



Sustainability and Gender in Select Filipino Households

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Abstract

Cognizant of sustainable development are home practices and family members' roles. Therefore, it is apt to study how it proceeds at home. Consequently, this study investigates the structures and household and sustainability practices in selected Filipino homes. Moreover, the present study seeks to find if gender affects the roles of family members in the conduct of sustainable practices at home. Through a parallel convergent mixed-method design, the data gathered from the survey and focused group discussions describe the household's efforts in the research locales to observe sustainable practices in managing their homes. However, the data also showed that certain unsustainable practices exist, like solid waste management. Lastly, results reveal that women, specifically mothers, promote and practice sustainable development at home. Therefore, the study recommends strengthening the efforts to put forth sustainable measures at home and developing programs that will encourage gender equality in the said process.

Keywords: Sustainable Development, SDGs, Gender Bias, Filipino Home

Introduction

The international and local organizations put forth efforts to promote sustainable development among citizens. According to Brundtland (1987), sustainable development is the appropriate management of resources to ensure that there will be enough for the future generation while addressing the present needs. The United Nations Development Program (UNDP) (United Nations, 2015) established the Sustainable Development Goals (SDGs) for collaborative efforts of different countries. Contextually, through the National Economic and Development Authority (n.d.), the Philippine government launched the "*Ambisyon Natin 2040*" or Vision 2040 in 2017. The long-term plan seeks to help achieve the SDGs by the UNDP (United Nations, 2015). With the joint efforts of the international and national sectors, how are the visions transferred at a grassroots level? Hale (2018) posits that while the international and national efforts are noble, a gap between intentions and practice exists.

A home is a fundamental unit of society that can significantly affect human behavior and effectively transfer culture among its members. Therefore, it is necessary to investigate how the identified SDGs translate in the foundational level of society, such as the households. With sustainable development in mind, Hale (2018) pointed out that "the relationship between human behavior and sustainability is not yet well-explored". Hence, this research aims to bridge the gap between knowledge and practice on the sustainability of households.

Contextually, some researchers posit that Filipino culture promotes sustainability. Caruncho (2012) said that Filipino architectural structures were designed with green thinking. For instance, Caruncho cited structures such as the Coconut palace and the Edsa Shrine as examples of structures that pushed sustainability principles in its structures. More importantly, Caruncho (2012) elaborated that the Filipino's "*bahay kubo*" or nipa hut culture is the most significant symbolism of observing green living. The *bahay kubo* is a small house made of indigenous materials with expansive windows for natural light and ventilation. The garden surrounding a typical Filipino *bahay kubo* also boasts crops and vegetables that promise good food sources for the families.



However, the industrialization era did not exclude Filipino families. The modernization of the society also seemed to challenge the continuation of sustainability principles in Filipino homes. Therefore, this study aims to describe household practices in rural and urban areas in the country.

Strategically the researchers purposively identified participants from rural and urban areas to provide a glimpse of typical household management and describe the challenges in sustainability practices. In this

Another gap that the present research aims to address is gender disparity in household sustainability practices. Upon reviewing the literature, only a few pieces of research are still available on the said idea. Hence, the present research results can inform methods to address issues of gender inequalities in the household.

Specifically, this research aims to answer the research questions: (1) What are the household practices of Filipino homes and their practices to promote sustainability? (2) Is there a gender gap that exists in household practices?

Sustainability at Home

A home is where individuals fundamentally develop to become what they can be. Thus, homes are the ultimate avenue to train individuals to realize the importance of sustainability. According to Rika (2017), a sustainable home considers three primary areas: environmental considerations, social factors, and economic gains. In other words, sustainable home is efficient, respects the environment, manages resources wisely, optimizes energy and water use, and ensures that resources will last long.

In building a house, ventilation is one of the most critical factors. A well-ventilated house ensures that its family members can live and perform their activities comfortably. Oropeza-Perez (2019) described that a home's "thermal comfort" could secure its occupants' welfare. In tropical countries like the Philippines, ventilation is essential because the weather can be scorching during certain months.

In effect, there are periods in a year where certain health diseases related to the environment's temperature are high. Oropeza-Perez (2019) described that poor ventilation could cause health problems such as dizziness, nausea, flu, and many others. To cope with the challenge, Oropeza-Perez (2019) and Jain (2019) agree that the best way to manage ventilation problems is using natural ventilation such as windows and open spaces. However, they also acknowledge that electric fans and air conditioning units can help. They further suggest cleaning the electric fans frequently to make them more efficient. More importantly, Jain (2019) suggests that the ideal temperature for air conditioning units is about 24 degrees Celsius. At this temperature, one can be comfortable and at the same time save on electricity.

