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1. Introduction

Sustainability Begins at Home: Helping Our Marine Environment (HOME)" is a project implemented by the Small Islands Geographic Society (SIGS) to address the issue of single-use plastics (SUPs) in Maldives. The HOME project funded under a grant from USAID's Clean Cities, Blue Ocean (CCBO) program is aimed to bring about behavior and social change through engagement with households to reduce their use of SUPs. CCBO is a global program initiated to combat ocean plastic pollution by tackling plastic pollution at their source, urban areas. This report presents the findings of the household waste survey conducted in Hulhumale under the HOME Project.

The survey was aimed at understanding the household patterns that contribute to plastic consumption behavior to bring about the appropriate behavioral and social change. The survey was conducted in Hulhumale between 11th to 27th July 2021. A successful 321 surveys were obtained during this period. This report outlines the findings of the survey. The findings of the survey will help design the in-depth engagement with households to test alternatives to SUPs in the next phase of the HOME project.

2. Background

The use of single-use plastics is one of the most serious global environmental issues today. Since the 1950s, global plastic production has increased by an average of 9% per year. Global production increased from 1.7 million metric tons in 1950 to 360 million metric tons in 2018. The production of plastic is expected to double again over the next two decades (Chen et al., 2021). Given that plastic materials such as plastic cups and diapers can take more than 400 years to decompose, all the plastics that have been produced still exist today 9World Wildlife Fund Australia, 2021). They pollute our ecosystems, oceans causing detrimental impacts on our oceans and living organisms. Each year, 1.15 to 2.41 million tons of plastic are projected to enter the ocean via rivers (Lebreton et al. (2017). The Great Pacific Garbage Patch, which is the largest of the five offshore plastic accumulation zones in the world's oceans, is estimated to contain about 80,000 tonnes of plastics (The Ocean Clean Up, n.d.). Many plastics do not wear down, they simply break into tinier and tinier pieces creating microplastics. Microplastics in products, foodstuff, and air can cause harm to human health through ingestion, inhalation, and dermal contact (Prata et al., 2019).

Maldives is the smallest country in Asia and yet we face the biggest problem of plastic waste in the region. The amount of micro plastic pollution in waters around the Maldives, a global tourist destination known for its beautiful coastline, is amongst the highest in the world and has the potential to severely impact marine life in shallow reefs and threaten the livelihoods of island communities (Phys Org, 2020). In 2019, 1100 tonnes of various types of plastic were imported into the Maldives, the majority of which were primary plastics such as polyethylene, fiber glass resin, and epoxied resins (Maldives Ocean Plastic Alliance, 2021). The Maldives Ocean Plastic Alliance (2021) states that because of the geographical nature and remoteness of the Maldives' islands, single-use plastic containers have become the most preferred, convenient, and cost-effective option for food and beverage products.

The Government of Maldives recognizes the high environmental, social, and health implications of plastic pollution in the Maldives. President Solih launched a campaign to reduce SUP use in the President's Office during the first 100 days after his inauguration, noting that the use of SUPs in the Maldives had been alarmingly high. Further commitment to the cause has been the President's pledge to phase out SUPs by 2023. As such, the Strategic Plan to phase out SUPs in Maldives "Single Use Plastic Phase-out Plan 2020-2023," is being implemented by the Ministry of Environment, Climate Change and Technology (MECCT).The first phase of the strategic action plan has come into effect on 1st June 2021. The activities of the HOME project will support the policies on education and awareness and strategies for sustainable provision of alternatives of the Strategic Plan.

3. Method

3.1 Survey Design

A quantitative survey method was used to collect information to understand the current behaviors of urban households regarding the use of SUPs. Hulhumalé which composes part of the Greater Male Region is used as the urban city for the surveys (Figure 1). Hulhumalé is an island developed from reclaiming the lagoon area near Male', the capital, to address the increasing population and congestion in the capital. According to data provided by the Housing Development Corporation (HDC) the reclamation for the island started in 1997 and the city was officially inaugurated in 2004 with a population of 1,000. The city now has a population of over 50,000 people and is expected to house an estimated 240,000 people with the additional developments.

According to HDC, the planners of Hulhumale, there are four types of housing categories allocated in Hulhumale. These are 1) social housing units, 2) row houses, 3) private housing plots and 4) Mid to high apartment units.

For determining the sample size, a stratified sample of these four housing types was done based on housing unit numbers provided by HDC. Table 1 shows the stratified household population size, the targeted sample size and actual survey sample size. An online sample size calculator was used to determine the required sample size. Using a confidence interval of 90% and a margin of error of 5% the required sample size was 264. A convenience sampling was done to recruit participants for the survey. According to data provided by the Maldives Water and Sewerage Company, there are 9,817 domestic water meters in Hulhumale Phase 1.

Figure 1. Hulhumale

Table 1. Housing Types in Hulhumale and number of samples taken

Housing Type	Housing Nos.	Sample Nos.	Actual Survey Nos.	Sample : Household ratio
Social	2624	94	138	53 : 1000
Row House	146	5	7	5 : 100
Mid to high	1339	48	60	45 : 1000
Private	7140	116	113	16 : 1000
Total	11249	264	319	

The survey instrument was a questionnaire which was developed into a Google form. The questionnaire was prepared to be administered in the local language, Dhivehi. The questionnaire contained of 7 sections which were designed to obtain the following information:

Section A: Household demographics - to be familiar with the composition of the household.

Section B: General household waste disposal - To find out the general waste disposal patterns in households.

Section C: Household consumption of SUP - to identify how much households consume SUPs.

Section D: Waste management in Hulhumale - to identify how familiar households are about the way waste is disposed in Hulhumale.

Section E: Awareness of SUP - to identify how familiar households are about SUPs.

Section F: Awareness on government policies regarding SUPs - to identify how familiar households are about government's policies towards SUPs.

Section G: Sustainable lifestyle - to identify how familiar households are about sustainable lifestyles and if they practice it.

