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Evaluating the UAE Nation's Awareness Regarding Domestic Waste Management

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ABSTRACT:

This research highlights the awareness of UAE citizens regarding domestic waste management practices, including waste segregation, recycling, reducing, and reusing within households. The study explores how demographic factors such as age, education, and gender influence community members to implement and commit to effective waste management practices at home. The study aims to identify the gaps in awareness and provide recommendations to improve public engagement. The methodology focuses on the quantitative approach. The data was collected through a Google survey form representing UAE citizens aged 18 years old up to more than 45 years old. The data was collected from 85 Emirati participants. The data analyzed the behaviors, attitudes, and barriers individuals face in adopting effective waste management practices. Moreover, the research evaluated public awareness about the governmental initiatives that work to encourage sustainable household waste management. The results show that UAE citizens are familiar with waste management practices and recognize their importance in reducing environmental pollution. However, their behavior in segregation, reducing, reusing, and recycling is inconsistent. The study defined the barriers affecting UAE citizens to manage their domestic waste. This includes limited guidance on waste management, lacking convenient facilities, and the need for great effort and time to handle it. The demographic analysis shows that younger participants, especially women, demonstrate a higher level of awareness and willingness to adopt sustainable practices. Participants also have a level of awareness regarding UAE governmental and private sector initiatives, and most of the participants agreed on promoting more initiatives to better address household waste. Believing that social media campaigns and stricter regulations are the most effective ways to increase awareness about domestic waste management. The finding asked for a multicentric approach that involves enhancing infrastructure, raising educational programs,

and providing financial incentives to improve waste management. The study concludes that while there is a growing awareness and commitment to sustainability, the UAE needs more effort to encourage citizens to adopt waste management practices.

Keywords: Domestic waste management; Municipal waste; UAE citizens; Waste segregation; Recycling; Reusing; Public awareness; Environmental behavior.

1. INTRODUCTION

Domestic waste management is the process of handling, reducing, disposing, reusing, and recycling waste generated in households. It is very essential to manage household waste properly to ensure a clean and safe environment. Weak domestic waste management can lead to severe problems, including the spread of diseases, air and water pollution, and environmental degradation. This research will study the level of awareness of UAE citizens regarding domestic waste management to evaluate their behaviors, attitudes, and limitations toward addressing one of the biggest challenges that face the world.

Global perspective:

Municipal solid waste generation is considered one of the most critical global challenges that affect water, land, and air quality. Increasing domestic waste contributes to environmental pollution, resource depletion, and public health risks (Gardner, 2013). The study indicates that the growing waste raises greenhouse gas emissions, ocean plastic pollution, and nitrogen pollution (Chen et al., 2020). The globally generated municipal solid waste each year is around 1.3 billion tons (Gardner, 2013). The study indicates that in 2025, this volume is assumed to grow to 2.2 billion (Gardner, 2013). This rapid accumulation of global municipal solid waste is due to urbanization, population growth, and economic development (Gardner, 2013). Although the waste sustainable treatment practice has increased, the environmental impacts are still rising (Chen et al., 2020). So, it is important to improve waste management practices and recycling by reducing waste production and implementing a successful circular economy (Chen et al., 2020). This is because the current state of waste management is not enough to decrease the pressure on the natural system (Chen et al., 2020). Most countries are working to improve their waste management systems to minimize its impact on climate change and reduce pollution on Earth. Effective solid waste management involves reduction, recycling, and composting to maintain the sustainability of natural resources, decrease the load on mother nature, protect the

environment, and reduce pollution (Rao et al., 2024). So, people need to adopt waste management strategies that include waste segregation, recycling, and composting in their households to achieve sustainable development. Public awareness is the key element to promote domestic waste management and have cleaner and healthier communities (Rao et al., 2024).

In the last few years, the UAE has spent a lot of effort to control waste production. This is because the UAE government recognized the importance of waste management, especially since the population is growing rapidly. According to the study, population growth, urbanization development, and high incomes led to an increase in consumption and a significant rise in domestic waste (Bishnoi et al., 2022). The UAE is one of the fastest countries in development, with a growing population reaching over 10 million in 2024 (countrymeters.info, 2019). According to studies, the high living quality and incomes led to expand the waste production (Bishnoi et al., 2022). The waste production per capita in UAE is around 2.5 kg per day, which is considered one of the highest in the world (UAE Ministry of Climate Change and Environment, 2017). The UAE ranks as one of the top five countries in municipal waste production globally (Paleologos et al., 2015). The UAE government implemented several initiatives to address over-waste production. For instance, the National Waste Management Strategy which aims to reduce waste production and promote recycling (Acharya, 2012). Although these efforts are great, the gap is still there. Many people lack the knowledge of waste management practices and motivation to implement segregation, recycling, and reusing. So, evaluating public awareness is critical to identifying these gaps and improving the implementation of waste management strategies.