Another vital aspect of a house is its lighting facilities, which should be efficient. An efficient lighting system provides the right amount of light in a particular space with the least energy needed. Balocco & Volante (2018) described that while several factors are essential in designing the lighting setup at home, saving energy is primary. Thus, Williams College (n.d.) pointed out that the best light source is still natural daylight, but artificial lighting systems are inevitable.

Presently, the three most common products are used for artificial Lighting: incandescent, fluorescent, and Light-Emitting Diode (LED). In Beciri's (2012) article, he compared the said products. He pointed out that even if incandescent lamps are the easiest to manufacture, it is the least efficient since their life span is short and has components that can harm the environment. In contrast, most researchers agree (Williams College, n.d.; Balocco & Volante, 2018) that LED is the most efficient artificial Lighting. The LED only uses 25% of the incandescent's energy and does not emit energy as heat (Williams College, n.d.). Therefore, using LED can mean 80% energy savings and reduce greenhouse gases emitted into the atmosphere.



Meanwhile, doing laundry at home is unavoidable, but it impacts the environment (Lima, 2019). According to Laitala et al. (2020), sustainable laundry considers all sides of conservation by limiting energy and water consumption. Lima (2019) listed ways to do sustainable laundry, such as washing clothes in ‘full load’, minimizing dryers, and using environment-friendly detergents.

In their many studies, the World Health Organization (WHO) has pointed out another significant factor in describing a sustainable home—the fuel used at home. The book “Fuel for Life Household Energy and Health” by Rehfuess & World Health Organization (2006) elaborated that household fuel can contribute to pollution. According to them, almost 3 billion of the world’s poorest people still rely on solid fuels such as wood, coal, and animal dung to cook their home food. Consequently, the World Health Organization (2014) cited that “air pollution from household fuel combustion is the most important global health risk”. More importantly, women, in particular, are at risk of using unsustainable fuel in the kitchen since they are preparing their families food. Therefore, Rehfuess & World Health Organization (2006) strongly recommend that there should be a ‘quantum leap’ of encouraging households to use alternative fuels at home.

A sustainable home must also consider its waste management practices. Seadon (2010) mentioned in his study that sustainable waste management involves feedback loops, focuses on process, incorporates adaptability, and redirects waste from disposal. Further, his study reiterated that transitioning from traditional to sustainable waste management systems requires identifying and applying leverage points. Ribić et al. (2017) cited in their study that there must be a strong need to introduce integrated solid waste management. Suh is by improving the existing recycling system, encouraging people to segregate the volume of domestic waste, and educating the public and government on the benefits of abandoning landfill.

Another essential aspect that a sustainable home must consider is shopping. In her article, Cline (2019) discusses that reducing water usage, fossil fuel consumption, and toxic chemicals at the supply chain level are the factors of sustainability initiatives by different companies. Muthu et al. (2012) found that plastic as shopping bags in China, Hong Kong, and India is evident, particularly among young consumers. Such behavior poses a threat to sustainability. Muthu et al. (2012) suggested that industries and governments should educate consumers to eliminate their ‘throw-away’ mentality and start with shopping bags.

Lastly, transportation is another household practice that families should consider for sustainability. Deakin (2001) pointed out that sustainable transportation can be an effective strategy for equality and alleviation of poverty. Hence, household practices in transportation directly affect sustainability. Sultana et al. (2019) described that transportation in urban cities has changed through time, and governments push for more sustainable vehicles that consume renewable resources.

Gender and Sustainability

The business of promoting sustainability at home should include all gender. However, Elliott (2021) researchers pointed out that it seems that is not the case. Elliott (2021) described that the issue of gender and sustainability is not new, and it seems that females take the lead in fighting the challenge. Significantly, mothers at home are in charge of promoting and maintaining sustainability practices. Elliott (2021) concludes that a ‘green’ gender gap exists.

Women seemed to champion the sustainability cause (Ha & Williams, 2013). Remarkably, they studied why women exhibit environmentally relevant behavior. Ha & Williams (2013) theorized the ‘motherhood effect’,

which describes that mothers play significant social roles as nurturers and cater to children at home. It seems they extend such roles toward the environment.

