  Use flow reducers in taps.  Use the semi-flush button when flushing.  Use vegetable wash water for other purposes, e.g. watering plants, washing floors, toilets.  Store and use rainwater.  Ensure that all taps are tightly closed.  Other | |
| 3.6. On a scale of 1 to 5 (where 1 – 21 L - 50 L,2 – 11 L - 20 L, 3 - 7 L – 10 L, 4 - 3 L – 6 L and 5 – 0.5 L – 2 L). Identify your perception of water consumption? | | |
|  | Leaking tap  Tap opened per minute.  Flushing cistern not sealed properly.  Leaky or badly calibrated flowmeter | |
| 3.7. Efficient water management includes (in order of priority, 1 being the most important and 4 the least important) | | |
|  | Reducing consumption  Reducing leaks and water waste  Reuse and recycle water.  Use alternative sources of water | |
| 3.8. To reduce water consumption in the garden, which actions do you consider essential: (choose the three most relevant) | | |
|  | Using plants adapted to the climate  For irrigation purposes during summer time, watering should be at the beginning or at the end of the day preferably  Watering directly from the plant base  Collect rainwater and use in irrigation  Place a protective cover to keep the soil cooler  Reduce lawn area  Have a watering programmer coupled to a moisture sensor | |
| 3.9. On a scale of 1 to 5 (where 1 – No/never ,2 – Rarely, 3 - Neutral, 4 - Sometimes and 5 -Always). Indicate your attitude to avoid water waste on your HEI campus | | |
|  | Adopt water-saving practices  I advise my colleagues when they waste water.  Turn off the tap whenever I come across running water that is not being used.  I participate in extracurricular activities/hubs/projects related to water/water resources  I am concerned about the conditions of the water supply  I report leaks and pipe problems for immediate action  Other | |
| **Section 4 – Water efficiency measures in Campus** | | |
| 4.1. On a scale of 1 to 3 (where 1 – Yes ,2 – No and 3 -I Don´t Know). Indicate whether the following measures are applied at your campus. | | |
|  | | Use of rainwater  Use of grey water  Dual flush cisterns  Awareness campaigns to reduce water consumption  Dissemination of results of water consumption (reports, information campaigns, etc.), including expenditure related to such consumption.  Choice of plants for green areas best suited to the climate  Water consumption monitoring  Watering lawns during periods of lower heat (beginning and end of day)  Taps with timer or sensor  Other |
| **Section 5 – Learning water efficiency measures** | | |
| 5.1. On a scale of 1 to 7 (where 1 – Subject unit of your course ,2 – Extra-curricular workshop/training, 3 - Awareness-raising activities within the Institution, 4 - Social Communication, 5 - Internet/social media, 6 - Family background and 7 - I am not aware of the topic). How did you obtain knowledge about the following subjects. | | |
|  | | Equipment to reduce consumption  Urban water management measures  Consumption monitoring methodologies  Awareness-raising measures  Water reuse  Economic value of water |
| 5.2. How could you increase your knowledge of water efficiency. (you can choose between 1 and 6 options) | | |
|  | |  | | --- | | Introduction of a curriculum unit in the Syllabus | | Extra-curricular workshop/training | | Awareness-raising activities within the Institution | | Social Communication | | Internet/social media | | Other | | |
| **Section 6 – Water efficiency in future employment** | | |
| 6.1. Assuming that all other factors are equal, would you accept a salary 5% below average? Please indicate how much you agree or disagree with the following situations: | | |
|  | In a position that would allow me to make a positive contribution to water efficiency.  In a company certified with good water efficiency practices | |
| **Section 7 – Water efficiency and the Sustainable Development Goals (SDG)** | | |
| 7.1. Indicate which SDG water efficiency contributes most to. (you can choose between 3 and 10 options)) | | |
|  | | SDG 1 – End poverty in all its forms everywhere  SDG 2- End hunger, achieve food security and improved nutrition and promote sustainable agriculture  SDG 3 – Ensure healthy lives and promote well-being for all at all ages  SDG 4 – Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all  SDG 5 – Achieve gender equality and empower all women and girls  SDG 6 – Ensure availability and sustainable management of water and sanitation for all  SDG 7 – Ensure access to affordable, reliable, sustainable and modern energy for all  SDG 8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all  SDG 9 – Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation  SDG 10 – Reduce inequality within and among countries  SDG11 – Make cities and human settlements inclusive, safe, resilient and sustainable  SDG 12 – Ensure sustainable consumption and production patterns  SDG 13 – Take urgent action to combat climate change and its impacts  SDG 14 – Conserve and sustainably use the oceans, seas and marine resources for sustainable development  SDG 15 – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss  SDG 16 – Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels  SDG 17 – Strengthen the means of implementation and revitalize the global partnership for sustainable development |

**Appendix 2**

*Importance of water resources*

**Importance of water resources related statements**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **K-W test (p-value)** | | | |
| **Question** | **Age** | **Gender** | **Area of knowledge** | **Region** |
| Drinking water is an inexpensive resource | | 0.539 | 0.048 | 0.026 | 0.316 |
| Today's society faces problems of water scarcity and pollution | <0.001 | <0.001 | 0.009 | 0.171 |
| The availability of fresh water is low and limited globally | | | <0.001 | <0.001 | 0.019 | 0.073 |
| Water resources are essential for human activities | | | | 0.022 | 0.058 | 0.811 | 0.192 |
| Fresh water is an important natural resource needed for the survival of all ecosystems | | | | | <0.001 | 0.002 | 0.194 | 0.387 |
| Water resources are essential for livelihood and health of the environmental | <0.001 | 0.001 | 0.384 | 0.183 |

