

Water Scarcity and Women: Its Impact to the Way of Living of the Female Residents in Barangay Simandagit, Bongao, Tawi-Tawi, Philippines

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Abstract: *This study aimed to describe the impact of water scarcity to the way of living of the female residents in Barangay Simandagit. Specifically, this sought to answer the demographic profile of the respondents; the impact of water scarcity to the way of living of the female residents in Barangay Simandagit in terms of physical and socio-economic, and; opinion of females in Barangay Simandagit regarding water collection despite impacts and legal implications. This study employed a quantitative descriptive design which was used to measure the frequency of the responses. This was conducted at the Municipality of Bongao, in the province of Tawi-Tawi, Philippines with the thirty five (35) female residents of Barangay Simandagit who directly experienced the impact of water collection as the respondents. Data gathered from questionnaire were treated statistically using a Percentage Distribution, the Weighted Mean, and the Likert's Five Scale Model. This study revealed the following findings: (1) On physical impact, female residents in this barangay experienced muscle pain, unnecessary muscle formation, mental and physical stress, no rest, and illness. (2) On socio-economic, they experienced difficulty in time allocation, no leisure, extra expenses for water collection, difficulty in allocating budget for the daily needs which includes water for hygiene and sanitary use, vulnerability of young female water collectors to informal courtship, feel inferior from men who are suppose to be doing this heavy work, and security issues. (3) On their opinion regarding water collection despite impacts and legal implications, female residents in this barangay perceived water collection as their responsibility and not a discrimination nor a gender role bias. This is so because they believe that household chores are closely associated with water so providing water by any means is just a normal task. Moreover, they would still continue collecting water despite physical and socio-economic impacts because this is a kind of achievement for them as a mother, a wife, and/or a sister in the family.*

Keywords: Water Scarcity, Women, Impact

1. Introduction

Background of the Study

Simandagit is a barangay in the municipality of Bongao, in the province of Tawi-Tawi. Its population as determined by the 2020 Census was 8,741. This represented 7.53% of the total population of Bongao. The population of Simandagit grew from 644 in 1990 to 8,741 in 2020, an increase of 8,097 people over the course of 30 years. The latest census figures in 2020 denote a positive growth rate of 0.38%, or an increase of 157 people, from the previous population of 8,584 in 2015. Simandagit is situated at approximately 5.0161, 119.7704, in the island of Bongao. Elevation at these coordinates is estimated at 10.2 meters or 33.5 feet above mean sea level.

Barangay Simandagit has different cultures and ethnicity. People are Sama, Badjao and Tausug. Men are usually fisherfolks, farmers, or employees in establishments in the municipality, Some of their women are working in business establishments in while the others are plain housewives. Some have small sari-sari store, tailoring, small-scale handicraft business. Others are peddling either delicacies, vegetables, or fresh catch fish or dried fish. There are also students and out of school youth in the community.

Women in Barangay Simandagit, like other common and typical Filipino woman, plays a vital role in the community. Married women play significant different roles in the family. They do the budgeting, managing and organizing inside the house, planning of course is entrusted to the husband. One of their tasks is doing household chores either married or not.

To successfully do the household chores, they need enough supply of water in washing the dishes, clothes, for cleaning raw foods, cleaning the house, watering the plants, and the like. Doing these household chores is not easy for them due to difficulty in having enough water supplies in their houses considering the fact that they are dwelling in houses far from the main source of water in the community. They experienced so much struggle in fetching water and in having enough water supply in their houses. Those who have less container tank in their houses are forced to fetch water every day. Despite these hardships, they remain committed with their role in their respective family and homes.

Throughout history, the central role of women in society has ensured the stability, progress and long-term development of nations. Globally, women comprise 43 percent of the world's agricultural labor force – rising to 70 percent in some countries. For instance, across Africa, 80 percent of the agricultural production comes from small farmers, most of whom are rural women. It's widely accepted that agriculture can be the engine of growth and poverty reduction in developing nations. Women, notably mothers, play the largest role in decision-making about family meal planning and diet.

Women are the pioneers of nation. According to a report of secretary general of United Nations, women constitute 50% of human resources, the greatest human resource next only to man having great potentiality. Women are the key to sustainable development and quality of life in the family. The varieties of role the women assume in the family are those of wife, leader, administrator, manager of family income and last but not the least important the mother.

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As a wife Woman is man's helpmate, partner and comrade. She sacrifices her personal pleasure and ambitions, sets standard of morality, relieves stress and strain, tension of husband, maintains peace and order in the household. Women play a key role in the preparation and serving of meals, selection and care of clothing, laundering, furnishing and maintenance of the house. Millions of women throughout the world live in conditions of abject deprivation of, and attacks against, their fundamental human rights for no other reason than that they are women.

According to the UN human rights Women and girls everywhere are still subject to significant disadvantage as the result of discriminatory laws and practices. Equality has not been achieved in any country in the world, and pledges to eliminate discriminatory laws have not been fulfilled. The mandate was created to intensify efforts to eliminate all forms of discrimination against women and girls throughout the world.

In view of this, the researcher is interested to know the impact of water scarcity to the way of living of the female residents of Barangay Simandagit. Further, considering the provisions in the Magna carta of Women, the Women's Act, and the Anti-Violence Against Women, women are supposed to be protected, respected, empowered and valued to the extent that they can relax, feel freedom and treated equally as men despite status, ethnicity and religion. Relating to the situation of women in Barangay Simandagit, there is already a deprivation of their rights and privileges, especially on the Magna carta of Women. They are performing a function that is considered very masculine in nature – collecting of water for domestic and hygiene use from a source located far from their houses. They have to walk that far back and forth just to collect water for their needs. This has health effects on these women such as muscle-skeletal damage and chronic stress. Furthermore, when a woman or girl is collecting water, she is using valuable time and energy that she could be investing in going to school or pursuing an economically profitable activity, hindering her independence, empowerment and self-esteem. Allowing or forcing them to do such heavy work is simply a form of deprivation and violence to them. On this part, the researcher would like to know the opinions of women in Barangay Simandagit regarding the impacts of such duty and its legal implications, if it is okay or not for these women to perform such heavy duty despite the impact of such water collection and despite the Laws that protects them from doing so.