This study aims to examine the awareness levels of domestic waste management practices among UAE citizens aged between 20 years old and up to more than 45 years old to understand their role in accomplishing waste management goals. This is through analyzing the attitudes, behaviors, abilities, and shortages in implementing waste management in households in the UAE. Studying the population's knowledge about waste segregation, recycling, reusing, reducing, and the availability of governmental initiatives. Highlighting the gaps in awareness and suggest some solutions. Exploring the factors that influence society's behavior in managing municipal solid waste and assessing the effectiveness of the current domestic waste management. In order to overcome climate change and environmental challenges, conserve resources, make effective use of energy, cost saving, avoid severe consequences of waste overproduction issues and pollution, disease spreading, protect human health and well-being, etc. As a part of the UAE society commitment toward creating a better, sustainable future. The

outcomes of the study would help the government and stakeholders improve educational programs and implement policies that would enhance waste management in the household.

Objectives:

1. To assess the level of awareness among UAE nations aged 20-45 regarding domestic waste management practices.
2. To evaluate the attitudes and behaviors of UAE households about waste segregation, recycling, reducing, and reusing.
3. To measure the abilities and barriers that affect UAE nations to implement waste management practices in their households.
4. To analyze the population's knowledge about the current government initiatives and programs related to domestic waste management and evaluate their effectiveness.
5. To identify gaps in awareness and participation among UAE nations in adopting sustainable waste management practices.
6. To provide recommendations and solutions for improving public awareness and enhancing participation in domestic waste management practices.

Literature Review

1. Global public awareness in domestic waste management:

The developed countries implement domestic waste management more than the developing countries. This is because of many factors, including economic, technological, and societal awareness, that play an essential role in the effectiveness of domestic waste management worldwide (Nwachukwu et al., 2017). The study indicates the countries that focused on raising public awareness succeeded in managing and reducing their waste production (Hasan, 2004). Sweden has established itself as one of the leading countries in implementing waste management systems (Wheeler, 2013). In Sweden, people used to segregate their waste and recycle. According to the study, 99% of Swede waste is recycled, including incineration with energy recovery (Wheeler, 2013). This results from waste-to-energy programs and the government's investments in raising public awareness about the benefits of recycling and reducing waste (Hasan, 2004). In contrast, many developing countries face huge challenges in domestic waste management because of limited government support, low levels of awareness, and lack of infrastructure (Zohoori & Ghani, 2017). For example, Ethiopia faced municipal solid waste management challenges, especially in urban areas, due to Insufficient capability,

weak enforcement of policies, poor public awareness, and limited stakeholder engagement (Hirpe & Yeom, 2021).

2. UAE Initiatives motivates domestic waste management:

There are many initiatives implemented in the UAE to motivate citizens to manage their domestic waste. These initiatives are formed by governmental bodies as well as private companies. In the UAE, both the government and private sector collaborate to accomplish sustainability. For example, ADNOC is offering (RVMs) Reverse Vending Machines to support plastic bottle recycling and cans. To encourage citizens to recycle, ADNOC provides them points when they recycle, and with these points, they can get some items from ADNOC stations for free (EAD Collaborates with ADNOC, 2023). Their aims align with the environmental agency of Abudabi to achieve zero waste. The Abu Dhabi Environment Agency launched the "Mission to Zero" campaign to encourage recycling and raise community awareness of the dangers of single-use plastic (Mission to Zero, 2021). Some companies convert recycled plastic to clothes, like DGRAD company, which designs business uniforms for companies (DGrade Sustainable Clothing for Business, n.d.). Moreover, Dubai Municipality provides several stations for recycling various items, including electronics, metals, plastic, colored glass, uncolored glass, phones, lights, batteries, wood, fabric, etc. (Dubai Municipality Designs Recyclable Materials Collection Center Using Cargo Shipping Containers, 2023). These stations help people to segregate their waste and are located near residential neighborhoods. Additionally, there are many applications that help individuals to recycle, such as KISWA, Malabsi, RECAPP, Renie, Cycled, and Sparklo. Moreover, many charity organizations in the UAE, such as Beitalkhair APP which, offer a service to come and pick up your unneeded things like books, dresses, toys, furniture, etc., to send them to people who need these items (Beit al Khair Society, n.d.). This is considered as reusing. In Sharjah, Beeha is handling waste management in the city, and they have a great program that collaborated with Masdar to convert waste to energy (Bee'ah Group, 2021). Beeha can process 300,000 tons of waste every year from being in landfills by converting it to 30 MW of clean energy that can power 28,000 homes (Bee'ah Group, 2021). In addition to that, Bee'ah has concentrated on public education, utilizing media campaigns, community workshops, and schools to inculcate waste management principles in individuals at an early age. Emirates Airlines signed an agreement with Shell Company to provide them with sustainable oil that mainly consists of cooking oil and organic materials, so this will involve society being a part