**Changes in water resources that can occur in Portugal in the next 50 years**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **K-W test (p-value)** | | | |
| **Age** | **Gender** | **Area of knowledge** | **Region** |
| Biodiversity | | 0.046 | 0.052 | 0.134 | 0.372 |
| Average sea level | | | 0.318 | 0.021 | 0.403 | 0.141 |
| Drought frequency | | | | <0.001 | 0.243 | 0.858 | 0.247 |
| Flood frequency | | | | | 0.059 | 0.418 | 0.176 | 0.057 |
| Aquifer recharge | | | | | | 0.378 | 0.005 | 0.091 | 0.414 |
| River flow | 0.045 | 0.021 | 0.775 | 0.081 |
| Precipitation | | | | | | | 0.124 | 0.228 | 0.646 | 0.748 |

*Water efficiency practices*

**Water consumption qualification of daily activities**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **K-W test (p-value)** | | | |
| **Age** | **Gender** | **Area of knowledge** | **Region** |
| Garden irrigation | | 0.08 | 0.352 | 0.245 | 0.149 |
| Use of dishwasher | | | 0.003 | 0.315 | 0.439 | 0.005 |
| Use of laundry machine | | | | 0.006 | 0.085 | 0.319 | 0.098 |
| Food preparation | | | | | 0.175 | 0.840 | 0.645 | 0.232 |
| Toilet flushing | | | | | | 0.182 | 0.823 | 0.693 | 0.645 |
| Hand washing | | | | | | | 0.029 | 0.040 | 0.174 | 0.003 |
| Daily bath | | | | | | | | 0.171 | 0.220 | 0.088 | 0.470 |

**Individual water consumption of daily activities**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **K-W test (p-value)** | | | |
| **Age** | **Gender** | **Area of knowledge** | **Region** |
| Car washing | 0.398 | 0.946 | 0.568 | 0.819 |
| Hand dishwashing | 0.462 | 0.001 | 0.747 | 0.270 |
| Hand laundry | 0.135 | 0.008 | 0.765 | 0.575 |
| Machine dishwasher | 0.244 | 0.009 | 0.795 | 0.278 |
| Use of laundry machine | 0.256 | 0.007 | 0.793 | 0.143 |
| Food preparation | 0.197 | 0.105 | 0.669 | 0.124 |
| Toilet flushes | 0.086 | 0.869 | 0.121 | 0.533 |
| Hand washing | 0.758 | 0.340 | 0.154 | 0.322 |
| Immersion bath | 0.112 | 0.414 | 0.320 | 0.125 |
| 5 minute shower | 0.003 | 0.224 | 0.888 | 0.12 |

**Attitude to avoid water waste in campus**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **K-W test (p-value)** | | | |
| **Age** | **Gender** | **Area of knowledge** | **Region** |
| I report leaks and pipe problems for immediate action | | <0.001 | <0.001 | 0.002 | 0.009 |
| I am concerned about the conditions of water supply | | 0.303 | <0.001 | 0.028 | 0.002 |
| I participate in extracurricular activities/hubs/projects related to water/water resources | | 0.029 | 0.012 | 0.014 | 0.077 |
| Turn off the tap whenever I come across running water is not being used | | 0.501 | 0.012 | 0.135 | 0.147 |
| I advise my colleagues when they waste water | | 0.171 | 0.007 | <0.001 | 0.044 |
| Adopt water-saving practices | | <0.001 | <0.001 | 0.101 | 0.620 |

*Water efficiency measures in campus*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **K-W test (p-value)** | | | |
| **Age** | **Gender** | **Area of knowledge** | **Region** |
|  |  |  |  |  |
| Taps with timer or sensor | 0.013 | 0.029 | 0.753 | 0.045 |
| Watering lawns during periods of low heat | 0.275 | 0.499 | 0.042 | 0.028 |
| Water consumption monitoring | 0.850 | 0.159 | 0.083 | 0.135 |
| Choice of plants for green areas best suited to climate | 0.687 | 0.612 | <0.001 | 0.216 |
| Dissemination of results of water consumption | 0.178 | 0.995 | 0.005 | <0.001 |
| Awareness campaigns to reduce water consumption | 0.267 | 0.042 | 0.009 | 0.444 |
| Dual flush cisterns | 0.668 | 0.741 | 0.496 | 0.219 |
| Use of gray water | 0.768 | 0.605 | 0.020 | 0.032 |
| Use of rainwater | 0.288 | 0.989 | <0.001 | <0.001 |

*Water efficiency in future employment*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **K-W test (p-value)** | | | |
| **Age** | **Gender** | **Area of knowledge** | **Region** |
| In a position that would allow me to make a positive contribution to water efficiency? | 0.002 | 0.010 | 0.199 | 0.401 |
| In a company certified with good water efficiency practices? | 0.059 | <0.001 | 0.143 | 0.024 |