2. Statement of the Problem

- 1) What is the profile of the respondents?
- 2) What are the impacts of water scarcity to the way of living of the female residents in Barangay Simandagit in terms of the following aspects?
 - a) Physical
 - b) Socio-economic
- 3) What are the opinions of female residents in Barangay Simandagit regarding water collection considering its impacts and legal implications?

3. Significance of the Study

This study is significant for this will serve as baseline data on the role of women in Barangay Simandagit, Bongao, Tawi-Tawi. This serves as an avenue for them to express their feelings regarding their role in their respective families and houses, and in the society as a whole. This will help them show their significance in the society as the "light" of every home. The result of this study will help them address their problems regarding access on water. This study will serve as a wake-up-call to men, to also render or take some part of the household chores. As stated in Section 7, Chapter II in the Republic Act 7160 also known as the Local Government Code of 1991, among the municipality's basic services and facilities to be provided are: social welfare services which include women's welfare; and Infrastructure facilities intended primarily to service the needs of the residents which are funded out of municipal funds including particularly the rainwater collectors and water supply systems. This study will serve as basis for planning and implementation of projects of Bongao Municipality that is beneficial, meaningful and significant to the wellness especially to the women in Barangay Simandagit. This study will provide the local policy makers baseline data in drafting and proposing for a resolution refraining women and girls in the province to do the water collection for their domestic and hygiene use.

Scope and Delimitation

This study focuses on the impact of water scarcity to the way of living of female residents in Barangay Simandagit, Bongao, Tawi-Tawi. Further, it will also cover their opinions regarding water collection considering the impacts and legal implications of such heavy work done by them. It is limited to the experiences of the respondents regarding the collecting of water as associated in their household chores. The respondents would only be the female residents in the said barangay who are actively engaging in collection of waters and who directly or indirectly experienced the impact of such heavy work.

4. Review of Related Literature and Studies

Water scarcity means lack of water supply due to availability and uneasy access. In a United Nation Journal article entitled "Water Scarcity", water scarcity means scarcity in availability due to physical shortage, or scarcity in access due to the failure of institutions to ensure a regular supply or due to a lack of adequate infrastructure. Stated further in this article are facts and figures of water scarcity relating to households with sources that are from UN and other sources to wit:

- 72 % of all water withdrawals are used by agriculture, 16% by municipalities for households and services, and 12 % by industries (UN-Water 2021)
- Today, 1.42 billion people – including 450 million children - live in areas of high or extremely high water vulnerability. (UNICEF 2021)
- About 4 billion people experience severe water scarcity during at least one month of the year (Mekonnen and Hoekstra, 2016)

- 700 million people worldwide could be displaced by intense water scarcity by 2030 (Global Water Institute, 2013)
- Nearly half of the global population are already living in potential water scarce areas at least one month per year and this could increase to some 4.8-5.7 billion in 2050. About 735 of the affected people live in Asia (69% by 2050). (Burek et al., 2016)

According to Jennifer Schorch, the former President of Water.org, access to water and sanitation is a global crisis. It is also a women's crisis. It locks women and girls in a cycle of poverty and robs them of immense potential. She argued that the burden of collecting water disproportionately falls to women and girls. Often overlooked is the inextricable linkage between Clean Water and Sanitation and gender Equality, she said. She argued further that "providing households with drinking water often requires an enormous investment of time. Globally, women and girls collectively spend 200 million hours every day collecting water. In Asia and Africa, women and girls walk an average of six kilometers (3.7 miles) each day gathering water. Time and energy spent collecting water means time and energy not invested in earning an income, starting a business, more going to school." This statement only means women are really the most affected of water crisis since, as are obliged to manage households, their chores and hygienic needs are closely associated with water.

Women in the Philippines are protected against any forms of discriminations and are empowered through enactments of the legislative body of the Philippine government. The Republic Act No. 9710 also known as An Act Providing for the Magna Carta of Women is especially designed to promote empowerment of women and pursue equal opportunities for women and men and ensure equal access to resources and to development results and outcome. The Philippine government realizes that equality of men and women entails the abolition of unequal structures and practices that perpetuate discrimination and inequality.

Stated in Section 2 of the General Provision of this Act that the State (Philippine Government) condemns discrimination against women in all its forms and pursues by all appropriate means and without delay the policy of eliminating discrimination against women in keeping with the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) and other international instruments consistent with Philippine Law. In paragraph (b) Section 4, Chapter II of this Act is the definition of Discrimination against Women. It refers to any gender-based distinction, exclusion, or restriction which has the effect or purpose of impairing or nullifying the recognition, enjoyment, or exercise by women, irrespective of their marital status, on a basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil, or any other field. This section further defines discrimination against women as any act or omission, including by law, policy, administrative measure, or practice that directly or indirectly excludes or restricts women in the recognition and promotion of their rights and their access to and enjoyment of opportunities, benefits, or privileges.

There have been several studies conducted to explore the water scarcity and the role of women in the society.

In a study entitled the Physical Burden of Water Carrying and Women's Psychosocial Well-Being: Evidence from Rural Nepal by Tomberge et. al. in 2021 found out that the average observed carrying distance was 81.3 m with an average weight of 19.4 kg and 2.6 trips per day. On average, women reported low-to-moderate emotional distress, moderate quality of life and moderate-to-high daily functioning related to water carrying. Though, their findings also show that the physical burden of water carrying was not related to quality of life. the authors of this study argued that findings of the association between the physical burden of water carrying and psychosocial well-being bring a new perspective to health research related to water access. They further argued that their findings demonstrate not only the complexity, but also the multiple impacts in life that water provision can have for women, and how this interacts with environmental and health factors. They also added that the results of the study underline the interconnectedness of the Sustainable Development Goal (SDG) 6: access to safe water, SDG 3: ensure healthy lives, and SDG 5: gender equality. According to the authors, their study highlights the importance of adequate access to water for women to prevent health impacts such as uterine prolapse and facilitate the quality of life of those already affected. They also recommend the improvement in the water supply infrastructure, promotion of intermediary solutions such as carts, bicycles, and self-supply options, especially for women living in hilly areas, or interventions on behavioral changes. e.g., respecting a water load limit can hopefully reduce the physical burden of water carrying.