On the other hand, the question of why fathers or males, in general, seemed to be on the other end of the spectrum interests Brough et al. (2016). They conducted a single-category implicit association test among males and females. They found that men seemed to ‘resist’ going green or practicing sustainable measures because of the close association of sustainability with femininity. Respondents think being conscious and practicing ‘green’ measures is just for women. In effect, the respondents felt a gender threat when participating in sustainability. Interestingly, not only do men think in that manner, but women share the same view of gender roles towards sustainability.

The bigger question of why men feel gender threat has been an interest of other researchers (Harris & Metler, 2014; Vecere, 2012; Lazaro, n.d.) found that fathers’ seemingly uninterested disposition towards sustainability is primarily due to the expectations of the community on them. Similarly, Elliott (2021) describes that the community perceives fathers to have a lesser role in addressing sustainability. Perhaps due to different companies’ marketing strategies for specific products. Television commercials, in particular, portray mothers doing household tasks using specific products. This practice may have led to stereotyping of mothers being in charge of promoting sustainable practices at home.

In the same vein, Vecere (2012) pointed out that perhaps the observations on the gender gap are due to fathers’ evident exclusion in sustainability programs. Because of this, Harris & Metler (2014) call for programs to let fathers realize their responsibility toward sustainability. They said there must be a growing understanding in the community that the function of fathers ‘does not occur in isolation and that they are part of the system. Fathers are to participate in the family ecology not just as a support to the mothers but as partners. However, Vecere (2012) warns that while efforts to include fathers in promoting sustainability are present, the implemented programs are not sustainable.

Methods and Materials

Research Design

To answer the different research questions in the present study, the researchers employed the convergent parallel mixed-methods design, which, according to Creswell & Plano Clark (2011), the simultaneous use of quantitative and qualitative methods to investigate a problem. How such a design operates in the study is shown in Figure 1.

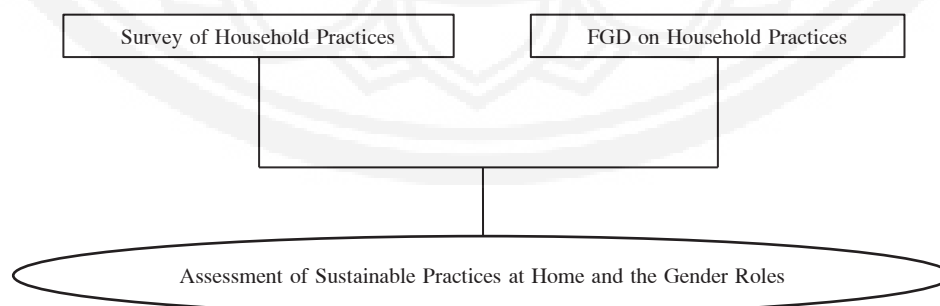


Figure 1 Convergent Parallel Mixed-methods Design for Sustainable Practices and Gender Roles at Home.



Figure 1 shows that the research proceeded in two phases—survey and FGD. The survey phase gathers quantitative descriptions of the household practices among the research respondents, while the FGD phase examines in-depth practices. The quantitative data from the survey and the qualitative results from the FGD were integrated (through juxtaposition and embedding) to determine sustainable practices and gender disparity in the household.

Research Instruments

The survey phase of the research used a researcher-designed questionnaire. The survey questionnaire underwent two rounds of validation. The first round was participated by nine doctoral students who critiqued the face validity of the questionnaire. The validators clarified some terms in the said process and suggested simplifying a more straightforward response. After the researchers incorporated the suggestions of the validators, they submitted the draft for content validation among environmental science education experts. An overview of the questionnaire and some sample questions are shown in Table 1.

Table 1 Features of Survey Questionnaire

Content	Sample Question
Demographics	Name, Gender, Number of family members, financial income
Household Structure and Appliances	<i>How will you describe the nature of your household?</i>
	<i>What appliances do you use for ventilation?</i>
	<i>What form of light source do you use?</i>
	<i>What is the main fuel that you use for cooking food?</i>
Waste Management	<i>How do you manage the different types of waste you have at home?</i>
Transportation	<i>What mode of transportation does your family take to go to different places?</i>
Shopping and Logistics	<i>In buying materials, what kind of shopping bag do you usually use?</i>
Roles of Family Members in the Household	<i>Which family member usually promotes the following functions?</i> <i>(list of sustainable practices follow)</i>

On the other hand, the questions drafted for the FGD were also based on the survey questionnaire but focused on sustainability and gender disparity. Using the survey/interview validation rubric for the expert panel by Simon & White (n.d.), the experts rated the instrument and the research questions, in general, to have met expectations with modifications.

