





Biodegradable plastic bottled water

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Background:

- There are 'no' scientifically proven health benefits associated with drinking from plastic bottled water.
- Plastic has negative impacts on the environment and is potentially harmful for human health.
- Avoiding plastic bottled water is always environmentally encouraged.
- Out of 6,300 million metric ton of plastic waste generated worldwide only 9% has been recycled.
- Quality of tap water in the UAE has always been a point of debate.
- The UAE ranks as one of the highest rate in bottled water consumption worldwide and one of the largest per capita waste generators.

Biodegradable plastic

Bioplastic is fully biodegradable and offers an alternative option to petroleum-based plastic.

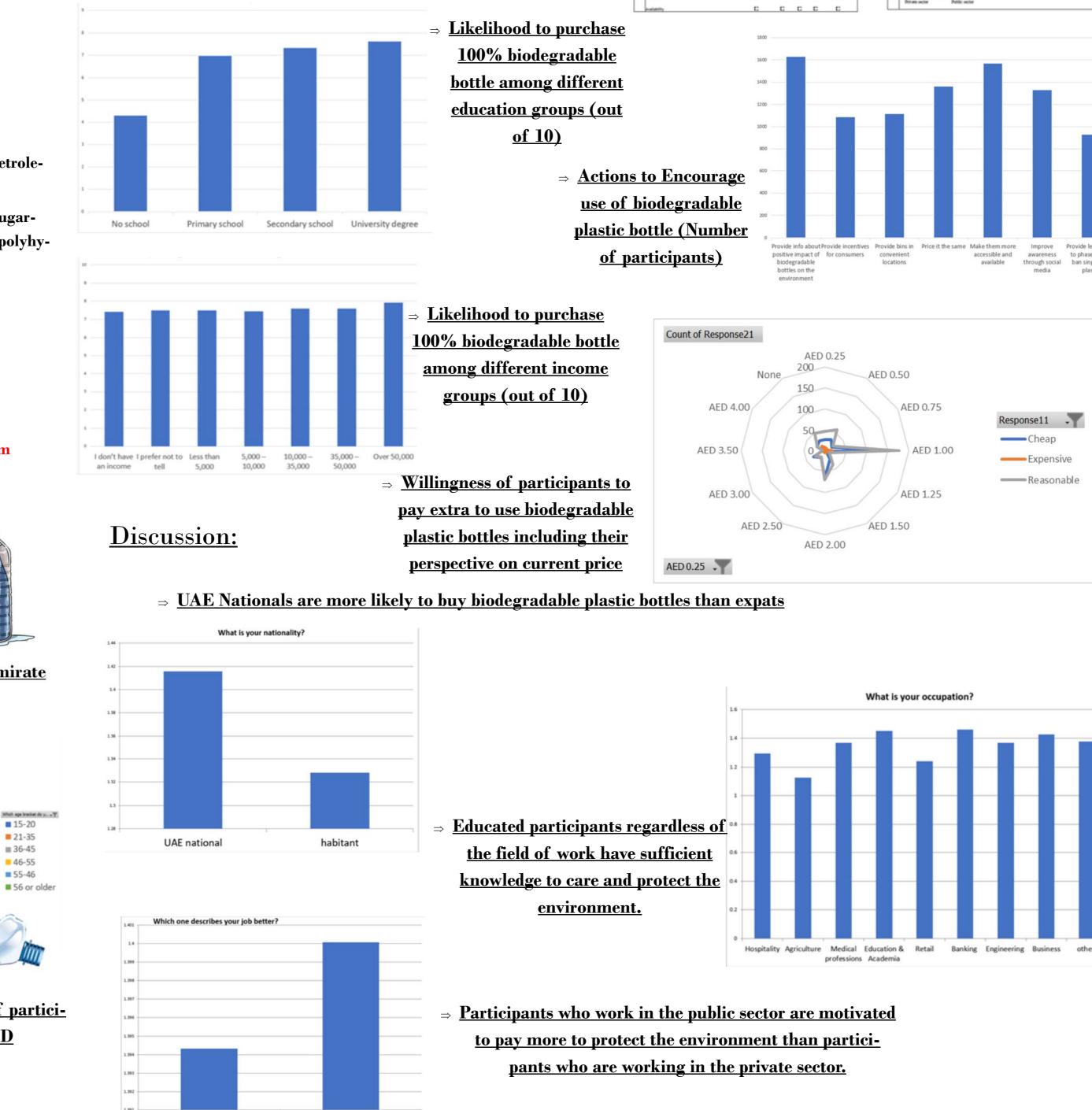
Study Methodology

The public preference between drinking from tap water and bottle water was assessed in a sample of 2,500 inhabitants. Public opinions of tap water's safety varied greatly between partic

pants.

