

# **A Survey on Use of Plastic versus Biodegradable Bottles for Drinking Water Packaging in the United Arab Emirates**

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**Figure S1:** Questionnaire about use of plastic versus biodegradable bottles for drinking water in the UAE.

## Questionnaire about Use of Plastic versus Biodegradable Bottles for Drinking Water in the UAE

### Your Rights to Know as a Participant

- **Topic:** You have been invited to take part in a study to investigate your views on environmental impacts associated with bottled water (not including refillable water containers) and sustainable alternatives.
- **Researchers:** This study will be conducted by Dr. Ashraf Aly Hassan and Dr. Munjed Maraqa in the Department of Civil & Environmental Engineering at United Arab Emirates University at Al Ain, UAE. For any question, please contact Dr. Hassan via email: [alyhassan@uaeu.ac.ae](mailto:alyhassan@uaeu.ac.ae)
- **Study purpose:** This study is intended for educational and research purposes.
- **Duration:** Participation in this study takes 15 minutes – [5 minutes explanation and 10 minutes for answering the questions].
- **Monetary benefits:** There are **no** monetary benefits associated with this study.
- **Procedure:** The questionnaire is available as a hard copy in Arabic and English. A digital copy will be available on survey monkey
- **Safety:** The questionnaire does not involve any type of risk either physical or psychological.
- **Confidentiality:** The participants' private information will not be revealed. Writing your name on the back side is voluntary.
- **Right to withdraw:** Your participation is voluntary. You can withdraw at any stage in the process.

1.	In which emirate do you live? <input type="checkbox"/> Abu Dhabi <input type="checkbox"/> Dubai <input type="checkbox"/> Sharjah <input type="checkbox"/> Ajman <input type="checkbox"/> Umm Al Quwain <input type="checkbox"/> Fujaira <input type="checkbox"/> Ras Al Khaimah																																										
2.	Which age bracket do you fall under? <input type="checkbox"/> 15-20 <input type="checkbox"/> 21-35 <input type="checkbox"/> 36-45 <input type="checkbox"/> 46-55 <input type="checkbox"/> 56 or older																																										
3.	What is your gender? <input type="checkbox"/> Male <input type="checkbox"/> Female																																										
4.	What is your nationality? <input type="checkbox"/> UAE national <input type="checkbox"/> Expatriate [Please specify] _____																																										
5.	If you are not a national of the UAE, how long have you been living in the country? <input type="checkbox"/> Less than 1 year <input type="checkbox"/> 1-2 years <input type="checkbox"/> 3-4 years <input type="checkbox"/> 5 years or more																																										
6.	Please mark the highest level of education you have received <input type="checkbox"/> No school <input type="checkbox"/> Primary school <input type="checkbox"/> Secondary school <input type="checkbox"/> University degree																																										
7.	What is your monthly income in AED (Please, divide your income by the number of people in your household)? <input type="checkbox"/> I don't have an income <input type="checkbox"/> I prefer not to tell <input type="checkbox"/> Less than 5,000 <input type="checkbox"/> 5,000 – 10,000 <input type="checkbox"/> 10,000 – 35,000 <input type="checkbox"/> 35,000 – 50,000 <input type="checkbox"/> over 50,000																																										
8.	How frequently do you drink tap water? <input type="checkbox"/> Never <input type="checkbox"/> Rarely <input type="checkbox"/> Most of the time <input type="checkbox"/> All the time																																										
9.	Do you use tap water for cooking <input type="checkbox"/> Never <input type="checkbox"/> Rarely <input type="checkbox"/> Most of the time <input type="checkbox"/> All the time																																										
10.	When do you drink tap water? <b>(Select all that apply)</b> <input type="checkbox"/> At home <input type="checkbox"/> At work <input type="checkbox"/> At restaurants <input type="checkbox"/> While travelling <input type="checkbox"/> I don't drink tap water at all																																										
11.	What are the reasons why you usually drink bottled water over tap water most often? <b>(Select all that apply)</b> <input type="checkbox"/> Taste <input type="checkbox"/> Color <input type="checkbox"/> Chlorine smell <input type="checkbox"/> Like to have cold water <input type="checkbox"/> Turbidity <input type="checkbox"/> Not applicable <input type="checkbox"/> Convenience/portability <input type="checkbox"/> Does not have a proper blend of minerals <input type="checkbox"/> Social habit <input type="checkbox"/> Concerns about microbial contamination <input type="checkbox"/> Concerns about chemical pollution <input type="checkbox"/> Never tasted tap water <input type="checkbox"/> Other [Specify] _____																																										
12.	On average, how much do you spend on single-use plastic bottled water per week (Please, state the amount either for yourself or per person in your household)? [amount is in AED] <input type="checkbox"/> Less than 10 <input type="checkbox"/> 10 - 30 <input type="checkbox"/> 30 - 100 <input type="checkbox"/> More than 100 <input type="checkbox"/> I am not sure <input type="checkbox"/> I don't buy bottled water																																										
13.	Do you consider the cost of bottled water to be? <input type="checkbox"/> Cheap <input type="checkbox"/> Reasonable <input type="checkbox"/> Expensive																																										
14.	Regarding bottled water, do you prefer to drink: <input type="checkbox"/> Locally manufactured brands <input type="checkbox"/> Imported brands <input type="checkbox"/> No preference when choosing between locally and imported brands <input type="checkbox"/> I don't drink bottled water																																										
15.	Please rate the criteria you use to purchase a bottled water: <table style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 10%;">Strongly disagree</th> <th style="width: 10%;">Disagree</th> <th style="width: 10%;">Neutral</th> <th style="width: 10%;">Agree</th> <th style="width: 10%;">Strongly agree</th> </tr> </thead> <tbody> <tr> <td>Cost</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Brand</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Quality</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Availability</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Personal preferences (taste, low sodium, pH level, etc)</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Packaging (specify) _____</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Brand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Availability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Personal preferences (taste, low sodium, pH level, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Packaging (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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16.	Do you care about plastic pollution especially single-use plastic bottles? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> I don't know enough about the topic																																										