In a study conducted by Morgan Pommells, Corinne Wallace, Susan Watt, and Zachariah Mulawa (2018) entitled Gender Violence as a Water, Sanitation, and Hygiene Risk: Uncovering Violence Against Women and Girls as It Pertains to Poor wash Access, they discussed that during the negative shock episodes, the wells dry up, and the distance to and congestion around surviving water sources increases. Therefore, women in a small town in Rajasthan (India) have to go farther to collect water, and in order to avoid congestion they often travel in the early morning when it is dark, making them vulnerable to violent attacks including sexual abuse and rape. Their study found out that negative shocks cause an increase in the number of reported rapes. Based on this, they argued that negative ground water shocks might increase violence against women and girls by increasing the distance they have to travel to collect water. They argued further that during negative shock episodes, households relying mostly on groundwater have to travel farther to fetch water. Second, women and girls have to disproportionately bear the burden of travelling farther to collect water. Thus, incidence of rapes increases when households relying on groundwater experience negative groundwater shocks.

Demie, Bekele, and Seyoum (2016) in their study entitled Water Accessibility Impact on Girl and Women's Participation in Education and other Development Activities: The Case of Wuchale and Jidda Woreda, Ethiopia, identified river as major source of drinking water

followed by unprotected spring, pond, hand dug boreholes and improved water supply point. They found out that access to safe drinking water is the major strange, as reiterated by 95% of their respondents. Their finding also showed: (1) that the average per capita per day per person was about 14 litter which is less than WHO standard (20 litter) and GTP of Ethiopia (15 litter); (2) an individual get water by going an average distance of 2.78km from their residential area which was greater than the maximum distance standard (1km) set by WHO and UNICEF and 1.5km by Ministry of Water and Energy in universal access plan and gross and transformation document of Ethiopia; (3) about 5.23 hours per day were spent by girls and females for fetching water. They also added that even after going long distance and spending a lot of hours per day, the water they got lacks sanitation and hygiene since they use in common with livestock and other living thing. Poor access to drinking water, according to them, coupled with illiteracy and water borne disease prevalence, greatly influenced the participation of girls and female in education, agricultural production and other development activities.

Graham, Hirai, and Kim (2016) in their study entitled An Analysis of Water Collection Labor Among Women and Children in 24 Sub-Saharan African Countries found out that among households spending more than 30 minutes collecting water, adult females were the primary collectors of water across all 24 countries, ranging from 46% in Liberia to 90% in Cote d'Ivoire. Across all countries, female children were more likely to be responsible for water collection than male children. Six countries had more than 100, 000 households where children were reported to be responsible for water collection. In the 24 SSA countries studied, an estimated 3.36 million children and 13.54 million adult females were responsible for water collection in households with collection times greater than 30 minutes.

The studies cited above are about the abuses and discrimination against women all over the globe pertaining to water collection and the rights and privileges of women and girls. This study is unique since it focuses on the role of women in Barangay Simandagit as the water carriers in their respective homes. This role is related to their rights and privileges as being protected by the government institutions in the Philippines. The respondents are given the opportunity to express either they feel abused or not with this type of function or role of women. This is also distinguishing since there were no studies conducted in the province of Tawi-Tawi regarding water scarcity and the women in the locality. This therefore will serve as a pioneering study and data regarding the role of women in the province.

5. Methodology

This study employed a quantitative descriptive design which is deemed appropriate in gathering data on determining the impact of water scarcity to the way of living of female residents of Barangay Simandagit, Bongao Tawi-Tawi. Statistical tools were used to measure the agreement of the respondents in the research variables.

This study was conducted in Barangay Simandagit, Bongao Tawi-Tawi. Its population as determined by the 2020 Census

was 8,741. This represented 7.53% of the total population of Bongao. The population of Simandagit grew from 644 in 1990 to 8,741 in 2020, an increase of 8,097 people over the course of 30 years. The latest census figures in 2020 denote a positive growth rate of 0.38%, or an increase of 157 people, from the previous population of 8,584 in 2015. Simandagit is situated at approximately 5.0161, 119.7704, in the island of Bongao. Elevation at these coordinates is estimated at 10.2 meters or 33.5 feet above mean sea level. People living in this barangay are Sama, Tausug, and few Bisaya people. Since this barangay is situated in a coastal area, the main livelihood of the residents is fishing.

The respondents of this study were the female residents of Barangay Simandagit who are actively engaged in water collection in their barangay. They were chosen through purposive sampling. Hence, a total of thirty five (35) females in Barangay Simandagit are the target respondents of this study.

This study used a researcher-made questionnaire written in English and was translated into the local language by the researcher during the conduct of survey. It has three parts namely (a) the profile of respondents, (b) the impact of water scarcity to the way of living of the female residents in Simandagit, and (c) the opinions of female residents in Barangay Simandagit regarding water collection considering its impacts and legal implications.

The researcher asked permission to the barangay chairman of Barangay Simandagit to conduct the survey. When permission was granted, the researcher then personally administered the questionnaire to the target respondents with letter to them attached in it. The questionnaires were then retrieved after three (3) days. For the educationally disadvantaged respondents, the researcher conducted an interview to them guided by the questions from the questionnaire. In this case, the researcher herself did the checking of desired answers in the checklist. After collection of data, the researcher made them ready for presentation, interpretation, and analysis.

The data gathered in this study were treated statistically using the percentage distribution and weighted mean. These measure the agreement of the respondents on the given variables. The formula is as follows.

Percentage Distribution

$$P = \frac{n}{N} \times 100$$

Where:

P = percentage

n= number of respondents

N=total number of respondents

Mean

$$\bar{x} = \frac{\sum x}{n} \text{ where } \bar{x} = \text{sample mean}$$

$$\sum X = X_1 + X_2 + \dots + X_n$$

n = total number of values in the sample

To interpret the mean scores:

Assigned Weight	Mean Range	Interpretation
5	4.2-5.0	Strongly Disagree
4	3.4-4.19	Disagree
3	2.6-3.39	Undecided
2	1.8-2.59	Agree
1	1.0-1.79	Strongly Agree

6. Presentation, Analysis and Interpretation of the Data

The table below presents the profile of the respondents according to the Age, Ethnicity, Educational Background, Civil Status, Monthly Income.