3.2 Validity & Reliability

Various methods of reliability and validity testing of the survey instrument were done to ensure dependability of the survey results. Face validity of the questionnaire was established through several review processes. Initial reviews by SIGS experts familiar with the issue in Maldives was done. The revised questionnaire was reviewed by the Waste Department of MECCT (experts in implementing SUP phase out in Maldives), the Housing Development Corporation (familiar with the survey location and the community) and the CCBO (waste management expert). Further measures to ensure validity and reliability included

- Pilot testing of questionnaire by SIGS team and revising the questionnaire
- Pre-survey training of enumerators which included detailed description of each question and clarification of queries on understanding of the questions as well demonstration and practice interviews.
- Pilot testing of survey by enumerators and revising the questionnaire based on feedback

Figure 2. Pre-survey briefing with the enumerators

3.3 Survey Administration

The survey was carried out in Hulhumale as in person interviews as well as phone surveys. After cleaning for incomplete surveys SIGS was successfully able to utilize a total of 319 respondent questionnaires. Table 1 shows how the sample size was distributed among the 4 housing types in Hulhumale. Figure 3 shows the spatial distribution of households that took part in the survey.

The in-person interviews were carried out while adhering to the Covid-19 safety regulations. All enumerators used face masks and face shields while conducting the in-person surveys. One of the challenges we faced while administering the survey was that due to the prevailing Covid-19 conditions, some participants were hesitant to take part in person. As a result, some surveys were carried out by phone to accommodate those who could not facilitate the in-person interviews.

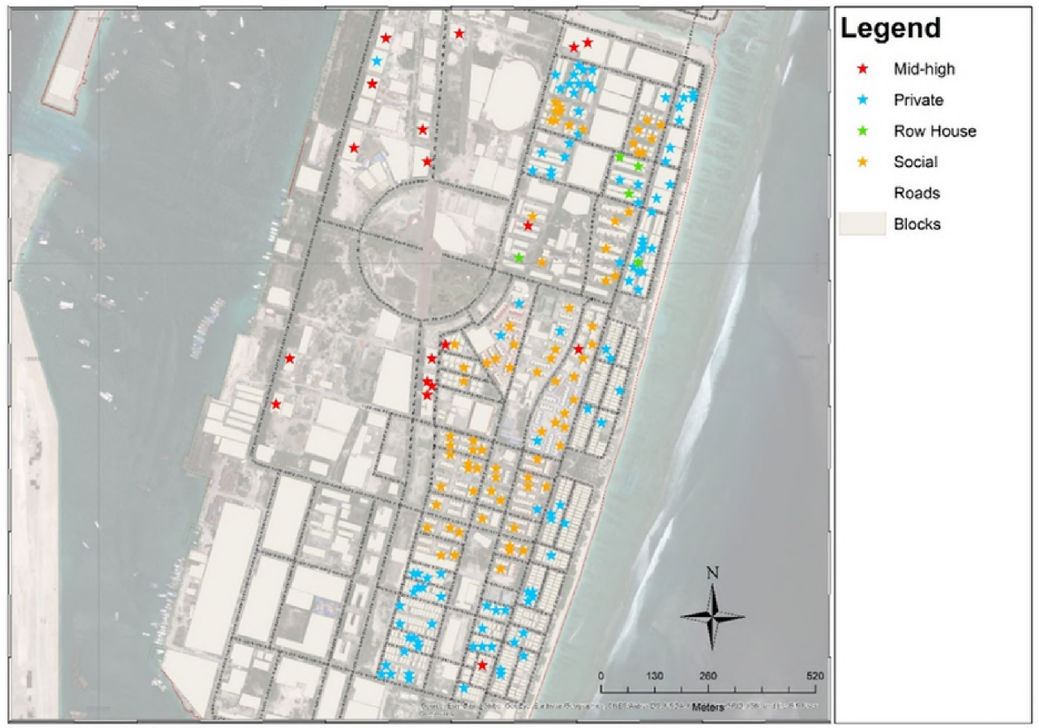


Figure 3 Spatial distribution of Hulhumale households taking part in the HOME project Waste Survey

3. Findings

A total of 319 household responses were analyzed in the survey. The data obtained showed that the average number of people in a household was 5. On average there are 2.6 and 2.8 males and females, respectively in a household and the median values are 2 and 3 respectively. According to the survey, 52% of people lived in their own homes while 48% rented their homes. It is estimated that 53% of households were headed by females. Over 68% of the households surveyed had one person with a certificate/diploma or higher educational qualification. This maybe since Hulhumale is a city which is part of the capital. The average stated household income was identified to be between MVR 20,001 to MVR 50,000 indicating on average a medium level income. Only 43% of households stated their household income with the rest opting to not disclose this information. About 80% of households had an income higher than MVR 20,000. The analysis of the different waste management and SUP consumption patterns of households are presented in the next sections.

4.I Household Waste Disposal

Waste collection from households in Hulhumale is done by the state company Waste Management Corporation Limited (WAMCO). Collection is done daily from curbsides. At the household level two main types of disposal is done. In mid to high apartment units, management provides either communal bins or a garbage chute at each floor for households. In all other housing types household members directly take the garbage to the curbside. Most households take garbage directly to the roadside (82%). The majority of households (93%) take out the garbage daily for collection by WAMCO.

Under mandatory requirements by WAMCO, all garbage must be disposed in a plastic bag. The size of bags varies from medium bags to extra-large bags. The most used bag size is the large one, (20 x 13 inches) which is used by more than 66% of households (Figure 4). Extra-large or black garbage bags are used by out 20% use.

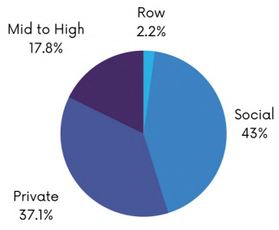
Most households (74%) on average dispose 1 bag daily for WAMCO collection, while 22% of households dispose 2 bags. This gives an estimation of 96% of households daily dispose at least 1 plastic bag. i.e. about 9,424 plastic bags per day from Hulhumale.

Segregation of waste is not mainly carried out at households. The main reason being that all waste is collected together without separation by WAMCO. However, 22% of households reported some level of separation which is mainly separation of kitchen waste and other general waste within the household. This too is eventually put together in one bag and carried out to WAMCO collection. Food items were used for composting for household gardening by 24% of households, 80% of households reuse empty bottles and containers and 16% give plastics to plastic collection programs. The main program for plastic collection is through schools and collection points on Hulhumale by a private company called Parley Maldives who export the plastics overseas for recycling. A few gives to individuals who reuse plastic and other NGOs. The majority of households (91%) were happy to support household segregation if required for household waste collection by the Government.

In over 95% of households waste disposal is carried out by members of the households and only a few engage domestic helpers. In most households there is no set person for carrying out the garbage (63%). Generally, whoever is available and everyone in the household does the job. Waste disposal by heads of the household is carried out by about 33% of households. There does not seem to be a specific gender role assigned for disposing waste. Only females are engaged in waste disposal only in about 15% of households.