Research Locale

In selecting the research locale, the researcher purposely chose the laboratory schools of a university with an urban and rural setting. Both research locales are similar in population, demographics, and setting. The urban research locale is in the National Capital Region, with families living in the different parts of the metro. Meanwhile, the rural research local is in the Region VI of the country with families living near the area of the laboratory school.

Demographics of Respondents

The total population size for rural and urban areas is 510 students, and the researchers identified one parent for each child to participate. The researchers referred to the formula of Qualtrics (n.d.) to compute the population size, resulting in 220 participants. In the actual survey, about two hundred fifty-three respondents ($N = 253$) participated in the study. One hundred fifty-one respondents ($n_r = 151$) were from the urban research locale, and one hundred two respondents ($n_u = 102$) were from the corresponding rural research site. Among the 253 respondents, only 214 identified their gender. In all, there were about 50 males ($n_r = 29$, $n_u = 21$) and 164 female ($n_r = 101$, $n_u = 64$) known respondents.



Generally, both respondents are primarily in inclusive communities like barangays, residential compounds, small villages, and housing projects (55%), while some exclusive live-in areas include subdivisions, condominiums, townhouses, and apartments (42%). Some 3% of the respondents did not describe the nature of their community. Financially, most respondents (45%) described their household as below average. In contrast, some respondents signified that their family income falls on average (30%), and 14% said they are above average.

Data Gathering Procedures

Survey

The survey phase for the two research locales happened during an institutional event attended by the respondents. The data gathering proceeded with the help of pre-service teachers who acted as field researchers and voluntarily asked the respondents to accomplish the research instrument. However, after the said conduct of the data gathering procedure, the researchers deemed that they needed additional responses. Therefore, the researchers sent the survey instruments to the classes identified with few respondents or whose parents were not around during the event. The instruments were then collected days after the distribution.

Focus Group Discussions (FGD)

In the FGDs, the researchers invited at least one parent representative of each grade level in the research locale. However, not all invited parents were present on the day of the FGD. About ten parents or guardians of varied backgrounds attended the activity for both research locales. The FGD for both research locales lasted an average of 4 hours. Specifically, the respondents of the FGD answered the following questions:

1. How do you observe sustainable measures in your different household practices?
2. How does each family member help in promoting sustainability? Do you think there is a gender bias in your household practices?

Data Analysis Procedures

As the data collected are quantitative and qualitative, the researchers used respective data analysis procedures. The researchers used descriptive statistics to interpret the survey data, particularly the mean. The initial data analysis shows similarities in the results for both the rural and the urban research locale; hence, the results section presents a collective interpretation.

Meanwhile, the researchers conducted a deductive thematic analysis to interpret the FGD results.

The researchers initially met to discuss the potential bias that may influence the study. Then they decided which theme to follow in analyzing the FGD data. The researchers then proceeded with the independent coding and process and decided on the data's final coding.

According to Creswell & Plano Clark (2011), data integration in mixed-method studies is crucial. In this study, the researchers used joint display and embedding processes to integrate the data collected for the quantitative survey and the qualitative FGDs. Specifically, the researchers used a joint display method to analyze the sustainability practices at home. In contrast, embedding was used to discuss how the respondents observe gender roles in their household practices. Since the survey questions allow multiple responses from the respondents, the researchers decided to present the result in percentages to describe the practices better.

The researchers presented the results to the respondents for their comments and suggestions to validate the data analysis. The researchers gathered the inputs and incorporated them into the final write-up of the research.



Ethical Considerations

Before the data gathering procedures, the researchers sought permission from the heads of offices of the research locales. After obtaining permission, the researcher proceeded with the data gathering procedures. The respondents' participation in the study was entirely voluntary, and the researchers informed them of the extent of their participation.

Results

Household Practices of Respondents

The first research question this study aims to answer is “what are the household practices of Filipino homes and their practices to promote sustainability?” Table 2 presents the juxtaposed data gathered from the survey and FGD conducted.