of reducing carbon emissions, waste production, maintaining air quality, and protecting our resources and our nature. Emirates Environmental Group, WWF, and environmental agencies offered educational programs to increase the awareness of the society to protect our planet. However, more public involvement in this initiative is needed. The current programs frequently concern public engagement and understanding. The effectiveness of these initiatives could be enhanced by more intensive public education and convenient waste management at the household level.

3. Literature Gaps:

Although there are several initiatives in the UAE to raise the adoption of sustainable practices and implementation of domestic waste management, there is a shortage of evaluating its effectiveness to public awareness and behavior toward these initiatives. The studies did not provide a detailed exploration of the behavioral aspects of waste management and how attitudes, habits, and cultural norms influence recycling and waste segregation practices. The studies about the connection between demographic factors and domestic waste management are limited. For example, how factors such as age, education, nationality, and income levels could affect public awareness? The studies also lack tracking of the changes in public awareness and behavior over time regarding waste management initiatives and their effectiveness. That's why this research will work to fill the gaps through comprehensive research that would help policymakers create more effective strategies to increase public participation in domestic waste management.

2. METHODOLOGY

The research aims to evaluate the level of awareness among UAE citizens regarding domestic waste management. The research methodology adopted the quantitative research approach. The study was conducted through a Google Forms survey and consisted of 26 questions that took 5 minutes to complete (Appendix (A)-survey questions). The survey title “Domestic Waste Management” consisted of 5 parts (Appendix (A)-survey questions). The first part included questions about the demographic variables of UAE citizens, such as emirates, age, gender, level of education, and family size (Appendices (1)-survey questions). The second part measured the awareness of UAE citizens about waste management practices and their importance (Appendix (A)-survey questions). The third part studied the UAE's behavior and attitudes toward waste management (Appendix (A)-survey questions). The fourth part

examined the barriers limiting the UAE nation from implementing waste management (Appendix (A)-survey questions). The fifth part assesses citizens' awareness of UAE initiatives toward domestic waste management (Appendix (A)-survey questions). The survey was established in both Arabic and English language to make it easy for citizens to read it and do it. The survey questions were designed as multiple-choice and selected more than one applied option to ensure quantitative analysis while allowing limited qualitative insights.

According to the World Population Review (2024), the UAE population is around 11,136,218 million. The UAE nationals cover only 10% of the total population (World Population Review, 2024). Referring to this data, we calculated the population of UAE citizens, which is nearly 1,113,621 million. To estimate the study population, we subtract the number of children and teenagers from the total UAE nation. We estimated the number of Emirati children and teenagers to be around 206,200 thousand. The population of UAE citizens aged 18 years old and above equals around 907 421. The calculated minimum sample size with a confidence level of 90% and a confidence interval of 10% was around 68 responses. The survey focused on UAE citizens (men and women) from the seven emirates (Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al Quwain, Fujairah, Ras Al Khaimah) aged 18 years old and older. The study dis-includes children from 1 to 17 years old because they are following their parent's morals and decisions, and their awareness is developing at this age. The sample of the study was selected randomly, and surveys were spread in-personal through Emails, WhatsApp, Snap, Telegram, etc. The survey was administered online using Google Forms from 16 Oct 2024 to 25 Oct 2024. The total responses were 85 UAE citizens who responded to the survey, which was distributed online using Google Forms. All responses were voluntary, confidential, and secured. The study ensures ethical considerations by informing all participants about the purpose of the study and getting their agreement to participate. All responses were anonymized to ensure confidentiality.