Part 1: Profile of the Respondents

Table 1: The Demographic Profile of the Respondents

Variables	Items	Respondents	
		Frequency	Percent
Age of Respondents	25 Year Old & Below	24	68.6
	26 - 33 Year Old	2	5.7
	34 - 40 Year Old	1	2.9
	41 Year Old & Above	8	22.9
Ethnic Group of Respondents	Sama	22	62.9
	Tausug	13	37.1
Educational Background the Respondents	Elementary School Level	30	85.7
	High School Level	3	8.6
	College Level	2	5.7
Civil Status of the Respondents	Single	22	62.9
	Married	13	37.1
Respondents' Monthly Income	P1000 Below	3	8.6
	P1,000 - 5,000	16	45.7
	No Income	16	45.7
Respondents' Occupation	None (out of school youth)	8	22.86
	Housewife	9	25.71
	Students	10	28.57
	Sari-Sari Store Owner	1	2.86
	Saleslady	3	8.57
	Food vending	3	8.57
	Tailoring (at home)	1	2.86
	Helper	1	2.86

As shown in table 1, on their age bracket 25-year-old and below scores 24 or 68.6 percent, 26-33 years old scores 2 or 5.7 percent, 34-40-years old scores 1 or 2.9 percent and 41-years old and above scores 8 or 22.9 percent. On the ethnic group, Sama got a score of 22 or 62.9 percent and Tausug got a score of 13 or 37.1 percent. On the educational background, elementary level got a score of 30 or 85.7 percent, high school level got score of 3 or 8.6 percent and college level got score of 5.7 percent. On the civil status of the respondents single got score of 22 or 62.9 percent, married got the score of 13 or 37.1 percent and on the respondents' monthly income P 1000 below got a score of 3 or 8.6 percent, both P1,000 – 5,000 and No Income got the same score of 16 or 45.7 percent. On respondents' occupation, none got a score of 8 or 22.86%, Housewife

with the score of 9 or 25.71%, Students got 10 or 28.57%, Sari-Sari Store Owner got 1 or 2.86%, both Saleslady and Food Vending got a score of 3 or 8.57%, and both Tailoring and Helper got a score of 1 or 2.86%. Therefore, majority of the respondents are 25 years old and below; Sama; at the elementary school level; single; with an income of 1000-1,500 or no income at all; students, out of school youth, and housewives.

Part II: The Impact of Water Scarcity to the way of Living of the Female Residents in Barangay Simandagit

a) Physical

Table 2: The Impact of water scarcity to the way of living of the female residents in Barangay Simandagit in terms of physical effect

Statement	RAW SCORE				
	1 Strongly Agree	2 Agree	3 undecided	4 Disagree	5 Strongly Disagree
1. Because my husband is at work, I have to collect water for our domestic and hygiene needs.	8 22.86%	6 17.14%	1 2.86%	2 5.71%	18 51.43%
2. The nearest available source of water in Barangay Simandagit is almost 2 kilometers away from the house. Thus, I have no choice than to collect water in this source so we can have water in our house.	22 62.86%	13 37.14%	0 0%	0 0%	0 0%
3. The rainwater that we can collect during rainy days is not enough to sustain the needs of the family so I have to collect water from this source during sunny days.	23 65.71%	11 31.43%	1 2.86%	0 0%	0 0%
4. Due to no available means of transportation, I have to walk far back and forth to collect water which cause me dizziness and so much muscle pain all over my body after collecting water.	24 68.57%	10 28.57%	1 2.86%	0 0%	0 0%
5. The water that I carry is so heavy which caused me so much pain in the hands and shoulders.	25 71.42%	9 25.71%	1 2.86%	0 0%	0 0%
6. Collecting water has caused me muscle formation especially in my arms, shoulder, and legs which is unusual for a female thus making me feel shy with my body structure.	23 65.71%	12 34.29%	2 5.71%	0 0%	0 0%
7. The deep well where I collect water has toilets near it so basically it provides us unclean and unsafe water.	23 65.71%	12 34.29%	2 5.71%	0 0%	2 5.71%
8. There are times that I got sick due to collecting of water.	22 62.86%	7 20%	1 2.86%	0 0%	2 5.71%
9. During sunny days, the deep well provides small amount of water causing the people to race in getting enough water. Because of this I have to go to the well at 4 am when there is less people to collect water (the deep well is empty when the sun rises due to plenty of water collectors in the dawn). This has several effects to me – not enough sleep, muscle pain, and stress.	30 85.71%	4 11.43%	1 2.86%	0 0%	0 0%
10. In general, I feel chronically stressed in collecting water.	26 74.29%	7 20%	2 5.71%	0 0%	0 0%

As shown in table 2, on statement 1 which is “Because my husband is at work, I have to collect water for our domestic and hygiene needs”, strongly agree got a score of 8 or 22.86%, agree got a score of 6 or 17.14%, Undecided of 1 or 2.86%, Disagree of 2 or 5.71%, and Strongly Disagree of 18 or 51.43%. This only means that the majority of the respondents express high level of disagreement on this statement considering the mean score of 3.457. Through there are also observable responses on Strongly Agree and Agree. This means that they collect water regardless the presence or absence of their husband.

On statement 2 which is "The nearest available source of water in Barangay Simandagit is almost 2 kilometers away from the house. Thus, I have no choice than to collect water in this source so we can have water in our house", Strongly Agree got a score of 22 or 62.86% and Agree got a score of 13 or 37.15%. No score for Undecided, Disagree and Strongly Disagree. This means that majority of the respondent’s express high level of agreement on this statement considering the mean score of 1.371. The women in Barangay Simandagit are collecting water from this far source of water because this is the only available source of water near their house.

On statement 3 which is "The rainwater that we can collect during rainy days is not enough to sustain the needs of the family so I have to collect water from this source during sunny days", Strongly Agree got a score of 23 or 65.71%, Agree got a score of 11 or 31.43% and Undecided got a

score of 1 or 2.86%. No score for Disagree and Strongly Disagree. This means that majority of the respondent’s express high level of Agreement on this statement considering the mean score of 1.400. This means that they have to collect from this source of water even when they have rain waters collected.