Table 2 Household Structures, Activities, and their Efforts for Sustainability

Area of Household	Structure or Practices (Average Data between Urban and Rural Locales)	Sustainability Efforts and Frequency
Source of Ventilation	<ul style="list-style-type: none"> ▪ Electric Fan: 99% present in households; 7 to 10 hours use; 4 units per household ▪ Air-condition Units (A.C.): 68% present in households; 4 to 6 hours use; 1 unit per household; 20°C temperature preference 	<ul style="list-style-type: none"> ▪ availability of windows (4) ▪ setting time, season, and activity when to use appliances for ventilation ▪ preference of using the least energy-consuming appliance for ventilation ▪ regular cleaning of appliances
Light Source	<ul style="list-style-type: none"> ▪ LED: 88% present in households; 16 to 20 hrs average use ▪ Fluorescent: 38% present in households; 1 to 5 hours of use ▪ Kerosene-fueled Lamplights: 19% present in households; 1–5 hrs use ▪ Solar-powered Lamps: 11% present in households; 5 to 10 hrs use ▪ Incandescent: 8% present in households; 1 to 7 hours of use 	<ul style="list-style-type: none"> ▪ regulating the use of artificial light source ▪ preference for using environmentally friendly resources for artificial Lightings such as LED lights and solar panels
Washing of Clothes	<ul style="list-style-type: none"> ▪ Washing of Clothes: 66% washing machine; 38% handwash; 5% laundry shop 	<ul style="list-style-type: none"> ▪ Washing of clothes is regulated ▪ Recycling of water from the washing machine
Food Consumption	<ul style="list-style-type: none"> ▪ Cooking of Food: 86% Gas stove; 14% electric stove; 4% firewood; 8% charcoal ▪ Food Source: 86% locally grown; 2% imported products; 8 mixture of both ▪ Composition of Diet: 84% mixture of meat and vegetables; 7% mostly meat; 4% vegetarian 	<ul style="list-style-type: none"> ▪ Cooking only what is enough for the family to avoid spoilage of food ▪ The meal for the day is cooked altogether at a time ▪ Recycling leftover food



Table 2 (Cont.)

Area of Household	Structure or Practices (Average Data between Urban and Rural Locales)	Sustainability Efforts and Frequency
Waste Management	<ul style="list-style-type: none"> ▪ Biodegradable Materials ▪ Papers: 48.98% were collected and brought to a recycling center; 41.50% were thrown away ▪ Food and Other Organic Products: 38.94% thrown away ▪ Non-biodegradable ▪ Glass: 46.25% collected; 42.29% thrown away ▪ Plastic: 61.39% collected; 27.27% thrown away ▪ Metals: 53.36% collected; 30.43% thrown away ▪ Broken Gadgets/Unused Appliances: 48.22% collected; 34.78% thrown away ▪ Old Clothes: 60.47% collected; 11.45% thrown away ▪ Residuals: 30.04% collected; 46.25% thrown away 	<ul style="list-style-type: none"> ▪ Used of compost pit ▪ Segregate wastes ▪ Collection of waste materials that can be sold
		<ul style="list-style-type: none"> ▪ Scheduled mall visits ▪ Going to thrift shops for clothes ▪ Weekly purchase of materials in the grocery ▪ Buying what is needed only ▪ Maximizing the use of materials ▪ Prefers natural products
	<ul style="list-style-type: none"> ▪ Shopping Bag: 67% eco-bag; 45% plastic; 27% paper bags; 8% native bags 	
		<ul style="list-style-type: none"> ▪ Walking ▪ Use of a car is scheduled and planned ▪ Prefers public utility vehicles
	<ul style="list-style-type: none"> ▪ Preferred Mode of Transportation: private cars 43.38%; public transport 80.24% 	

Notably, the most significant number of responses in the FGD revealed that the respondents perceive natural ventilation to be the most sustainable practice. Regarding sustainability practices on ventilation, the juxtaposed data in Table 2 revealed that the respondents prefer practices that they can lessen and manage their electric bills. Such is evidenced by more electric fans than the air-conditioning units. Both data sets also indicate that the respondents regulate the use of ventilation appliances regarding the number of hours and the year's season. Two respondents from the urban locale said they only use aircon during nighttime or summer. Sometimes, they use other electric fans if dinner time when many of their relatives are present.