Figure 4. Large size plastic bag used for garbage disposal

DEMOGRAPHICS



Row house - 7
Social housing - 138
Private house - 119
Mid to High house - 57

- Average household size = 5.5
- 52% home owners, 48% renting
- 53% of households headed by females
- Over 68% certificate/diploma or higher education qualification
- Average household income is MVR 20.001 - 50,000

★ 82% of households directly carry garbage to roadside

★ 92% take out waste daily for collection

- 64% use large 20x13 in (red) lastic bags
- 22% use extra-large or black garbage bag
- 96% of households dispose of at least 1 bag

An estimated* 10,800 plastic bags per day from Hulhumale

4.2 Household Consumption and Single-Use Plastics

4.2.1 Shopping and Plastic bags

The most widely used SUP is plastic bags. Sources of plastic bag generation in households include shopping for groceries, buying short eats mainly ordering takeaway. Over 82% of households stated that they use more than 5 plastic bags a week. This is more than 260 bags a year equating to more than 2.9 million plastic bags from Hulhumale households. This would be an underestimate considering the survey design captured only more than 5 bags and other triangulation questions which were used. For example, based on waste disposal data and a daily use of 9,424 plastic bags for waste disposal, this would mean an estimated of 3.4 million plastic bags are used annually in Hulhumale households.

For triangulation purposes the questionnaire asked on household shopping (grocery, produce and fish) patterns and the types of carry bags that were used. As seen in Table 2 the most common type used is plastic bags. Plastic bags are used by 86%, 90% and 96% of households for grocery, market and fish shopping respectively. About 78% of households reported they do bulk shopping and the main packaging in bulk shopping reported by households were plastic bags (53%) and cardboard boxes (47%).

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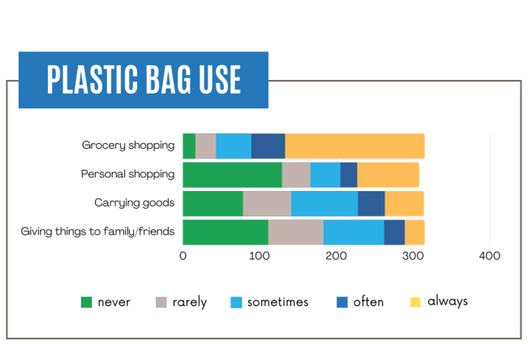

Figure 5. Use of plastic bags by households in Hulhumale by number of households

- ★ Plastic bags were found to be the most widely used single-use plastic item
- ★ An estimated 3.4 million plastic bags per year from Hulhumale

Many households reported that they often use plastic bags. Figure 5 shows the stated uses by participants. The majority (50%) use plastic bags for lining bins. About 27% use it for various other reasons (which could include lining bins, storing things or carrying goods) and 13% throw the bags away in the garbage. When analyzing the use of plastic bags for lining household bins, it was found that 98% of households line their kitchen bins with plastic bags (Figure 6).

A majority of households opted not to line bins with plastic bags for the rooms (49%), toilets (63%) and sitting room (89%) respectively. Those that lined also explained that these liners were not changed daily and often would be done weekly or every 2 weeks. Many empty the contents of these bins into the plastic bag to be disposed when taking out garbage and hence, the plastic liner is not changed very regularly. More than 96% of survey respondents indicated that if compostable bags were affordable and easily available, they would use compostable bags for lining bins. One responded pointed out that freely available plastic bags from supermarkets and shops should be stopped to encourage people to buy and use compostable bags.

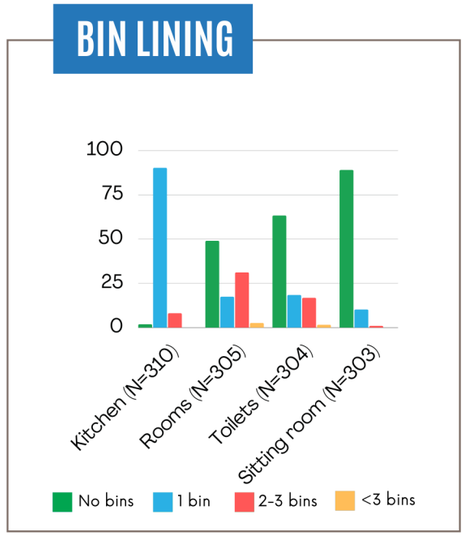

Figure 6. Use of plastic bags to line dustbins in the house

Figure 7. Types of carrier bags used for household shopping and the number of households using them

The various uses of plastic bags are given in Figure 5. As can be seen grocery shopping is the most common use. About 60% of households always use plastic bags for grocery shopping. People by habit tend to not use see through bags when carrying personal items and hence, this may be the most probable reason for the lower use of plastic bags for personal shopping, carrying goods and giving things to family and friends. This habit is due to people not wanting others to see the content of the bag. But often the items inside are in a plastic bag.

Figure 8. How do households use plastic bags expressed in percentages (N=316)

4.2.2 Foods, Parties and Plastics

The survey revealed that 74% of households use takeaway and delivery food services. On average households order food from outside weekly to several times a week (Figure 9). About 52% of households order food weekly or more. The different types of packaging that the food comes in was also analyzed. Participant responses showed that the packaging comprised mainly of paper and cardboard (40%), followed by single use plastics which include plastic bags and plastic or Styrofoam containers (35%) and aluminum foil containers (23%) (Figure 10). It should be noted that 27% of paper is pizza boxes, which mean that a 500ml plastic bottle of coca cola will be delivered with each pizza. Therefore, the amount of single use plastics generated will be higher than estimated. The survey did not collect information on number of pizzas ordered per household and hence it is not possible to estimate possible number of plastic bottles ordered. This would be an important area to get further information as pizzas are a popular choice for home parties and gatherings and the potential for SUP generation will be higher. Participants were also asked if environmentally friendly places were considered when ordering food. Only 23% of households considered this when ordering food.

Having late afternoon tea around 4pm, with traditional Maldivian short eats made of tuna, is a big part of Maldivian culture and socializing. The survey showed that 60% of household buy short eats from outside. There are several tea shops as well as kiosks set by home businesses, in Hulhumale, that sell these specialized short eats. About 92% of households use plastic bags for carrying short eats while only 4% carried their own container. However, 6 out of 8 people (3%) who took their own containers also sometimes used plastic bags.