On statement 4 which is "Due to no available means of transportation, I have to walk far back and forth to collect water which cause me dizziness and so much muscle pain all over my body after collecting water", Strongly Agree got a score of 24 or 68.57%, Agree got a score of 10 or 28.57% and Undecided got a score of 1 or 2.86%. No score for Disagree and Strongly Disagree. This means that majority of the respondents express high level of agreement on this statement considering the mean score of 1.343. Thus, due to lack of transportation, they have to walk far to collect water.

On statement 5 which is "The water that I carry is so heavy which caused me so much pain in the hands and shoulders", Strongly Agree got a score of 25 or 71.42%, Agree got a score of 9 or 25.71%, Undecided got a score of 1 or 2.86%. No score for Disagree and Strongly Disagree. This means that the majority of the respondents express high level of agreement on this statement considering the mean score of 1.314. Therefore, with this so masculine in nature task, women in Barangay Simandagit are experiencing body pain in collecting water.

On statement 6 which is "Collecting water has caused me muscle formation especially in my arms, shoulder and legs which is unusual for a female thus making me feel shy with my body structure", Strongly Agree got a score of 23 or 65.71%, Agree got a score of 12 or 34.29% and Undecided got a score of 2 or 5.71%. No score for Disagree and Strongly Disagree. This means that majority of the respondent's express high level of agreement on this statement considering the mean score of 1.343. Women normally have a feminine built. Because of this kind of work in home, women in Barangay Simandagit have an almost masculine built due to muscle formation caused by collecting waters.

On statement 7 which is "The deep well where I collect water has toilets near it so basically it provides us unclean and unsafe water", Strongly Agree got a score of 23 or 65.71%, Agree got a score of 12 or 34.29%, Undecided got a score of 2 or 5.71%, No score for Disagree and Strongly Disagree got a score of 2 or 5.71%. This only means that the majority of the respondents express high level of Agreement considering the mean score of 1.486. Though there are also observable response on Strongly Disagree. Therefore, aside from the issue of collecting from far source of water, they also collect unsafe and unclean water.

On statement 8 which is "There are times that I got sick due to collecting of water", Strongly Agree got a score of 22 or 62.86%, Agree got a score of 7 or 20%, Undecided got a score of 1 or 2.86%, No score for Disagree and Strongly Disagree got a score of 2 or 5.71%. This only means that

majority of the respondents express high level of agreement on this statement considering the mean score of 1.600. Women body is fragile in nature. They can only endure loads that are tolerable and manageable. Doing such task is too much for them if done often. Thus, making them sick.

On statement 9 which is "During sunny days, the deep well provides small amount of water causing the people to race in getting enough water. Because of this I have to go to the well at 4 am when there are less people to collect water (the deep well is empty when the sun rises due to plenty of water collectors in the dawn). This has several effects to me not enough sleep muscle pain, and stress", Strongly Agree got a score of 30 or 85.71%, Agree got a score of 4 or 11.43% and Undecided got a score of 1 or 2.86%. No score for Disagree and Strongly Disagree. This means majority of the respondents express high level of agreement on this statement considering the mean score of 1.171. This means that the number of consumers versus the limited water supply also added pressure to them. This made them exert extra effort to have water supply in the house.

On statement 10 which is "On general, I feel chronically stressed in collecting water", Strongly Agree got a score of 26 or 74.9%, Agree got a score of 7 or 20%, Undecided got a score of 2 or 5.71%. No score for Disagree and Strongly Disagree. This means that majority of respondents express high level of agreement considering the mean score of 1.314. Therefore, in general, this work really made them stressed.

b) Socio-Economic

Table 3: The Impact of water scarcity to the way of living of the female residents in Barangay Simandagit in terms of socio-economic

Statement	RAW SCORE				
	1 Strongly Agree	2 Agree	3 undecided	4 Disagree	5 strongly Disagree
1. The time I should spend for attending classes/studying my module is used for collecting water.	18 51.43%	4 11.43%	4 11.43%	9 25.71%	0 0%
2. The time I spend to collect water could be my time for generating income (from a small business such as peddling and handicraft production).	1 2.86%	8 22.86%	0 0%	2 5.71%	24 68.57%
3. I have to temporarily close my/our small sari-sari store just to collect water.	1 2.86%	0 0%	6 17.14%	2 5.71%	26 74.29%
4. The time I spent in collecting water could be used for my leisure as a reward and relaxation after doing household chores.	22 62.87%	9 25.71%	2 5.71%	2 5.71%	0 0%
5. The deep well where we get our water is privately owned so we are obliged and force to follow the rules set by the landowner including payment for collecting of water.	28 80%	4 11.43%	3 8.57%	0 0%	0 0%
6. Due to poor income of the family, I/we could rather buy a cheaper water from this deep well (though located very far from home) than to buy expensive water from commercials near our house or from water truck deliveries.	26 74.29%	7 20%	2 5.71%	0 0%	0 0%
7. I have to buy potable water for drinking and cooking purposes. Buying of water for domestic and hygiene use is an additional income burden thus I have to collect water from this well though it is not totally free.	22 62.87%	10 34.29%	3 8.57%	0 0%	0 0%
8. When my friends and other people see me collecting water, I feel shy and embarrassed thus lowering my self-esteem.	11 31.43%	3 8.57%	3 8.57%	2 5.71%	16 45.71%
9. I can observe that some males find this routine and place as a means to court the young females who are engaged in collecting water in this deep well.	12 34.29%	9 25.71%	12 34.29%	1 2.86%	1 2.86%
10. I feel inferior from the males because of doing this masculine work.	12 34.29%	14 40%	7 20%	0 0%	2 5.71%
11. I feel not secured when I collect water in the dawn during the sunny days/season.	12 34.29%	10 34.29%	11 31.43%	0 0%	2 5.71%

As shown in table 3, on statement 1 which is "The time I should spend for attending classes/ studying my module is used for collecting water", Strongly Agree got a score of 18 or 51.43%, Agree got a score of 4 or 11.53%, Undecided got a score of 4 or 11.43% and Disagree got a score of 9 or 25.71%. No score for Strongly Disagree. This means that majority of the respondents express high level of Agreement for this statement considering the mean score of 2.371. Though there are also observable response on Disagree. Thus, collecting waters distracted their academic activities. Those who answered undecided specially disagree are assumed to be the non-student respondents.