The data on light sources in Table 2 shows that most respondents have LED lights in their homes and operate at an average of 16 to 20 hrs. On the other hand, incandescent lamps are the least preferred light source, with only 8% of the respondents signified to have them. The data also shows that fluorescent light had the most difference (12%) between the two research locales among the sources of light identified. The households in the urban research locale have a higher percentage of fluorescent lamp use than in the rural research locale. Regarding sustainability, the results reveal that the participants prefer LED lights, and the use of solar-powered lamps are also existing. The results on the FGD seemed to describe that the respondents' preference for LED lights stems from their desire to use environmentally friendly light sources at home.



RV2 said they recycle the wastewater from the washing machine *in washing clothes*, “...we used it (wastewater) to clean the floor”. RV1 also indicates an awareness of conserving water and electricity in doing laundry. In effect, they regulate its use and schedule their washing of clothes.

When cooking, RM1 described that she only cooks enough food for her family so no leftovers will remain. RV5 described that sometimes rice gets spoiled in their house in the same vein. That is why she only buys quality rice, which does not spoil quickly. RM3 agrees that it is better to cook on a particular day, as she said: “...*isang lutuan lang the whole day*” (we cook our food in a day) to save gas.

The waste management in the household seemed familiar to both research locales. Upon the FGD, the rural and urban respondents shared the same practice of collecting waste products that can be recycled or sold.

In fact, “we practice segregation”, said RV4 and RM2. However, making compost pits is evident among respondents from rural areas.

The respondents also appear to be conscious of their shopping and logistics. The respondents from the rural and urban areas were firm in their conviction of not buying materials if the current one is still working. RM1 said that “[a]s long as pwede pa gamitin, hindi bibili (as long as it can still be used, we will not buy)” while RV4 said that “*indi magbakal bayo if magamit pa ang recent* (we will not buy clothes if the recent one can still be used)”. With these statements, it appears they want to maximize the use of the products they bought. Other sustainable measures that the respondents observe are going to the thrift shops to buy clothes and observing scheduled visits to the mall. Lastly, in buying food, the respondents from the rural areas described that they prefer natural food such as fish rather the processed ones.

Lastly, another area of sustainability that was evident in the FGD is the use of transportation. Both respondents from rural and urban areas agree that they prefer public utility vehicles to avoid other circumstances such as traffic and parking. Those with private cars schedule their activities to plan the best and most efficient route. With such preconceived notions on transportation, most respondents prefer the natural way of transportation—walking.

Gender and Sustainability at Home

The present research also seeks to identify the gaps in the roles of the family in promoting sustainability measures at home. The research question asked is, “is there a gender gap in the household practices?” Table 3 reveals the results of the data gathering process.

Table 3 Roles of Family Members in the Different Household Processes

Family Member	Household Processes												Average		
	Management of Resources		Recycling of Materials		Waste Management		Budgeting of Finances		Shopping of Materials		Performing Household Chores				
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Total
Father	23	28	15	15	21	19	13	12	8	5	6	4	14.3	13.8	14.08
Mother	49	34	46	45	39	50	62	58	53	64	40	40	48.2	48.5	48.33
Daughter	0	3	3	1	1	0	1	1	1	1	1	2	1.2	1.3	1.25
Son	0	0	3	1	5	0	0	0	0	0	3	0	1.8	0.2	1.00
Shared Responsibility	19	26	24	31	23	23	14	23	22	21	33	39	22.5	27.2	24.83
No Response	9	21	11	17	11	9	10	7	4	9	12	13	9.5	12.7	11.08

*All data are in percent (%)



Table 2 shows that mothers play significant roles in the identified household processes. There is a significant percentage difference between mothers and fathers in performing the identified roles. Though a significant percentage is also indicated for shared responsibility, the mother performs more in the household processes. Such perception is consistent in all household processes and between the two research locales. The data also shows that daughters share most of the chores than sons. Therefore, females perform more roles in the household than males.

However, the responses from the FGD seem to disagree. Most responses indicate a ‘shared’ role of responsibility in their homes. RM3 said that “...*basta gagalaw lang kame kug ano yung mga dapat gawin sa bahay* (we perform the task at home when there is one” and RM4 agreed that “[*b*]*igayan lang sa trabaho* (we share the work at home)”. The researchers acknowledge that one of the study’s limitations is the number of respondents.

In the FGD, only about 15 respondents participated in the study; hence their responses might be limited to their context only. Comparing the two results, it appears that the data conducted from the survey represents more of the total respondents in the study.