17.	Rate how important it is for you to purchase a product that has minimal or no harm on the environment.  <div style="text-align: center;"> <input type="checkbox"/> 0   <input type="checkbox"/> 1   <input type="checkbox"/> 2   <input type="checkbox"/> 3   <input type="checkbox"/> 4   <input type="checkbox"/> 5   <input type="checkbox"/> 6   <input type="checkbox"/> 7   <input type="checkbox"/> 8   <input type="checkbox"/> 9   <input type="checkbox"/> 10  <b>Not Important</b> <span style="float: right;"><b>Very Important</b></span> </div>
18.	Do you recycle your single-use plastic water bottles or other plastic products? <input type="checkbox"/> Always <input type="checkbox"/> Occasionally (more than 50% of the time) <input type="checkbox"/> Rarely (less than 50% of the time) <input type="checkbox"/> Never (please explain why) _____
19.	Do you know the difference between 100% biodegradable versus recyclable plastic? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> I'm not interested to know (please explain)
20.	How likely are you willing to purchase water that is packaged in a 100% biodegradable bottle that decomposes in 90 days and creates zero waste, is carbon neutral and contains no harmful chemicals?  <div style="text-align: center;"> <input type="checkbox"/> 0   <input type="checkbox"/> 1   <input type="checkbox"/> 2   <input type="checkbox"/> 3   <input type="checkbox"/> 4   <input type="checkbox"/> 5   <input type="checkbox"/> 6   <input type="checkbox"/> 7   <input type="checkbox"/> 8   <input type="checkbox"/> 9   <input type="checkbox"/> 10  <b>Never</b> <span style="float: right;"><b>Very Likely</b></span> </div>
21.	How much more are you willing to pay per bottle to switch from single-use plastic bottled water to water packaged in 100% biodegradable material?  <div style="text-align: center;"> None   <input type="checkbox"/>   AED 0.25   <input type="checkbox"/>   AED 0.5   <input type="checkbox"/>   AED 0.75   <input type="checkbox"/>   AED 1   <input type="checkbox"/>   AED 1.5   <input type="checkbox"/>  AED 2   <input type="checkbox"/>   AED 2.5   <input type="checkbox"/>   AED 3   <input type="checkbox"/>   AED 3.5   <input type="checkbox"/>   AED 4   <input type="checkbox"/> </div>
22.	In your opinion, what can be done to encourage consumers to buy water in biodegradable bottles? <b>(Select all that apply)</b>  <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Provide more information about the positive impact of biodegradable bottles on the environment  <input type="checkbox"/> Provide incentives to switch to biodegradable plastic  <input type="checkbox"/> Provide bins in convenient locations to dispose of biodegradable bottles  <input type="checkbox"/> Introduce legislation to phase out or ban single use plastic </div> <div style="width: 48%;"> <input type="checkbox"/> Price it the same as plastic bottles  <input type="checkbox"/> Make biodegradable bottles more accessible and available  <input type="checkbox"/> Improve awareness on plastic pollution through social campaigns  <input type="checkbox"/> Other [specify] _____ </div> </div>
23.	From where do you usually obtain information about recycling initiatives in the UAE? <input type="checkbox"/> TV <input type="checkbox"/> Newspaper <input type="checkbox"/> Internet <input type="checkbox"/> Friends/relatives <input type="checkbox"/> Books/Journals <input type="checkbox"/> None <input type="checkbox"/> Other [Specify] _____
24.	From where do you usually obtain information about bottled water quality? <input type="checkbox"/> TV <input type="checkbox"/> Newspaper <input type="checkbox"/> Internet <input type="checkbox"/> Friends/relatives <input type="checkbox"/> Bottle label <input type="checkbox"/> Books/Journals <input type="checkbox"/> None <input type="checkbox"/> Other [Specify] _____
25.	What is your occupation? <input type="checkbox"/> Hospitality <input type="checkbox"/> Agriculture <input type="checkbox"/> Medical professions <input type="checkbox"/> Education & Academia <input type="checkbox"/> Retail <input type="checkbox"/> Banking <input type="checkbox"/> Engineering <input type="checkbox"/> Business <input type="checkbox"/> Other [Specify] _____
26.	Which one describes your job better? <input type="checkbox"/> Private sector <input type="checkbox"/> Public sector

**Optional Consent Form**

1. I confirm that I have read and understood the above information sheet and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw.
3. I understand that my data will be kept confidential and if published, the data will not be identifiable as mine.

I agree to take part in this study:

\_\_\_\_\_  
(Name and signature of participant) \_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Name and signature of witness (if participant unable to read/write) \_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Name and signature of parent/guardian/next of kin (when participant unable to give consent due to age or incapacity) \_\_\_\_\_  
(Date)

**Thank you very much for your time and opinions**

Collected by: _____ ID no.: _____ Date: _____
Serial number: _____