On statement 2 which is "The time I spend to collect water could be my time for generating income (from a small business such as peddling and handicraft production)", Strongly Agree got a score of 1 or 2.86%, Agree got a score of 8 or 22.86%, No score for Undecided, Disagree got a score of 2 or 5.71% and Strongly Disagree got a score of 24 or 68.7%. This only means that majority of the respondents highly express of disagreement on this statement considering the mean score of 4.143. Though there are also observable responses on Strongly Agree and Agree. Therefore, on the average, collecting waters has no connection to the economic activities of the respondents. However, there are some of them who answered agree and strongly agree who are assumed to have small business of peddling and handicraft production and such activities were affected by this collecting water.

On statement 3 which is "I have to temporarily close my/our small sari-sari store just to collect water", Strongly Agree got a score of 1 or 2.86%, No score for agree, Undecided got a score of 6 or 17.14%, Disagree got a score of 2 or 5.71% and Strongly Disagree got a score of 26 or 74.29%. This only means that majority of respondents express high level of disagreement on this statement considering the mean score of 4.486. Though there are also observable responses on Strongly Agree. Majority of the respondents disagree to this statement. This is because only of the respondents has a sari-sari store.

On statement 4 which is "The time I spent in collecting water could be used for my leisure as a reward and relaxation after doing household chores", Strongly Agree got a score of 22 or 62.87%, Agree got a score of 9 or 5.71%, Undecided got a score of 2 or 5.71% and Disagree got a score of 2 or 5.71%. No score for Strongly Disagree. This means that majority of respondents express high level of agreement considering the mean score of 1.543. Though there are also observable responses on Strongly disagree and disagree. This only means that they are using their time in its maximum capacity to all the chores in the house including the collection of water. Perhaps they can rest somehow but not as much as they wanted to.

On statement 5 which is "The deep well where we get our water is privately owned so we are obliged and force to follow the rules set by the landowner including the payment for collecting of waters", Strongly Agree got a score of 28 or 80%, Agree got a score of 4 or 11.43% and Undecided got a score of 3 or 8.57%. No score for Disagree and Strongly Disagree. This means that majority of the respondents

express high level of agreement on this statement considering the mean score of 1.286. So, aside from issues that they get unsafe and unclean water from afar, they also were financially burdened to avail water.

On statement 6 which is "Due to poor income of the family, I/We rather buy a cheaper water from this deep well (through located very far from home) than to buy expensive water from commercials near our house or from water truck deliveries", Strongly agree got a score of 26 or 74.29%, Agree got a score of 7 or 20% and Undecided got a score of 2 or 5.71%. No score for Disagree and Strongly Disagree. This means that majority of the respondents express high level of agreement on this statement. Being low wage-earner families, every single peso is important. Thus, they are availing their needs in a cheapest cost possible.

On statement 7 which is "I have to buy potable water for drinking and cooking purposes. Buying water for domestic and hygiene use is an additional income burden thus I have to collect water from this well though it is not totally free", Strongly Agree got a score of 22 or 62.87%, Agree got a score of 10 or 34.29% and Undecided got a score of 3 or 8.57%. No score for Disagree and Strongly Disagree. This means that majority of the respondents express high level of agreement on this statement considering the mean score of 1.457. This means that they have no choice but to buy potable water for drinking and cooking purposes. But for hygiene use, they can't afford to spend another money (for water delivery trucks and other commercial providers).

On statement 8 which is "When my friend and other people see me collecting water, I feel shy and embarrassed thus lowering my self-esteem", Strongly Agree got a score of 11 or 31.43%, Agree got a score of 3 or 8.57%, Undecided got a score of 3 or 8.57%, Disagree got a score of 2 or 5.71% and Strongly Disagree got a score of 16 or 45.71%. This means that majority of the respondents have different opinions on this statement. However, with the mean score of 3.257, there is neutrality among the respondents. Perhaps some of the respondents are socially conscious and some are not.

On statement 9 which is "I can observe that some males find this routine and place as means to court the young females who are engaged in collecting water in this deep well", Strongly Agree got a score of 12 or 34.29%, Agree got a score of 9 or 25.71%, Undecided got a score of 12 or 34.29%, Disagree got a score of 1 or 2.86%, Strongly Disagree got a score of 1 or 2.86%. This only means that majority of the respondents express agreement on this statement considering the mean score of 2.143. Though there are also observable responses on Disagree and Strongly Disagree. Hence, there is really courtship that happens among the residents during water collection.

On statement 10 which is "I feel inferior from the males because of doing this masculine work", Strongly Agree got a score of 12 or 34.29%, Agree got a score of 14 or 40%, Undecided got a score of 7 or 20%, No score for Disagree and Strongly Disagree got a score of 2 or 5.71%. This only means that majority of the respondents express high level of agreement on this statement considering the mean score of

2.029. Since such task is given to women instead of men, they felt the unfairness considering the masculine type of work. But, due to the rule that wives or women should do the household chores, they are forced to do the water collection (because household chores like washing clothes, cleaning the house, etc. are closely associated with water). Thus, they felt such inferiority from men.

On statement 11 which is "I feel not secured when I collect water in the dawn during the sunny day/season", Strongly Agree got a score of 12 or 34.29%, Agree got a score of 10 or 34.29%, Undecided got a score of 11 or 31.43%, No score for Disagree and Strongly Disagree got a score of 2 or 5.71%. This only means that majority of the respondents are in agreement to this statement considering the mean score of 2.143. Collecting water at dawn where you are not secured from any type of danger is too challenging for these women. But due to water demand-supply issue, some of them really have to collect water at dawn – to be among the first who can avail enough water supply. Because the later you came, the lesser is the water supply.

Table 5: The Mean average of the Impact of water scarcity to the way of living of the female residents in Barangay Simandagit in terms of physical, socio-economic and political impact.