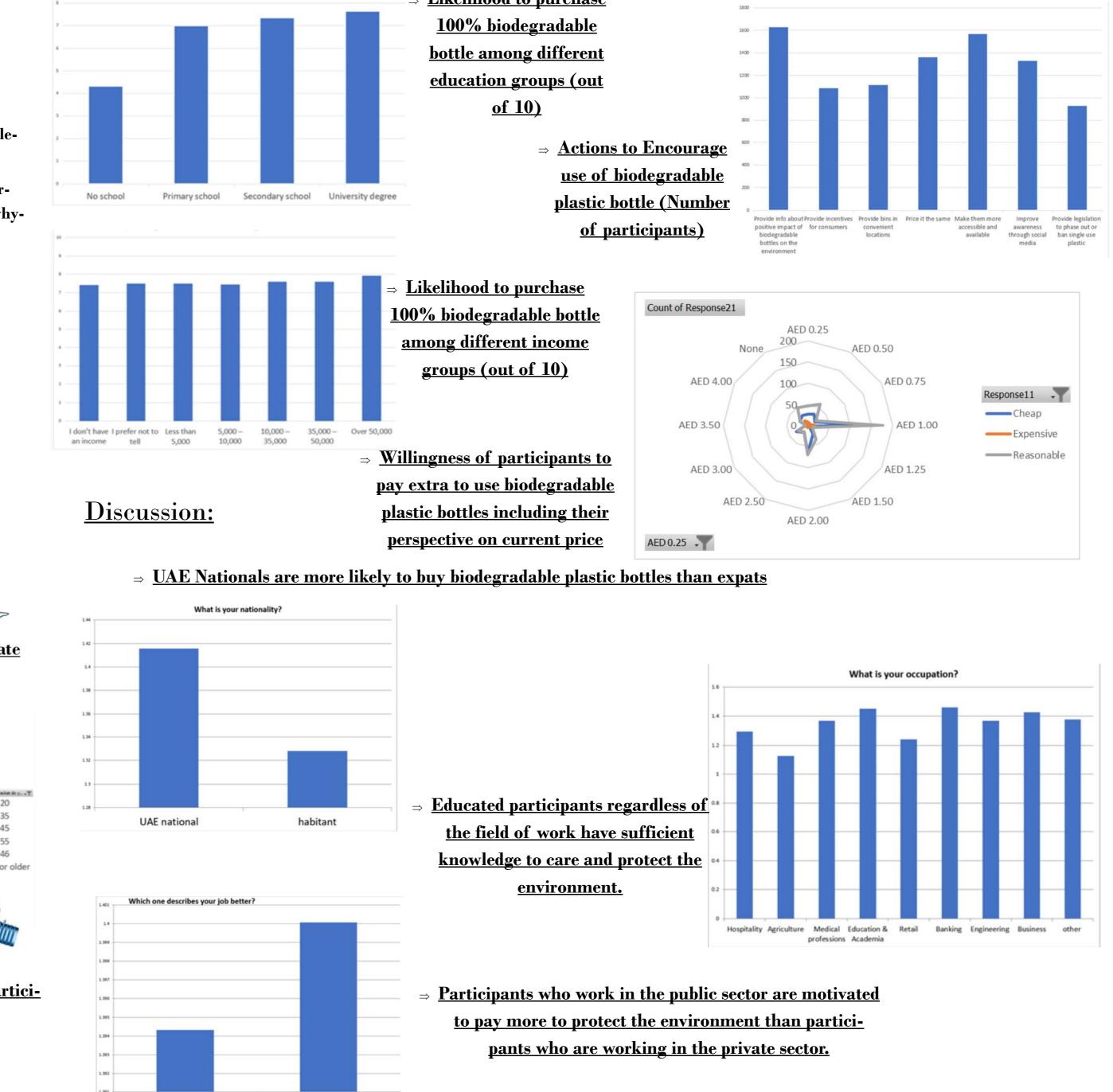
Although authorities have continuously reaffirmed the superior quality of tap water in the UAE, the survey results showed overwhelming dependence on bottled water for drinking.