Discussion

The results presented seem to imply several areas—SDG attainment, participant motivation on sustainability, and gender roles in sustainability. This section explains further the said implications.

On the Attainment of SDGs at Home

SDG 11, as described in the literature review, is focused on the sustainability of cities and communities. Consequently, the research results appear to support the achievement of SDG 11 since most of the respondents are conscious of their practices that can help alleviate joint problems such as transportation and using sustainable resources. However, the researchers posit that efforts should still be made since practices threaten the sustainability of cities and communities. Remarkably, the use of solid fuels and non-sustainable artificial Lighting still exists, though only at a minimal percentage.

In SDG 12, which is on responsible consumption and production, the survey results show that a significant percentage of plastics used for shopping is still evident. While many urban cities in the country banned plastics for shopping, some cities still allow it, one of which is the urban research locale. The data also shows that most waste for both research locales is still thrown away. With such practice, the consumers should have options of buying products they can dispose of without posing a threat to the environment and society. As Seadon (2010) reiterated, consumers should know the waste management loop to guide purchasing materials. Furthermore, Akenji et al. (2015) stressed that consumers should be aware of their choices in shopping and be responsible consumers.

Finally, the research results imply something to SDG 13, which aims to mitigate the effects of climate change. Some respondents implied they prefer having their clothes washed by laundry shops. According to Moon et al. (2020), these laundry shops may use products that adversely affect the environment. Moreover, the temperature preference of the respondents in the use of air conditioners may not be efficient and requires higher electrical use, thus posing harm to the environment. Either implicitly or explicitly, the research results reveal practices from the respondents that still need to be improved to help combat climate change.

On Motivation for Sustainability

The participants in the focus group discussions clearly identified the motives and motivations for what they claim, known as sustainable domestic lifestyle and behavior. When asked about sustainability and sustainable practices in their respective household, the participants responded positively. Most sustainable practices include



economic use of aircon and other electrical gadgets, recycling, gardening, walking and taking public transportation, reusing and repairing old or broken houses and personal items, and fewer dining out days. When asked for the reasons for these pro-sustainable behaviors, their responses are not generally rooted in pro-environmental motives. However, very few participants cited caring for the environment as an incidental consequence of their behavior.

External and internal drivers seemed to affect the respondents' preference for a sustainable lifestyle. The internal factors pertain to the participants' motives for doing sustainable practices. These internal factors seemed evident in the respondent's activities, such as the use of air-conditioning units to save on electricity, walking to do errands instead of driving to save on fuel expenses, buying materials during store or mall sales only, purchasing second-hand clothes which are cheaper compared to brand-new and imported food items. Essentially, their environmental behavior exudes from personal interests, not environmental or other deeper concerns. For instance, they conserve electricity to save on monthly bills, practice water-saving to reduce the work of fetching it from the source, consume sustainable seafood to avoid diseases, and avoid unsustainable fishing methods and gear out of legal pressure. Indeed, it appears that the pro-environmental behavior of the families reveals that they choose to do behaviors that align with their personal needs.

On Gender Roles for Sustainability

On the other hand, barriers also prevent participants from practicing sustainable lifestyles within and outside their domestic premises. These factors, organized into personal and socio-cultural themes, include biological elements, habits, attitudes, interests, awareness of environmental issues, family functions, and dynamics. One insightful analysis from the focus group discussions was the minor systematic division of labor in most households, which saw most mothers or stay-at-home wives mainly responsible for doing and managing household chores. According to Meinzen-Dick et al. (2014), fathers generally take the responsibility as the family's breadwinner while mothers or wives stay at home to look after the children and do household chores. Furthermore, the results corroborate with Meinzen-Dick et al. (2014) that disadvantaged families tend to assign pro-environmental practices to mothers and wives in the family. Most participants argued that they do not mind doing much or all of the housework if their children can devote more time to their studies. This similar dynamic is also evident among indigent families.