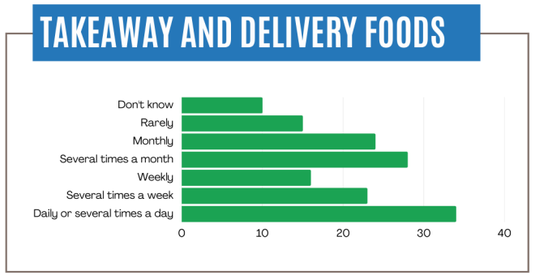

Figure 9. Frequency of takeaway and delivery foods by households

Small home gatherings and occasions are part of the close-knit Maldivian society. Exploring such events, it was found that 36% households use plastic partyware such as plates, cups and cutlery. Using information on estimated number of events held a year, number of people and number of pieces of plastic used, it was estimated that annually on average 138 pieces of plastic will be used in household party events. This means that for 36% of households in Hulhumale, an estimated 487,709 pieces of plastic partyware will be used annually. As 70% of households reported that they throw away plasticware after a single use, this means that about 341,396 pieces of plasticware will end up in landfills.

Some of these figures may be under-reported as the timing of the surveys is during the Covid-19 pandemic and for more than a year Hulhumale city area has had restricted movement including full lockdowns. This means such family social gatherings have been restricted and people's reporting of numbers might be for the current Covid-19 situation.

Another limitation of the survey is family and social picnics have not been considered. Such events are a very common generator of plastic waste including water bottles, plates, cups, cutlery and bags.

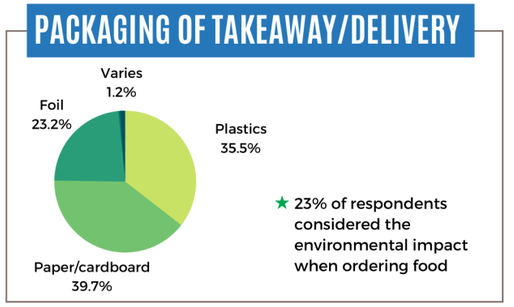

Figure 10. Packaging of takeaway and delivery foods

- ★ 36% of households use plastic partyware
- ★ Anually on average 92 pieces are used for home events
- ★ 70% of these households reported they throw away partyware after 1 use (81 out of 321 households)

An estimated 260,797 pieces of plasticware will end up in landfills from Hulhumale each year!

4.2.3 General Household Consumption

In this section general household items which are made of single-use plastics is examined. While coffee capsules and small jam and butter portions are used by fewer households, 3-in1 coffee sachets, cling wrap and single-use containers are more frequently used (Figure 11). Looking at estimates of annual number of pieces used, cling wrap usage is low with many reporting that a roll of cling wrap is used for several months to a year. As shown in Figure 12, the amount of 3-in-1 coffee sachets used is alarmingly high at about 1.1 million pieces annually from Hulhumale.

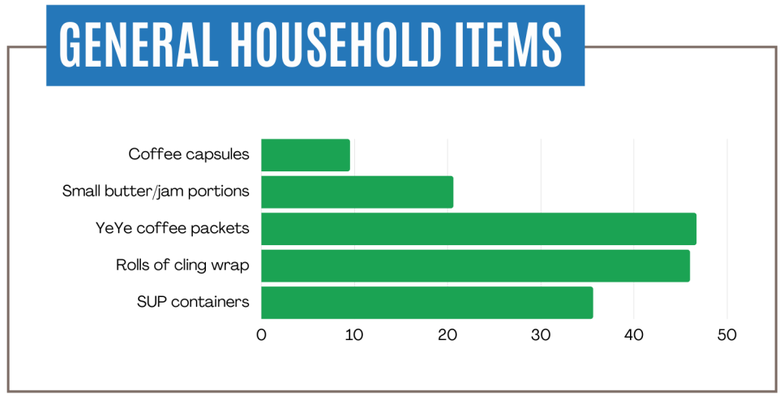

Figure 11. Household usage of some single-use plastic items

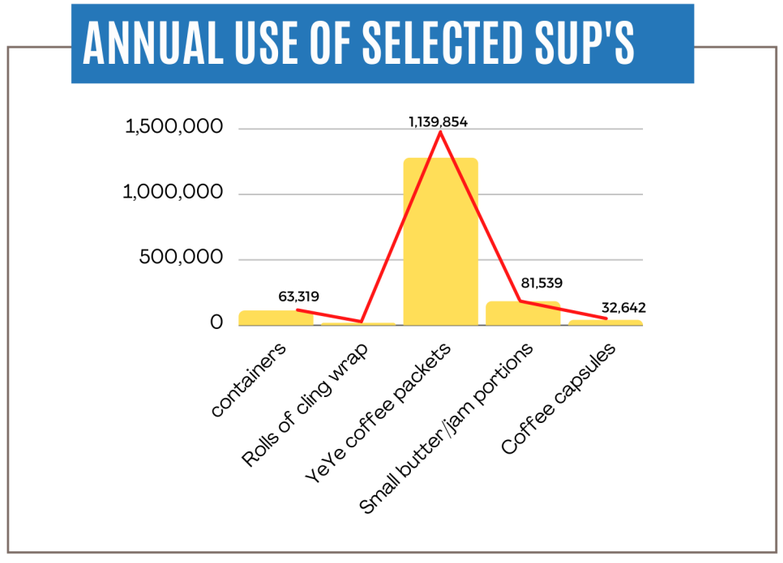

Figure 12. Annual number of selected SUPs used in households in Hulhumale. (The red line shows extrapolation to the whole of Hulhumale)

4.2.4 Water Consumption and Plastics

Drinking water would be one of the highest producers of SUPs as currently many households in Maldives, especially in urban areas, drink bottles water. As seen in Figure 13, most households consume bottled water (about 63%) and 34% use filtered tap water. The types of bottles used are mainly single use plastic, which includes 500ml (used by only 1% of households), 1.5L and 5L bottles. Only 6% use bottles which are reusable. While approximately 60% of households each use 1.5L and 5L bottles, the households annually use on average 813 and 561 bottles per year respectively.

The survey shows that only a very small percent of households drink directly from the tap (4%). Most people do not drink tap water due to the taste (35%) while hardness associated with taste is also a reason by 13% of households (Figure 13).