3. RESULTS & DISCUSSION

The survey questions aimed to evaluate the awareness of 85 Emiratis about domestic waste management and its importance. The questions helped us to highlight the attitudes, behaviors, abilities, and shortages in implementing waste management in households in the UAE and

understand how UAE citizens are willing to implement sustainability. The survey involved 26 questions. The first 6 questions collected demographic information like emirates, age, gender, level of education, and family size. 100% of our responds were from UAE citizens. The results showed that 50.6% of our response was from Sharjah, 18.8% was from Abu Dhabi, and 12.9% was from Ajman, while 7.1% was from Dubai, 5.9% was from Ras Al Khaimah, 3.5% was from Fujairah, and only 1.2% was from Umm Al Quwain. The responses received from the 18 to 24 years age group covered the most responses with around 83.5%, whereas 8.2% were the responses aged 26 to 34 years old and 5.9% for the age between 35 and 45 years old, while only 2.4% aged above 45. Around 77.6% of our responses were female and 22.4% were male. In terms of their level of education, around 54.1% of the participants had bachelor's degrees, 36.5% had a high school degree, 5.9% had a master's or higher degree, and only 3.5% of the participants had a diploma degree. In terms of their family size, 45.9% of our responses had between 6 and 7 members in their family, 38.8% had more than 7 persons in their families, 10.6% of participants had from 4 to 5 persons in their families, while 4.7% had only 1 to 3 members in their family (Figure 1).

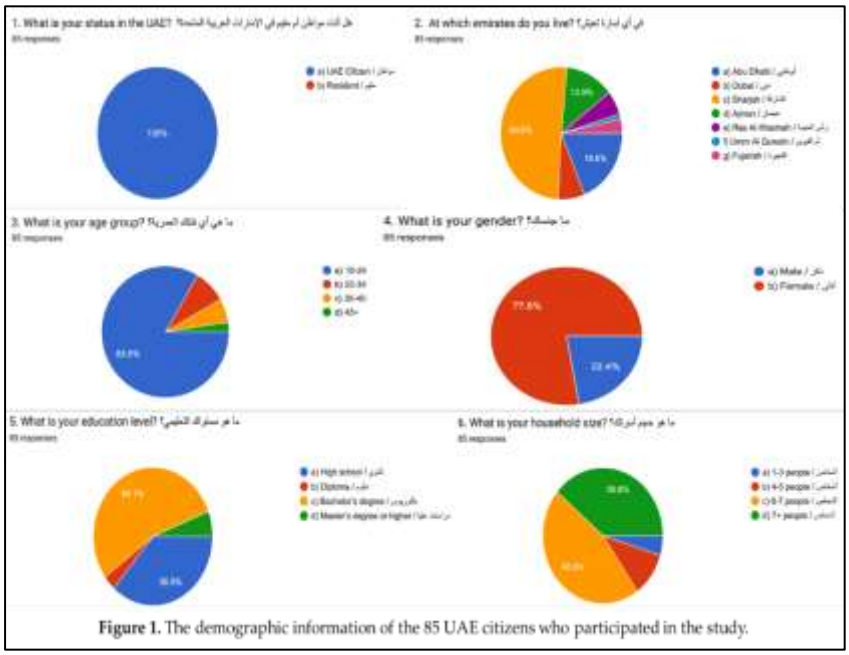


Figure 1. The demographic information of the 85 UAE citizens who participated in the study.

The second part of the survey (six questions) aimed to evaluate Emiratis' awareness of domestic waste management and its importance. The first question in part 2 measured familiarity with domestic waste management, including segregation, reduction, reuse, recycling, and proper disposal. The results indicate that more than half of the participants believed that they were very familiar with waste management practices in the household. Around 41.2% know somewhat about waste segregation, reduction, reuse, recycling, and proper disposal. While only 4 persons, around 4.7%, were not familiar with domestic waste

management practices. Research about domestic waste management indicates different levels of awareness. For example, in Malaysia, the public participates in waste separation to reduce landfill disposal (Mahayuddin et al., 2020). Another study highlights that people are aware of the concept of "domestic waste management" but not the practices or techniques, which means that they don't know how they can segregate and dispose of their waste properly (Tariq et al., 2022). The second question in part two highlights the awareness of specific waste management practices such as recycling, composting, waste segregation, and reusing items. Most of the participants were aware of the concept of recycling, covering around 96.5% of the responses. Then waste segregation and reusing items were almost known in the same range, 67.1% and 68.2% respectively. Moreover, 51.5% of participants knew about composting. In comparison, only 1.2% of participants were not aware of waste management practices. A study noted that limited policies and unawareness about waste segregation led to ineffective waste management practices (Singh et al., 2023). Question three, part 2, aims to evaluate the importance of waste management in reducing environmental pollution based on the participant's perspective. All participants agreed that waste management is important to reduce pollution. 91.8% of the participants view it as very important to reduce pollution. While only 8.2% of participants see it as somewhat important. A study confirmed that a lack of proper awareness regarding household waste can cause health issues and environmental consequences (Kumar et al., 2017). The result of our studies confirms that most of the UAE citizens believe that domestic waste causes pollution. Question 4, part two, addressed ways to improve household waste management practices from the participant's opinion. 81.2% of the participants thought that if they had better access to recycling bins would help them to handle their household waste easily. 60% of the participants think that more government campaigns and more convenient waste management services will improve domestic waste management. 52.9% of participants believed that education and awareness programs would enhance the practices of waste management, and 51.8% agreed that financial incentives for recycling could be a good choice to improve waste management practices in the domestic field. While 2.4% open the door to other options to achieve waste management in households. Based on the studies, it is important to rely on various approaches to enhance waste management in the household, such as providing knowledge, establishing standards, and offering incentives (Mahayuddin et al., 2020). Most participants select more than one choice to improve household waste management practices, which means that UAE citizens think that it is important to use different methods to get whole commitment from the community. Question 5, part two, investigated the best ways to raise awareness regarding domestic waste management from a participant's view. 36.5% of