Variables	Statement	Mean	SD	Interpretation
Physical	A1.	3.457	1.729	Disagree
	A2.	1.371	0.483	Strongly Agree
	A3.	1.400	0.641	Strongly Agree
	A4.	1.343	0.531	Strongly Agree
	A5.	1.314	0.522	Strongly Agree

Table 7: The Opinion of Women in Barangay Simandagit Regarding Water Collection Despite Impacts and Legal Implications

Statement	Raw Score				
	1 Strongly Agree	2 Agree	3 undecided	4 Disagree	5 strongly Disagree
1. Water is closely associated to my household chores so providing water is just my responsibility and not discrimination to me.	28 80%	7 20%	0 0%	0 0%	0 0%
2. I wholeheartedly accept this task (collect water) despite difficulties and physical impacts in providing such because I perceived it as one of my duties and responsibilities according to my role in our family.	27 77.14%	8 22.86%	0 0%	0 0%	0 0%
3. Despite Enactments/or policies that protects against discrimination and the Rights and privileges of women (Magna Carta of Women, Women’s Act, and Anti-VAWC Law), I would still continue to collect water because I believe that providing such in the family is a kind of achievements to me.	29 82.86%	6 17.14%	0 0%	0 0%	0 0%
4. I would still continue to collect water because this is my way of helping my spouse in terms of providing needs in the family.	12 34.29%	3 8.57%	20 57.14%	0 0%	0 0%

Table 7 above shows the result on the opinion of women in Barangay Simandagit regarding water collection despite impacts and legal implications. On statement 1 which is “Water is closely associated to my household chores so providing water is just my responsibility and not discrimination to me”, Strongly agree got a score of 28 or 80%, Agree got 7 or 20%, and Undecided, Disagree and strongly Disagree got no score. With its mean score of 1.2, the majority of the respondents expressed high level of agreement on this statement. Therefore, they only affirm that most of the household chores is associated with water thus collecting water is “normally” their responsibility and not a discrimination to them.

Socio-Economic	A6.	1.343	0.475	Strongly Agree
	A7.	1.486	0.996	Strongly Agree
	A8.	1.600	0.932	Strongly Agree
	A9.	1.171	0.446	Strongly Agree
	A10.	1.314	0.574	Strongly Agree
	B1.	2.371	1.675	Agree
	B2.	4.143	1.355	Strongly Disagree
	B3.	4.486	0.967	Strongly Disagree
	B4.	1.543	0.840	Strongly Agree
	B5.	1.286	0.613	Strongly Agree
	B6.	1.314	0.574	Strongly Agree
B7.	1.457	0.648	Strongly Agree	
B8.	3.257	1.778	Undecided	
B9.	2.143	1.018	Agree	
B10.	2.029	1.028	Agree	
B11.	2.143	1.073	Agree	

Table 6: The over all average of the impact of water scarcity to the way of living of the female residents in Barangay Simandagit in terms of physical, socio-economic and political impact

The impact of water scarcity to the way of living of the female residents in Barangay Simandagit in terms of:				
Level of Impact	N	Mean	Std. Deviation	Interpretation
Physical	35	1.580	1.042	Strongly Agree
Socio-Economic	35	2.379	1.547	Agree
OVERALL		1.751	1.053	Strongly Agree

Part III. The Opinion of Women in Barangay Simandagit Regarding Water Collection Despite Impacts and Legal Implications

On statement 2 which is “I wholeheartedly accept this task (collect water) despite difficulties and physical impacts in providing such because I perceived it as one of my duties and responsibilities according to my role in my family”, strongly agree got a score of 27 or 77.14%, agree of 8 or 22.86%, and score for Undecided, Disagree, and strongly Disagree. This means that there is a high level of agreement among the respondents on this statement considering the mean score of 1.229. Therefore, they perform this task wholeheartedly because they perceive this as their role being the mother, sister, or daughter of the family.

On statement 3 which is “Despite Enactments/or policies that protects against discrimination and the Rights and privileges of women (Magna Carta of Women, Women’s Act, and Anti-VAWC Law), I would still continue to collect water because I believe that providing such in the family is a kind of achievements to me”, strongly agree got a score of 29 or 82.86%, agree got 6 or 17.14% and Undecided, disagree, and Strongly Disagree got no score. This means that respondents expressed high level of agreement on this statement. Hence, despite the fact that local resolutions would be crafted and approved for them to get relieved from doing so, they would still continue collecting waters because they viewed it as an achievement for them. Perhaps the only achievement that they could ever do is to finish or do their part in the home.

On statement 4 which is “I would still continue to collect water because this is my way of helping my spouse in terms of providing needs of the family”, strongly agree got a score of 12 or 34.29%, agree got 3 or 8.57%, and Undecided of 20 or 57.14%. Disagree and strongly disagree got no score. With the mean score of 3.371, the respondents express neutrality to this statement. Thus, though there are many who agree, respondents are in doubt that this is their way of helping the needs of the family. To them, they can help the family in so many ways.

Table 8

OPINIONS	Statement	Mean	SD	Interpretation
	C1.	1.200	0.400	<i>Strongly Agree</i>
	C2.	1.229	0.420	<i>Strongly Agree</i>
	C3.	1.171	0.377	<i>Strongly Agree</i>
	C4.	3.371	1.899	<i>Undecided</i>

Table 9

Opinions of women in barangay simandagit regarding water collection despite impacts and legal implications				
Women's Opinions	N	Mean	Std. Deviation	Interpretation
Women's General Opinions	35	1.743	1.385	<i>Strongly Agree</i>

7. Analysis and Interpretation

Without safe drinking water, adequate sanitation and hygiene facilities at home and in places of work and education, it is disproportionately harder for women and girls to lead safe, productive, healthy lives. Across low-income countries, women and girls have primary responsibility for management of household water supply, sanitation, and health. Addressing the needs of females in relation to water, sanitation and hygiene is a key driver in achieving gender equity and locking the potential of half of global society (unwater.org)

Water and gender become a globally crucial issue. As discussed in the review of related literature, different cases in different countries pertaining water and gender includes physical and emotional issues and even crimes that arise from water collection. Absence or presence of a safe and sufficient water supply and improved sanitation facilities has a disproportionate effect on the lives of the women and girls (unwater.org).