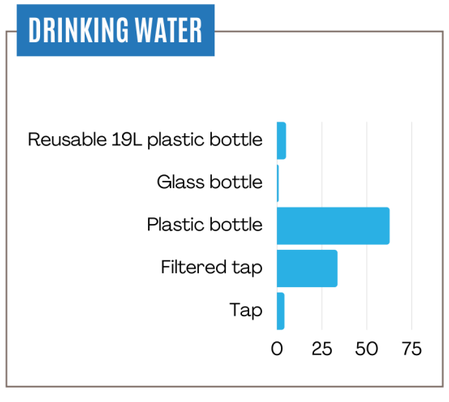

Figure 13. Types of water used for drinking in households of Hulhumale

Most people do not drink tap water due to the taste (35%) while hardness associated with taste is also a reason by 13% of households (Figure 14). As seen in Figure 14, health and safety concerns (21%) and hygiene concerns (22%) are also reasons stated by many. Of those currently not drinking tap water or filtered tap water, 69% of households said they would be willing to try filtered tap water. The main concerns for not being willing to drink filtered water are not liking the taste, safety concerns and cost.

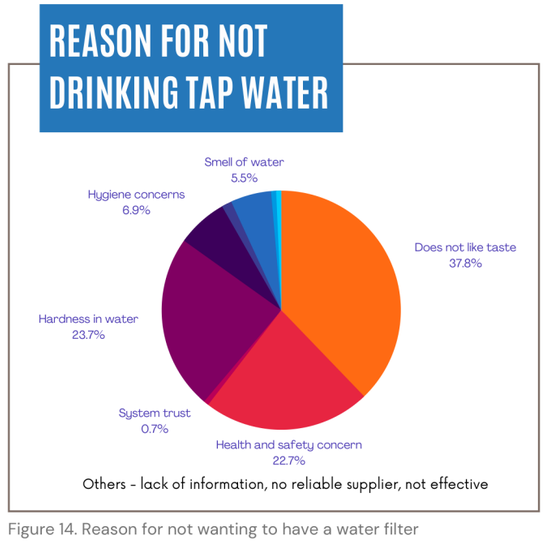

Figure 14. Reason for not wanting to have a water filter

4.2.5 Home-based Businesses

Other areas of plastic generation from households are from home-based businesses. Home-based businesses have had a rise in Maldives with the accessibility to internet and social media. Selling of food, clothes, accessories, books, kitchen gadgets and plant are the most common home-based businesses. Other types of work include conducting Quran classes and giving tuition. Packaging and delivery methods often generate plastic

From the survey, 15% of households stated they are engaged in home-based businesses. Figure 15 shows the types of packaging used by these home-based businesses. The majority of materials (47%) were made from plastic (bags, containers and Styrofoam). Many businesses use environmentally friendly packaging including paper (35%) and reusable containers (8%).

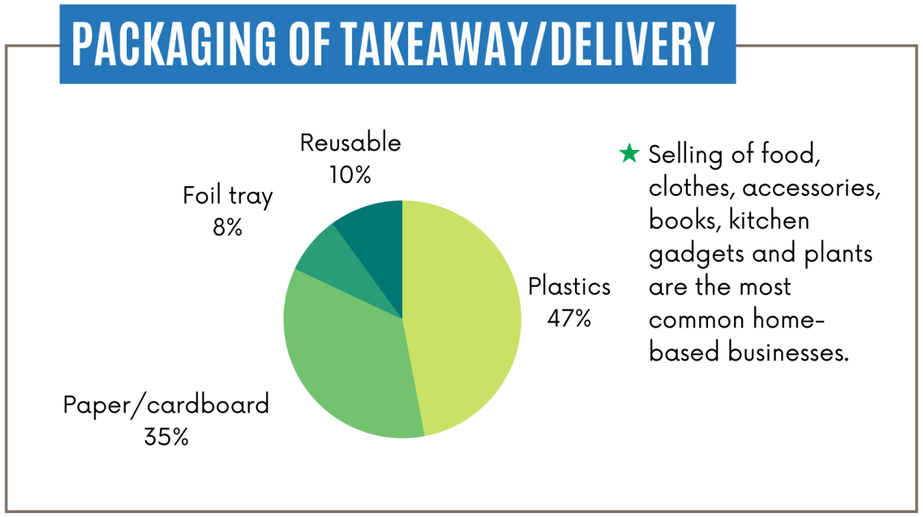

Figure 15. Packaging types used for home businesses

4.3 Practicing Sustainable Behaviors

In this survey we also inquired whether household members currently practiced environmentally sustainable behaviors. Most household members are not directly involved in environmental activities and hence can be said to have low environmental concern in general. For example, only 11% of households have at least one member working with an environment-based NGO. The percentage of households with a member contributing voluntary time or financially to environmental conservation and protection related activities was 27% and 7% respectively. However, 55% of households had stated that at least one member practiced environmentally sustainable behaviors while 15% stated that they sometimes did. An analysis of some common SUP conscious behaviors by households is given in Figure 16. A high number of households reuse plastic containers (79%), while 58% of households use reusable bags and 53 (31%)% use reusable water bottles when going out. It is encouraging to see that many households do not use plastic partyware for functions at home. Baby diapers and sanitary products for women are areas that need more encouragement for people. Of those households with children wearing nappies and menstruating women 4% and 1% respectively use reusable products.