participants see that social media campaigns are the best way to raise awareness. 31.8% of participants believed that government fines or penalties are the best to get the whole community commitment. 17.7% of participants agreed that schools and university education can help to create a generation that is more aware and wiser in its decisions. While 10.6% of the participants see that community events and workshops could improve social awareness, and 3.5% of participants think of the possibility of having other options to help raise social awareness about domestic waste management in the UAE. However, more than half of the participants supported implementing stricter government regulations on domestic waste management to implement the big movement toward greener waste practices, and 30% of participants may support having stricter government regulations to achieve waste management. While only 12.9% disagree with having fines and strict regulations to implement waste management (Figure 2). Hasan (2004) stated that effective ways to increase awareness about household waste involve environmental education, advertisement, and public participation. He supported the curricula about waste management that have been taught by teachers to students to successfully improve waste management practices. However, in our study, we found that social media is a big influencer for the new generations. Overall, combined with public education and involvement, appropriate regulations, technical support, and funding are important to successfully implement waste management programs Hasan, 2004).

The third part of the survey involved six questions that showed the behavior and attitudes of UAE citizens toward domestic waste management. The first question in part 3 indicated the

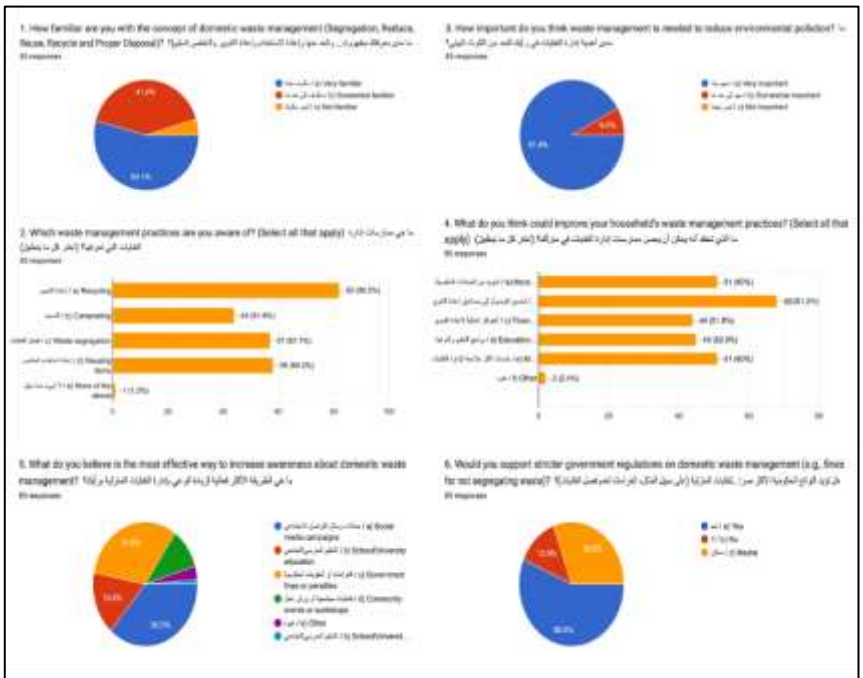


Figure 2. Emiratis' awareness of domestic waste management and its importance.