Results:



	Plastic versus Biodegradable Bottles for Drinking Water						
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1.	in shich eminine da you liw? Abu Chahii Dubai Sharjah Ajman Umm Al Quxain <u>Quaka</u> , Ras al khaimah						
2.	Which age bracket do you fail under? 15-30 23-65 36-45 46-15 56 or older						
5.	What is your gender? Male Female						
4.	what is your nationality? Last national Expectate (Heave specify)						
8.	If you are not a rational of the LLLP, how long have you been living in the country? Less than 2 year 1-2 years 3-4 years 5 years or more						
8.	Please mark the highest level of education you have received no school mimary school secondary school university degree						
9.	What is your monthly income in AED (Rease, divide your income by the number of people in your household)? I don't have an income : prefer not to tell (east their 1000 5.500 - 10.500 - 15.000 - 15.000 - 55.000 over 50.000						
8.	how frequently do you drink tep water? Never Randy Most of the time All the time						
8.	Do you use tap water for cooking haven family Most of the time All the time						
10.	When do you drink tap water? [Select all that apply] At home At work. At natiourants While travelling I don't drink tap water at all						
34.	What are the nasions why you usually drink bothed water over tap water most often? [Select all that apply] Task Cease						
12.	On average, how much do you pend on single-use pitetic bottled water per week (Piezze, state the amount either for sourcef or per pench in your household) (pamount is in AED) (sear than 10 10 - 30 - 30 - 300 - More than 120 sen not sure don't bus bottled water						
13.	Do you consider the cost of bottled water to be? Cheap Reaconable Expensive						
54.	Regerding bottlied water, do you prefer to drink: Locally manufactured brands You preference when choicing between locally and imported brands i don't drink bottlied water						
15.	Please rate the criteria you use to purchase a bottled water:						
	Stringly diagree Disagree Heutral Agree Strongly Agree						
	см СССС ⁴⁹⁰ С						
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	Personal preferences (basis, low sodium, prilevel, egg)	C	С	С	C	C		
	Pachaging (percP)/	C	С	C	С	E		
38.	Dr you care allout plattic pollution especially single-use pl Tea No I dan't know enca		Ŕ					
17.	Rate how important it is for you'to purchase a product the dC = 1C = 1C = 1C = 1C = 10 Not important			×C	rynnert.			
18.	De you negrals our single our plants when hottes or other plants products? Always Nearly (Instant and Instant SN of the <u>Energy</u> Narely (Inst than SN's of the time)							
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28	How Tarks are proved ing to purchase water that is perchaped in a 132% biodegradedie tentie that decomposes in RC days and creates and water, is option results' and contains no terminal deamonal? In Contains that and contains no terminal deamonal? In Contains that are the Contains on terminal deamonal? New York Contains that are the Contains on terminal deamonal?							
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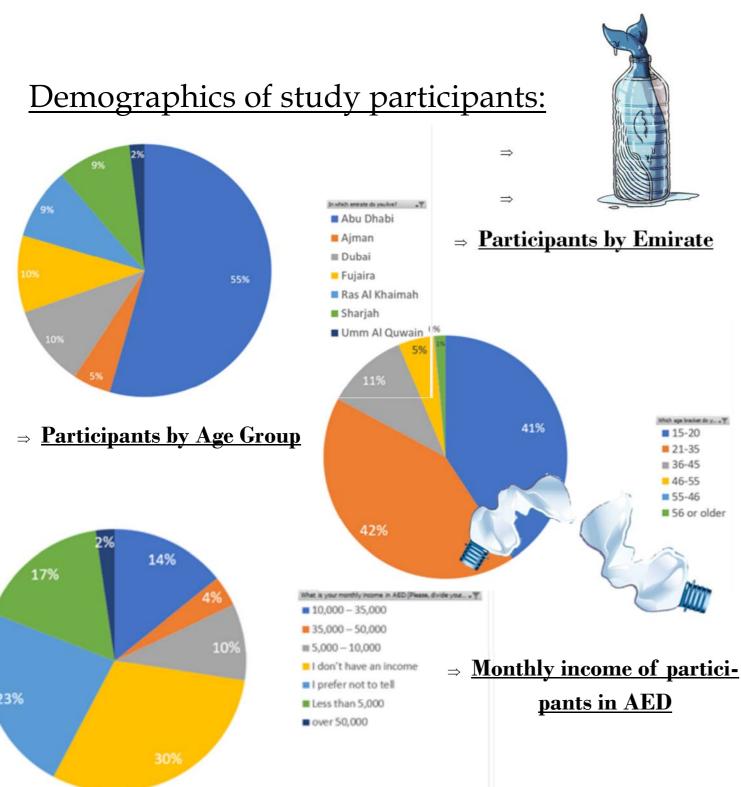