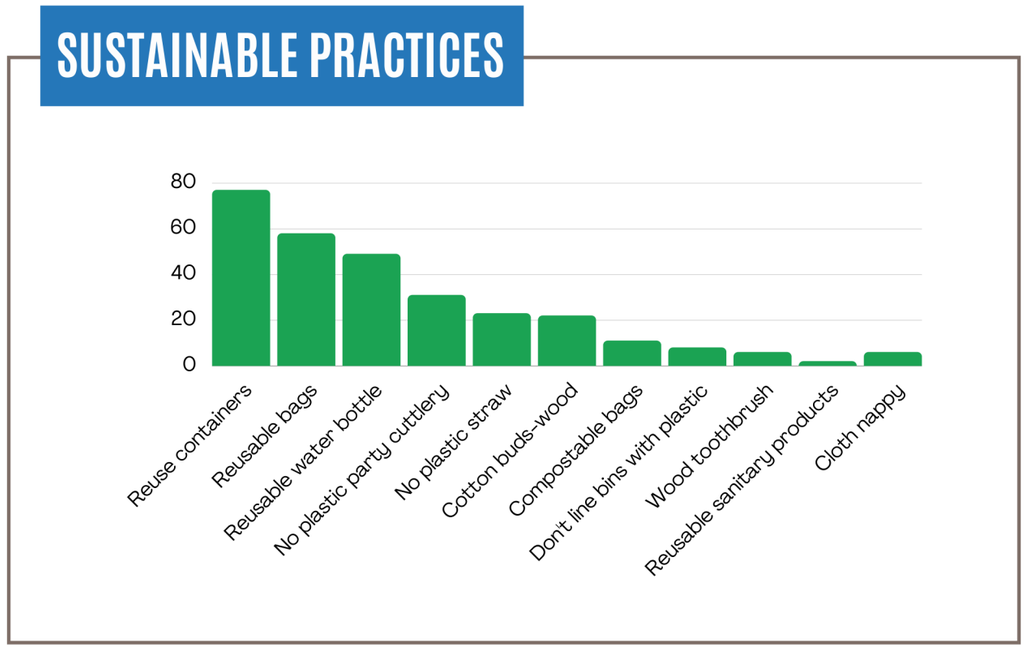

Figure 16. Percentage of households with a member practicing sustainable behaviors

While the majority of households found the issue of SUPs to be a very important issue to address (69%), only 19% of households found it very easy to practice sustainable behaviors. Figure 17 shows a 5-point Likert scale for importance of SUP issues (1 is not important and 5 is very important) and the ease of practicing sustainable behaviors (1 is very difficult and 5 is very easy). For example, when asked on why people do not use reusable bags for shopping 62% households report it is because of being a habit to use plastic bags while 22% report they forget to take a reusable bag (Figure 18). These are reasons that can be changed with some determination and will to change. The third most common reason was that alternatives to plastics are expensive (16%).

Figure 19 shows the challenges stated by households to stop using SUPs. The biggest challenges are lack of available alternatives (40%) and at the same time the readily availability of SUPs in the community (28%). Other challenges such as use of SUPs being a habit (19%) and high cost of alternatives (12%) triangulate well with information from other questions such as in Figure 18.

More than 97% of households have stated that they would be willing to try alternatives if affordable alternatives were available. Over 96% of households stated they are interested to reduce use of SUPs and 28% and 51% respectively would maybe or definitely be interested to take part in a program to try alternatives to SUPs.

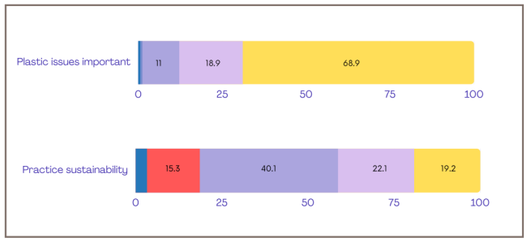

Figure 17. Household perception on importance of SUP issues and the ease of practicing sustainable SUP behaviors

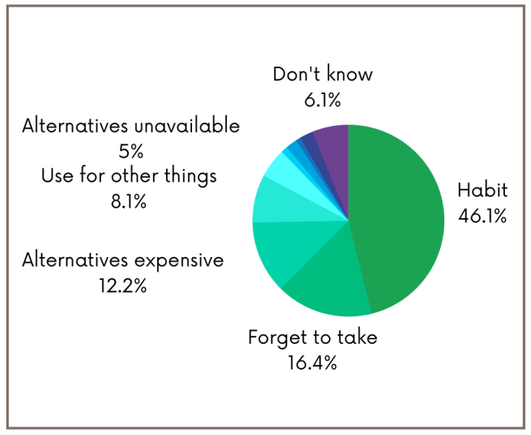

Figure 18. Reason why people do not use reusable bags (%)

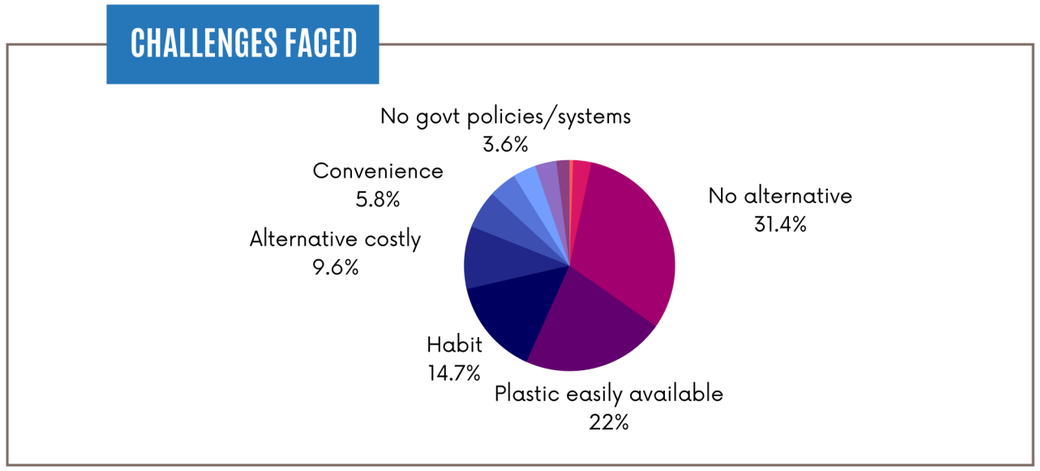

Figure 19. Challenges to practicing sustainable SUP behaviors (% of households)

4.4 Public Awareness

4.4.1 Awareness on Impacts of SUPs

The analysis of household awareness on SUPs and their issues showed that in general households had high awareness of SUPs and their environmental impacts (Figure 20). When it comes to health impacts of SUPs only 31% have a good knowledge of health impacts and about 44% just know there will be negative or harmful impacts but were not sure. Similarly, awareness on microplastics and BPA were also low, 32% and 30% respectively.