responsibility of UAE citizens toward their waste production. The results showed that 96.5% of Emiratis think that they have to deal with their home waste, while only 3.5% disagree. According to the study, successful domestic waste management is created by balancing household participation and governmental financial and educational support (Banerjee & Sarkhel, 2019). The second question in part 3 measured the attitudes to reduce waste generated in homes by citizens. The result was presented on a pie chart where "Yes, always" colored blue, "Sometimes" colored red, "Rarely" colored yellow, and "No, never" colored green. Half of the participants sometimes try to reduce the amount of waste they produce, and 37.6% of participants always work to decrease their waste. While 9.4% of the participants do that rarely, and only 2.4% never tried to minimize their waste. The third question in part 3 evaluates the waste segregation behavior in UAE citizens. Presented on a pie chart ("Yes, always" colored blue, "Sometimes" colored red, "Rarely" colored yellow, "No, never" colored green). 37.6% of the participants rarely segregate their waste at home. 24.7% from time to time do it, and 14.1% always do it. While 23.5% never try at all to segregate their waste. The fourth question in part 3 identifies recycling habits in the UAE nation. The question highlighted practices such as paper, plastic, and glass recycling. The results showed that 34.1% and 18.8% recycle their items sometimes and regularly, respectively. While 28.2% and 18.8% rarely and never try recycling their items, respectively. Question 5 in part 3 indicates the times UAE citizens reuse their old items before discarding them. Most of the participants reuse their items more than 4 times before they throw them, and 30.6% reuse their old items 1 to 2 times before they end up in the garbage. 27.1% of the participant reuse their old items between 3 and 4 times. While only 9.4% of participants never do that. Question 6 in part 3 highlighted the motivations of UAE citizens to implement waste management practices at home. 68.2% of UAE nations would adopt waste management practices at home to avoid environmental consequences. 63.6% of participants considered it as a social responsibility. 50.6% would do it to get health benefits in the long term. 42.4% believe that the convenience of facilities would help to implement waste management practices. While 22.4% think that government regulations will keep things under

control, and 21.2% agree that financial incentives will encourage them to manage their waste. 11.8% of participants have other motivations to practice waste management (Figure 3).

Part four of the questionnaire contained three questions focused on the barriers limited to implementing waste management in households. The first question pointed out the reasons behind not practicing waste management. Most of the participants answered that lacking convenient facilities (62.4%), consuming time (54.1%), and lack of awareness (40%) led individuals not to manage their waste production. In contrast, only a few individuals are not interested or don't find benefits from the practice (10.6%) and find it costly (9.4%). According to the study, the most significant factor that affects effective waste management in the domestic field is limited knowledge (Aini et al., 2002). Another study confirmed that "many households do not separate biodegradable and non-biodegradable waste due to lack of awareness, discipline, and laziness" (Singh et al., 2019). The next question identifies the accessibility of resources and facilities to support waste management in the participant living areas. The results showed an almost equal percentage of people who said that they have facilities to help them

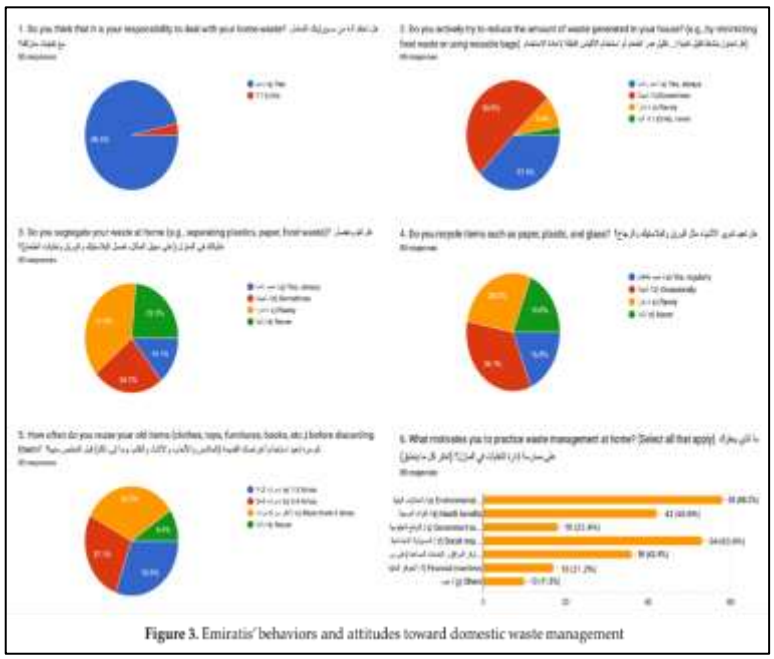


Figure 3. Emiratis' behaviors and attitudes toward domestic waste management

manage their waste about 30.6% of participants, around 35.3% said they don't have facilities to practice waste management, while others don't know nearly 34.1%. The research indicates that the awareness about environmental challenges in the UAE is high, while participation is limited because there are not enough recycling bins, and these bins are located in inconvenient locations (Senthil Kumar and Abdel-Shafy, 2017). The last question in part four seeks to get the participant's opinion regarding guidance on waste management. Around 91.8% of

participants felt that there is limited guidance on waste management, while only 8.2% think of the opposite (Figure 4).