- ♦ It can either be made by extracting sugar from plants like corn and sugarcane to convert into polylactic acids (PLAs), or it can be made from polyhydroxyalkanoates (PHAs) engineered from microorganisms.
- ◊ Biodegradable is MORE expensive than plastics

Project Goal



The main goal of this project is to evaluate the use of bioplastics as a practical alternative to petroleum-based plastic in water packaging from consumers' perspectives in the UAE.





- ◊ There is a high chance for UAE residents to buy biodegradable plastic bottles.
- Participants who have higher education levels are more likely to buy biodegradable plastic bottles.
- Based on our statistical analysis, income does not affect the willingness of people to purchase biodegradable water bottles.
- 65% of participants have never drank tap water, 24% rarely drink it, 7% drink it most of the time, and 4% drink it all of the time. While some residents do not drink tap water at all (54%), some of them drink tap water at home (22%), work (4%), restaurants (3%), or while traveling (7%).
- Results have shown no significant difference between expatriates and nationals and between males and females with a p-value equals to 0.0007 and 0.04 respectively.
- Education level didn't show any statistical significance for preference from drinking bottled water vs tap water.
- The university educated responses were averaged between 'Never' and 'Rarely', while participants with primary education and less showed an average between 'Rarely' and 'Most of the time'.



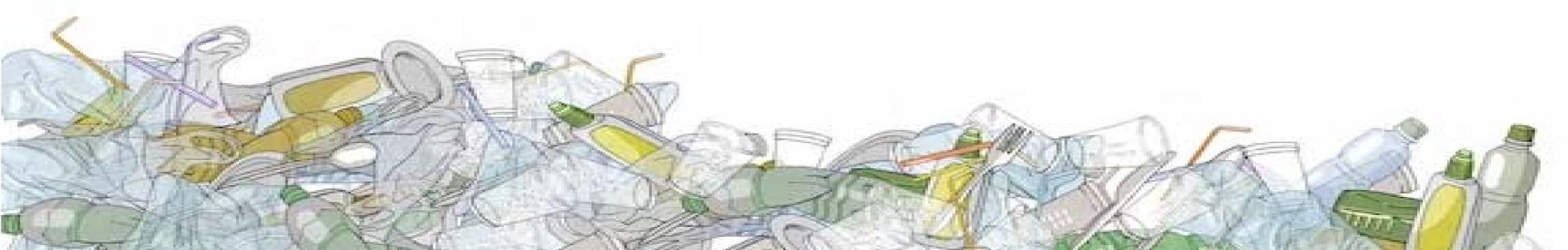
Public sector

- Spread out more Awareness about biodegradable plastic by doing workshops via social media.
- Start producing biodegradable plastic bottles using local materials available in the UAE and surrounding areas
- Communicate with the international and local manufacturers to explore viability of industrial scale production

<u>Acknowledgements:</u>

We thank God Almighty for giving us the strength, knowledge, ability and opportunity to undertake this research study and to persevere the progression successfully. This research work was financially supported by the Summer Undergraduate Research Experience (SURE). Funding for this project make such research possible.

Drs. Ashraf and Munjed have been there providing their heartfelt support and guidance continuously and have given us invaluable guidance and inspiration.



Private sector