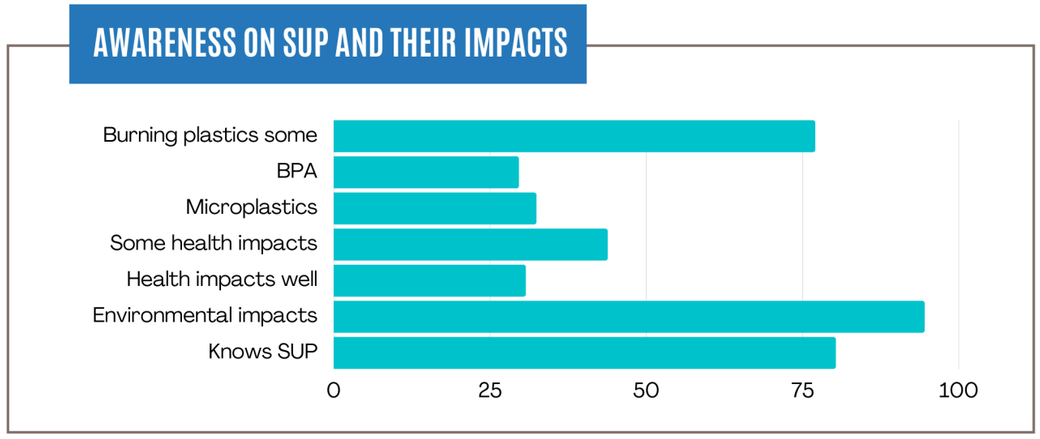

Figure 20. Household awareness on SUPs and their impacts

For both environmental and health impacts of SUPs most household members were able to state SUPs will cause general harm; 41.5% and 42.4% respectively (Figure 21 and Figure 22). In terms of environmental impacts most households related the impacts with marine environments; harm marine life, marine pollution and reef damage. Other issues identified include littering and accompanied issue of plastics taking a long time to decompose. It should be noted that microplastics was mentioned by only 3 households indicating agreement with the low awareness of microplastics identified earlier (Figure 20). However, 17.5% of the households identify the issue of ingestion of plastics through our food, especially fish as a health impact. n these instances, also the households do not specifically mention microplastics.

ITherefore, though the term may not be as well known to most people, the idea of what it does is better known. In terms of health impacts, the impacts caused by burning of plastics was most known (19%). In addition, many people identified cancer being caused by SUPs a health impact. Cancer is quite common in Maldives and this may be why people are more aware of cancers.

We also explored how people got access to information on SUPs and their impacts (Figure 23). Most people get information through radio or television (67.5%) and social media (63%), respectively. 53% get information through school-related activities of the children. The least effective way is through campaigns run by Government, NGOs and other groups.