In the last section of the questionnaire (part 5), we analyzed the awareness of UAE citizens regarding the initiatives initiated in the country to reduce domestic waste and manage it. The first question in part 5 aimed to outline the participants who participated in any of the UAE governmental or private sector domestic waste management programs. 57.6% of participants were not involved in any initiatives, while 42.4% of participants participated in some of the UAE initiatives. The second question in part 5 asked the participant about some famous apps that help them manage their household waste. This includes apps like KISWA, Malabsi, RECYCLE APP, Renie, Cycled, Sparklo, Beitalkhair APP, and Tadweer. The result was impressive, where most of the citizens were aware of most of the applications while only 17.6% of the participants didn't know any of these apps. Question 3, part 5, mentioned some government or private company initiatives related to waste management in the UAE and indicated the awareness of UAE citizens regarding these initiatives. Most participants know

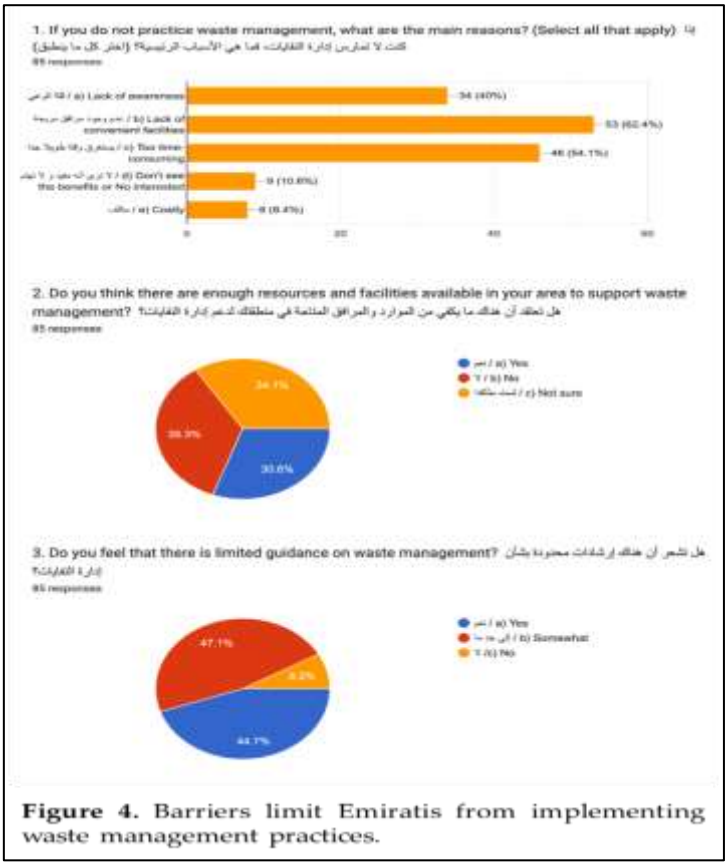


Figure 4. Barriers limit Emiratis from implementing waste management practices.

about Emirates Environmental Group initiatives, which cover 40% of the responses. 47.1% of participants were aware of ADNOC recycling reward points. 25.9% were informed about Beeah educational programs, and 21.2% knew about Dubai municipality recycling stations. In

contrast, only 5.9% of the participants know other initiatives, while 37.6% don't know about any of the mentioned initiatives. The fourth question in part five highlights the need for more governmental initiatives to promote domestic waste management, where 74.1% of participants agree on that, and 18.8% are not sure about it. At the same time, only 7.1% don't think that these initiatives are needed. The last question in part five defined the desire of participants to be involved in the governmental programs that promote waste management. 51.8% would like to be involved in such programs, 42.4% were very interested, and only 5.9% were not interested (Figure 5).