Consequently, this finding is reinforced by the latent meanings in the participants' responses on whether they think a gender bias exists in their household, particularly in sustainable behavior. All of them explicitly stated that none is occurring within their family. When probed whether they understand the meaning of gender bias, most participants contended that these are the standard family functions of a Filipino household; that fathers put food on the table, mothers do the housework, and children focus on their studies. The participants are receptive to this notion; they also believe that this definition of roles among the family members is fair and proper. They asserted that family members who are asked to do beyond what their central role calls for might no longer have the energy, time, and focus left. For instance, instead of asking the children to participate in the housework such as gardening, taking out the garbage, composting, and repairing broken items, most mothers would rather have their children enjoy their rest and recreation such as watching television using their phones and playing with their tablet. According to most mothers, this is a simple break for their children from tedious schoolwork throughout the week. Hence, they believe it is only fitting that each household member has a specific role to play and cannot be asked to do housework regularly.



Payne (2015) asserted that families could not establish an ecopraxis that efficiently divides tasks and labor in this dynamic. This action promotes gender stereotypes, but little to no division of housework precludes learning experiences for fathers/husbands, children, and other household members to develop the proper knowledge, attitude, skills, and active caring for the environment (Meinzen-Dick et al., 2014). In addition, Payne (2015) described a domestic eco-praxis as normalized through habituation of environmental practices. So, when other family members are not involved in the doing component of ecopraxis, pro-environmental behavior does not transpire among members who do not share. It is also possible that the whole domestic ecopraxis falls through due to 'weak links' (i.e., not participating) in the family. Hence, cultural and family norms may be the most challenging of all factors to turn around because these are deeply woven into the society's fabric and the person's disposition and value system. Finally, the present study's findings support the idea that household ecology, which includes family functions, can influence the acculturation and embodiment of a sustainable lifestyle within the family.

Lastly, the study's results inform the attainment of SDG 5 in the country. SDG 5 (ECLAC-United Nations, 2019) aims to promote gender equality in the community for a peaceful, prosperous, and sustainable world. The study's results imply that gender equality in household chores needs to be further encouraged at home. Though the women respondents appear unbothered by the bias evident in the practice, schools and communities should encourage all gender to practice sustainability.

Conclusion and Suggestions

The current research primarily describes the household practices of respondents from both rural and urban. From the survey results, it appears that in most household areas studied, the data gathered shows that the respondents' practices, in general, are leaned towards sustainability. However, the data also revealed that household practices need further improvements, such as the presence of and use of unsustainable energy sources and artificial Lighting.

On the other hand, the results of the FGD revealed that the respondents seemed to understand sustainability to primarily deal with the consistent implementation of processes at home that requires planning and budgeting to provide stable and efficient resources to the family, which can affect the community and the environment. Which such understanding, the respondents in the FGDs shared how they promote sustainability at home. The practices that the respondents have shared appear to promote sustainability indeed. However, the FGD results also revealed that the respondents' motives for their practices are primarily anchored on the external driver, 'saving' monetary resources.

Another objective of the study is to investigate if there is a gender bias in household practices and the results of the survey appear to confirm that there is with mothers doing most of the roles at home. Though in the FGD, the respondents were adamant about the term 'gender-bias' and acknowledged that fathers also share in the household work, it was evident that mothers are the key role players in household chores. Such role assumption seemed not to be imposed on women, but they take it as a responsibility.

Lastly, the results of the survey and the FGDs appear that the respondents are taking measures for sustainability. Though their motivation may not be directly equated to helping the environment, their practices might coincidentally help mitigate sustainability problems. Nevertheless, several challenges in the practices of the respondents appear in the survey and the FGDs. Mainly, the use of solid fuels and non-sustainable artificial Lighting still exists, though only at a minimal percentage. A significant percentage of use plastics for shopping is still evident. The data also shows that most waste for both research locales are still being thrown away. Finally, some respondents said they prefer washing their clothes by laundry shops, implying environmental hazards.



With the study's results, the researchers suggest that policies to enhance gender equality in the practice of sustainable principles be developed. These policies may include regulating information literacy and advertisement that will safeguard the promulgation of conditioning gender bias in the different media outlets. Also, policies that will help and empower communities to practice sustainability may be strengthened. In addition to no plastic policies by specific local government units, incentives for sustainable practices may also be explored. Lastly, industrial policies that will regulate the production and consumption of unsustainable products may be further developed.

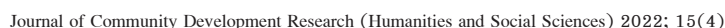
While the current study depicts a typical household scenario in the country, it acknowledges its limitation and recommends further study. For instance, the survey questionnaire could be improved to include questions that specifically asked about sustainability practices in the different household areas. The researchers recommend reviewing the FGD results and include in the identified measures in the research questionnaire.

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