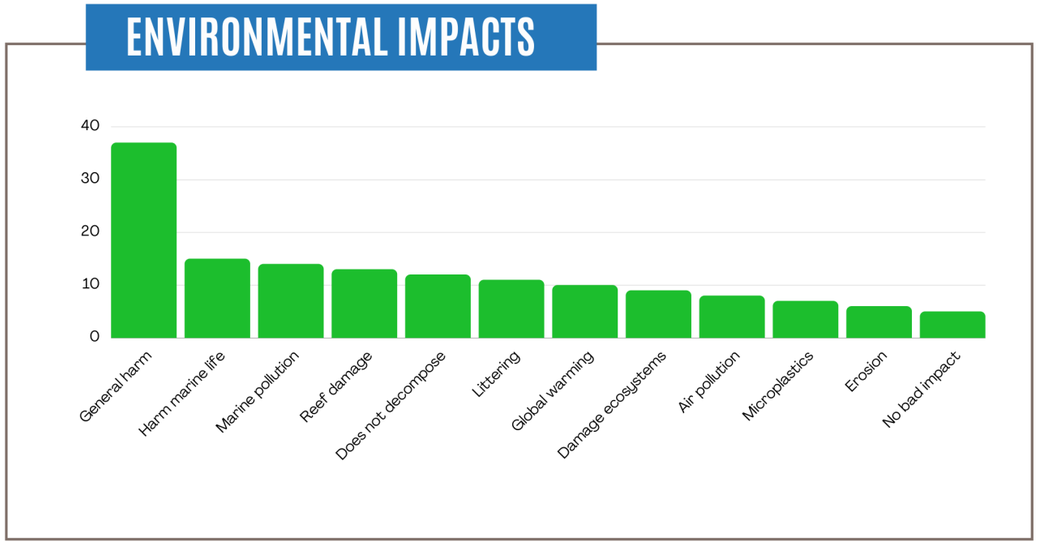

Figure 21. Environmental impacts of SUPs identified by households

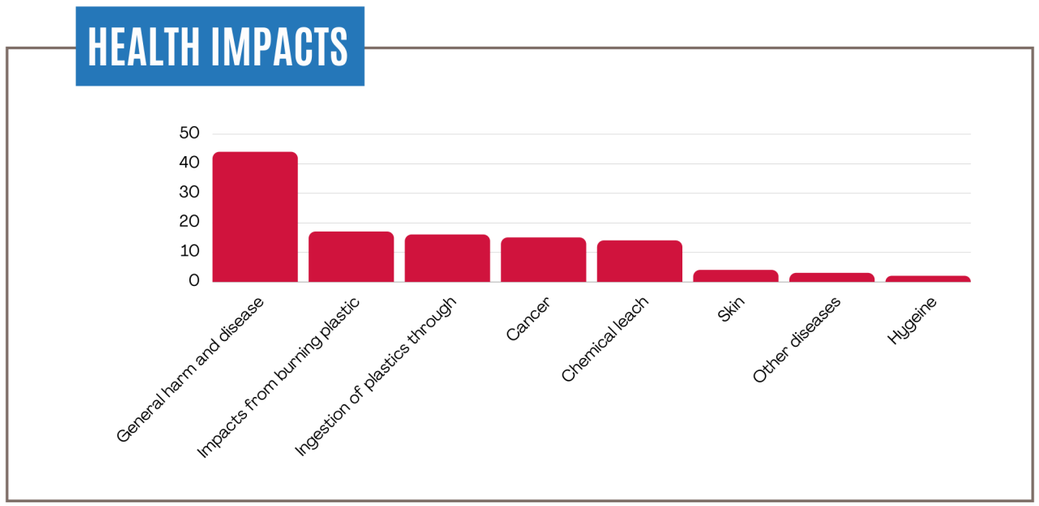

Figure 22. Health impacts of SUPs identified by households

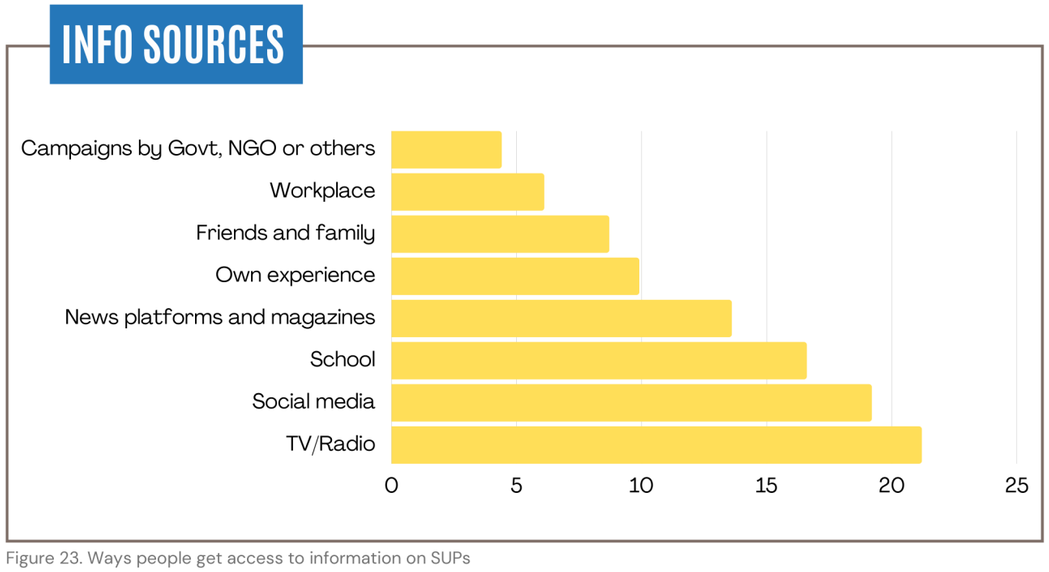

Figure 23. Ways people get access to information on SUPs

4.4.2 Awareness on local SUP initiatives

We used this opportunity to find out how aware people were of the efforts by the Government to phase out SUPs. There was high awareness (80%) on the Government's pledge to phase out SUPs from Maldives by 2023 and 89% of households were aware of the import bans on specific SUPs which were implemented in June 2021. The higher awareness on the 2021 import bans may be due to the recent occurrence just a month before the surveys were conducted. In addition to import and use bans of SUPs, the strategic plan for the phase out of SUPs include other policies such as awareness and education, provision of alternatives, providing incentives through tax reduction for alternatives among others. Inquiry on awareness of these other strategies showed that only 2% were well aware of these while only 9% knew a little (Figure 24). The households were also asked if they were aware of any SUP reduction campaigns run in the community.

Most households were aware of campaigns run by schools and NGOs, 61% and 43%, respectively.

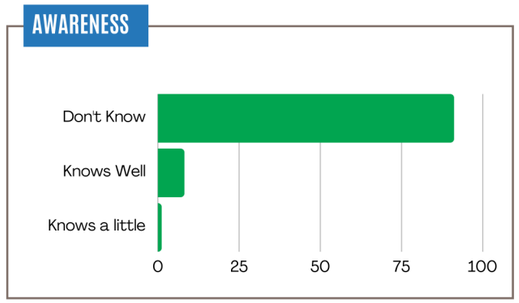

Figure 24. Awareness of Government policies other than bans on SUPs (% of households)

Households were also asked on how the phase out of SUPs can be most effectively implemented (Figure 25). The majority of households believe providing alternatives (69%), creating awareness (59%) and government bans (53%) will be the most effective. The need for better education and awareness of policy makers and initiative by people was also identified. A very small percentage believes this will not work in the Maldives.

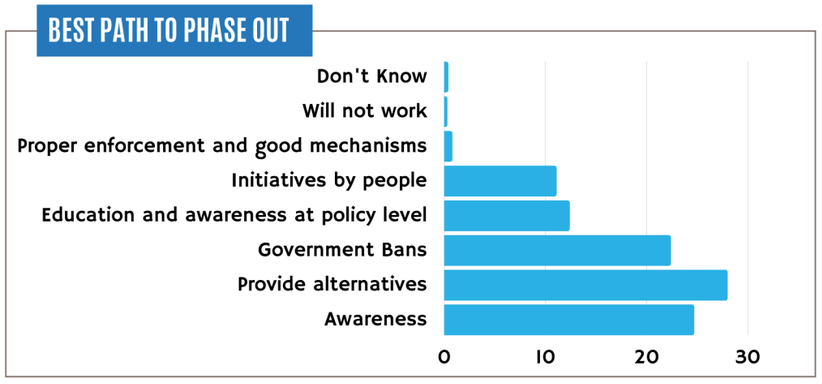

Figure 25. Perception of households on how the 2023 SUP can be effectively implemented

5. Conclusion

The household waste survey in Hulhumale was conducted as part of the HOME project activities to gain understanding of SUP use behavior of households in Hulhumale. The survey was conducted by enumerators using both in-person and phone administration. A total of 321 people were surveyed to collect information.

The most commonly used SUP was found to be plastic bags. The most common source and also use of plastic bag is for grocery shopping. Various estimates from the survey data show that annually about 3 to 4 million plastic bags are used in Hulhumale households. It was an interesting observation that many people were comfortable with carrying groceries in plastic bags but not for carrying personal items. This is believed to be because people do not want others to see the content of personal items. More than 96% of survey respondents indicated that if compostable bags were affordable and easily available, they would use compostable bags for lining bins. Currently there are no compostable bags directly available in the Maldives market. As people have noted, the requirement by WAMCO to put waste in plastic bags for collection is a real challenge to stop using plastic bags.

This was noted by those practicing other sustainable SUP practices. There can be a significant role that WAMCO can take to provide households with compostable bags for collection of waste.

The finding that quite a number of people use reusable bags for going to the market was interesting and higher than expected. This may be a positive effect of awareness campaigns that were recently done by Plastic Noon Gotheh at markets in Hulhumale. Other notable sources of SUPs at households include takeaway or food deliveries, home-based businesses and parties and functions. It is positive to note that plasticware used in parties is very few. However, the survey did not capture family and social picnics, as it was done during the Covid-19 period, which is a high generator of plastic waste. This also need to be studied further.

One of the biggest challenges to implementing the survey was the Covid-19 situation in the Maldives. In addition to impacting the preparation and administering of the survey, some of the information collected may have some biases.

The use of plastics in the form of disposable items has increased due to the pandemic. Another is the restricted movement and social interactions over the last year and more. Therefore, when reporting family gatherings, people may underestimate as such activities are less during the current pandemic situation. However, in general a lot of useful information has been gathered from the survey.

The next step is the use of the information gathered to plan the next phases of the HOME project. These findings will be used to 1) design in-depth engagement with households to try alternatives and 2) share the information with Government and businesses and try to support the provision of alternatives in the market.

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