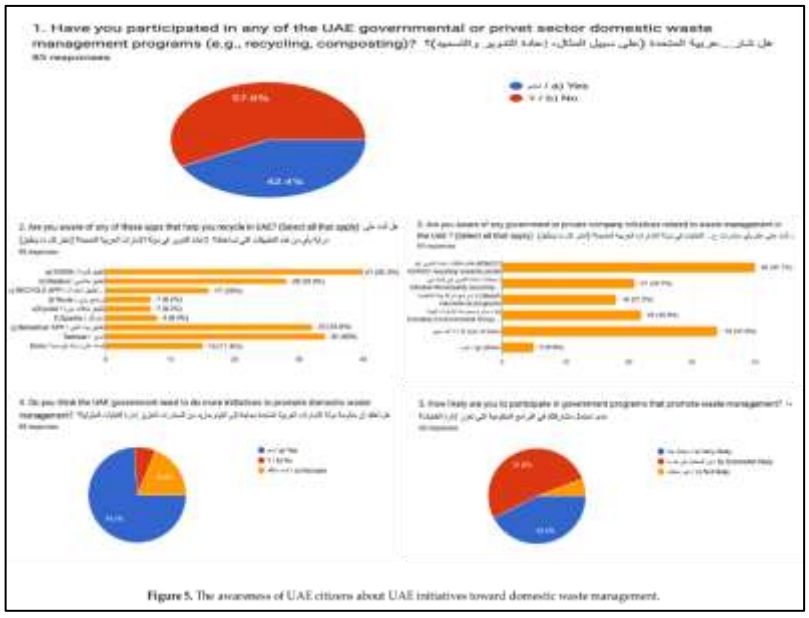


Figure 5. The awareness of UAE citizens about UAE initiatives toward domestic waste management.

Fieldwork Challenges and Solutions:

The research encountered several challenges in collecting data across various emirates. Engaging participants was particularly difficult; we had to send personalized messages to each individual, explaining the project in detail to encourage participation. Additionally, some respondents expressed frustration with the requirement to log in through Google, as many had forgotten their account credentials. To help, we suggested that participants copy the survey link to their registered Google account to avoid re-entering their login details. Balancing demographic representation was also challenging, especially with limited time for data collection. We reached out to friends, asking them to share the survey with their networks across different emirates to achieve a broader reach. Despite these efforts, which included distributing the survey on Email, Snap, Telegram, and WhatsApp groups, we received only 85 responses. To preserve the study's accuracy and precision, we decided to adjust the confidence level to 90% and the confidence interval to 10%.

Data Quality:

The quality of the data generated in this study is generally reliable. However, there are some limits as we aimed to have a sample size of around 380 to 400 responses, and we only got 85 responses. Although this data was informative, it just presented the opinion of a small population. This smaller sample required an adjustment in confidence level to 90% rather than 95%, and the margin of error had to increase from 5% to 10%. This provides us with acceptable accuracy, but it can affect the precision of the finding. This is because this sample depends on 85-person opinions only. The data represented various emirates, ages, gender, education levels, and family size. However, balancing demographics was challenging. As a result, some demographic groups may not be presented correctly because of the limited responses, so it is inaccurate to generalize the outcomes to the entire UAE population. However, this data can give us a rich, full knowledge about some demographic groups which were presented mostly in the study, such as Sharjah citizen's perspective of domestic waste management as it covers 50% of our responses, as well as female responses,18 to 24 age group, medium to large families, and high school and bachelor students. The data was complete and consistent, where all participants completed the survey, and their answers connected and aligned with their perspectives.

4. CONCLUSION & RECOMMENDATIONS

This study aimed to evaluate the awareness, behaviors, attitudes, and barriers of UAE citizens toward domestic waste management. The study focused on demographic classifications to identify ways of improvement in domestic waste management. The results indicated that most UAE citizens are familiar with waste management practices, including recycling, waste segregation, reusing, etc. However, there is a significant gap in the implementation of these practices because of insufficient infrastructure, time constraints, and limited awareness about waste management protocols or guidelines. The study clearly shows inconsistent waste segregation and recycling behaviors among UAE citizens. Despite these limitations, there is a strong willingness among citizens to participate in governmental initiatives. Also, they see social media campaigns and stricter regulations as effective tools to increase public awareness and get them engaged in the waste management process. The study indicates the need for more comprehensive strategies combining infrastructure, education, incentives, and regulations to overcome these challenges and toward achieving the UAE's

sustainability and waste management goals. So, policymakers should enhance infrastructure by increasing the availability of waste segregation bins and recyclable stations. In addition to that, policymakers should establish educational campaigns and integrate waste management into school curricula. As well as promote more advertisements about waste management apps. Use advanced segregation systems and technologies. Provide financial incentives to encourage citizens and establish waste management guidelines. Set regulations and punishments to get whole commitment from society. Finally, the collaboration between the governmental bodies and the private sector will organize and improve waste management practices in the community.

5. ACKNOWLEDGMENT

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