This study helps in widening our scope in understanding water and gender issues. This gives information about the roles of women in the Philippines particularly in southern Mindanao. Further, this also provides data on the life experiences of the Muslim women in the BARMM, particularly in the province of Tawi-Tawi.

Water scarcity has great impact to the way of living of the female residents in Barangay Simandagit based on the general average of the three categories namely, Physical, Socio-Economic and Political. On the physical category, the mean interpretation is Strongly Agree. This only proves that women obediently and responsibly perform their duties and obligations in their respective houses which include collection of water. They all agree that such work has great negative impact to their physical health and attributes. Being a woman, it is normal for them to aspire for a healthy and sexy feminine figure (without muscle formation and is not distorted). Due to performing such work, this kind of aspiration becomes impossible and is already being discarded by many women of Barangay Simandagit. In fact, not only that they can no longer enjoy a feminine figure, they also get stressed and even got sick in doing so.

Collecting water has also impact to the Socio-Economic lives of the women in barangay Simandagit. Being a low wage earner, every single peso is very important to them. They make sure that everything is worth the expense. In the case of water supply, they only spend money for a drinking water and or cooking but not for washing clothes, cleaning the house equipment and facilities, and other hygiene use. The fact that the water that they got from this deep well is not for free, the water for hygiene use is still part of their budget.

Meanwhile, such water scarcity could be addressed by a political entity or the local government, or even the national government. But such initiative is not felt by the residents of barangay Simandagit. Due to lack of water projects for the residents, women in this barangay are forced to collect unclean water from afar which cause them physical and financial distress.

On the Opinion of Women in Barangay Simandagit Regarding Water Collection Despite Impacts and Legal Implications. Since the household chores is closely related with water, they perceived that collecting water is not a discrimination to them but is just a responsibility to be done by women at home. Doing this responsibility also give sense of achievement to them. Women in Simandagit are actually thinking of collecting water as their way of helping the needs of the family. However, this is not the only way they can help. To younger respondents, they can also help the family through baby-sitting a younger sibling/s, helping the occupation of the parents like peddling local food products, and do other income generating activities. To housewives, they can also help by means of small business at home or through vending, among others.

8. Findings, Conclusion and Recommendations

8.1 Findings

Based on the data gathered, this study revealed the following findings; (1) On the demographic profile of the respondents, the majority the respondents are 25 years old and below; Sama; at the elementary school level; single; with an income of 1000-1,500 or no income at all; students, out of school youth, and housewives.

(2) On the impact of water scarcity to the way of living of the female residents in barangay Simandagit, in terms of Physical, all of the statements are being agreed by the respondents except of the statement 1. Therefore, the physical impact of water scarcity to the females in Barangay Simandagit are: no enough sleep, muscle pain, muscle formation, emotional and physical stress, no rest, and illness. These are due to collecting heavy unsafe water from a far source even at dawn. Though, they disagree that they collect water because their husband is not around.

(3) On Socio-Economic, all of the statements are being agreed by the respondents except for statement 2 and 3 which were being disagreed by the respondents and statement 8 of which the respondents expressed neutrality. Thus, the socio-economic impacts of water scarcity to the women in barangay Simandagit are: difficulty in time allocation; no leisure a; extra expenses for water collection; difficulty in allocating budget for the daily needs which includes water for hygiene and sanitary use; vulnerability of young female to informal courtship; inferiority from men who are supposed to be doing this heavy work; and security issues. Though they disagreed that the time they used for collecting water could be used for generating income (from a small business such as peddling and handicraft production) and temporarily close sari-sari store just to collect water. They also expressed neutrality that collecting water lowers their self-esteem.

(4) On respondents' opinion regarding water collection despite impact and legal implication, women in this barangay perceive collecting water is just a responsibility and not a discrimination. This is so because they believe that household chores are closely associated with water, so providing such is their normal task. They wholeheartedly perform this task because they perceived this as one of their duties and responsibilities to my family. They would still continue collecting water because they believe that such doing is a kind of achievement for them. However, they are undecided that they would continue collecting water because this is their way of helping their spouse in providing needs in the family.

8.2 Conclusion

Based on the findings, this study therefore concludes the following: The women in barangay Simandagit are really experiencing adverse effects of water scarcity. Due to lack of source, they are travelling far just to collect waters for sanitation and hygiene purposes no matter how hard are the physical, mental and emotional effects. Such doing makes them feel sick, bodily distorted, mentally and emotionally

stressed, and even undermines their education, business affairs, leisure, up to their perception on gender equality. It also affects the budget of the family considering their low income. They see to it that every drop of peso is allocated to the most valuable - the needs of the family. They are even looking for the most affordable supply of needs, if not free. They even gamble to the safety or cleanliness of the water just to have a cheaper cost of supply. Inferiority from men is also an issue. Despite the truth that men are really the most suitable to do the job, women are doing it because of their role as woman, as wife, as sister, as daughter who do the household chores, of course associated with water. This mentality on gender role made them being the prisoner of their responsibility or obligation. Though they accept this role wholeheartedly, women are still humans who have the privilege to enjoy their lives meaningfully. Such impacts do not matter though. They still would like to perform this as their duty in the house being the wife, sister, or daughter. Perhaps with good values instilled in them, complains are not heard from them though they appreciate to be given the opportunity to taste a more relaxed life, a more valued individual. They could be improved, developed and empowered. They could be a catalyst of change, a peace advocate in a long-been chaos world, and even a leader local, national, international. In the case of these respondents, they, perhaps one of them, could be included in the potential human capital of Bongao municipality. But, they being adherent to this gender role, women in Barangay Simandagit are stuck in doing household chores including collecting of waters far from their houses.

8.3 Recommendations

Based on the findings and conclusions of this study, the researcher recommends the following:

- 1) The MLGU of Bongao should provide or implement a project realizing one of their mandates which is the provision of water supply system.
- 2) Local policy makers should pass a law refraining women to collect waters especially to those who are far from the water source.
- 3) Private individuals who made use of their deep well for commercial purposes should be reminded or warned of the sanitary issues which might led to health problems of the consumers.
- 4) Future similar studies should be conducted in order to affirm or refute this present study.

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