Unpacking the Discourse of Water Insecurity and Gender Inequality: A Sri Lankan case

T.M.S.D.R Tennakoon

The Graduate School of Government and Business
Yonsei University

Unpacking the Discourse of Water Insecurity and Gender Inequality: A Sri Lankan case

A Master′s Thesis

Submitted to the Master′s Degree Program in Gender and Rural Community Development and the Graduate School of Government and Business

Yonsei University

in partial fulfillment of the

requirements for the degree of

Master of Public Policy

T.M.S.D.R Tennakoon

August 2023

This certifies that the Master's thesis
of Tennakoon Mudiyanselage Samudri is approved.

Thesis Supervisor: Hyunok Lee, Ph.D.

Inyoung Cho, Ph.D.

Chong-Ae Yu, Ph.D.

The Graduate School of Government and Business
Yonsei University
August 2023

Acknowledgments

I wish to express my heartfelt gratitude and appreciation to Prof. Hyunok Lee, Professor at the Department of Global Public Administration in Yonsei University, South Korea for her generous guidance, assistance and supervision in leading me in the right direction as my MA thesis supervisor. This study would not have been possible without her support and inspiration.

I further express my cordial gratitude to Committee members Prof. Inyoung Cho and Prof. Chong-Ae Yu for the guidance given me during the thesis review. I offer my cordial thanks to Koica staff at Yonsei University and all the respondents who provided me important information and data without which I would not have completed this study successfully.

Table of Contents

List of Tables

Abstract

Unpacking the Discourse of Water Insecurity and Gender Inequality: A Sri Lankan case

T.M.S.D.R Tennakoon

Master's Degree Program in Gender and Rural Community Development

The Graduate School of Government and Business

Yonsei University

The study set out to explore the discourse of water insecurity and gender inequality based on a case study in Sri Lanka. Water, connected with the biological process of living beings has become a precious natural resource at present, due to over-exploitation and climate change.

The main objective of this study is to conduct an explorative and empirical sociological study to understand the discourse of water insecurity and gender inequality in Sri Lanka. This empirical research is based on qualitative data. Semi-structured interviews, field observation, and content analysis of public documents were carried out. Semi-structured interviews with 20 cases, 10 cases from each gender were conducted from a purposively selected sample. This was selected based on difficulties the community encounters in daily life in access to water.

The findings revealed that the impact of climate change on water insecurity cannot be universalized due to the fact that it contains many variations. There is water insecurity in the world, however, not in the same way in every continent. Water

wars and conflict are misused in literature as the reality shows the absence of water in certain contexts is likely to encourage cooperation between communities. Therefore, the competition over water is constructed and it does not reveal the reality. On the other hand, even though women experience water insecurities, they are in a positive psychological state when the responsibilities are shared with their male counterparts.

Keywords: Adaptability, climate change, gender inequality, power, water insecurity

Chapter 1. Introduction

1.1 Introduction

Hydro politics has become a global issue in the 21st century with the emergence of international water politics. The tension on uncertainty in water availability in the globe is further increasing with the population hike and climate change in turn making water finite. Fresh water is the 'new oil' as it will be the most valuable and scares resource on earth for the survival of living being as only 3 % water are fresh even though there is a 70% of water coverage on earth (World wild life, 2022). Water cannot be a substitute and not infinite resource, therefore water insecurity is accelerating especially in Asia pacific having nearly 60% of the world population and 36% of water availability (APWF, 2009, as cited in UNESCO, 2012). Thus, its economics and political complexities are acute and challenging in terms of demand and supply.

Access to water is considered to be the basic human rights by the International human rights law. Availability, accessibility, affordability, quality and safety and acceptability are considered to be most important elements in water access. According to UN-water (2021), nearly 2.3 billion people in the world live in water scarce countries, in absence of all the elements in water access while 1.42 billion

people live in high or extremely high water vulnerability areas. On the other hand, it is estimated that 700 million people will be impact due to intense water scarcity by the year 2030 in which the water crisis will be worsen displacing the vulnerable to struggle between life and death. In the Asian context, 90% of the population experiencing the water crisis and it is estimated that 75% of Asia is water insecure and the availability of ground water is declining fast threatening the agricultural food production as 70% water resources are used for agriculture (ADB, 2015).

In the Sri Lankan context, more than 337,000 people experience water insecurity at present, out of 21.92 million populations. Almost, 8 districts, undergo water insecurities out of 25 districts (ReliefWeb, 2021) even though the country consists of 103 river basins and 54 small drainage basins with 120,000mcm total volume of annual rainfall (Sector vulnerable profile: Water, 2010). Changes in spatial and temporal water availability in the recent past have contributed to declines in water availability in the country (Chandrsekara et al., 2021). Therefore, this study intended to explore the insecurities that women experience due to lack of water availability while analyzing how it affects their well-being by formulating the research question as what are the insecurities that women experience due to lack of water availability and how it affects women's well-being.

By conducting this research, I attempt to unpack the discourse of water insecurity and gender inequality. There is a dearth of literature in analyzing the discourse and the reality of water insecurity and gender inequality. By analyzing the discourse on water insecurity and gender, this study challenges the representation of women in the current water discourse and contributes to identify the gap between the women's experience in different locality and the international discourse.

Sri Lanka is vulnerable due to limited water sources and water systems. The unseasonable weather conditions have led to high intensity and long duration of rainfall, flood and drought (Tennakoon & Mahees, 2021). Studies have found physical or absolute scarcity, as economic and institutional, and political scarcities have equally contributed to water scarcity in Sri Lanka (Water Matters, 2007).

Since 80% of the country belongs to the dry zone, the physical condition in the country is not so favorable to water resources. The zone receives 2000mm of rainfall annually, 60% from October to January and 30% from March to May and the remaining six months have a dry weather conditions in which only 10% of annual rainfall is received. Only 20% of the country falls under the wet zone and its annual average rainfall varies from 2000 to 4500mm. The zone contains enough water sources with distributed rainfall all around the year, thus, the wet zone is highly populated with commercial agricultural plantations such as tea, rubber,

coconut, cinnamon etc. (Water Matters, 2007). However, the country lacks the water to meet the demand of the population in terms of quality, quantity and accessibility. “Demand projections for 2025 show that the Dry Zone will continue to absorb over 90% of total water withdrawals” (Water Matters, 2007, p.4).

Economic water scarcity refers to new infrastructure development to increase the water supply lacks in the country due to lack of availability of surface water sources and ground water. Also, the poor water governance and, inequitable resource distribution have worsened the insecurities experienced by vulnerable people in the country (Water Matters, 2007). Competition for water sources and tension between communities needs immediate solutions to address the water insecurities.

Moreover, the inequality based on class, caste and ethnicity and gender have become a reason in water allocation, distribution and access to water resources (Tennakoon & Mahees, 2021). Therefore, political and social reasons also have inflicted some communities to access to water resources in rural areas.

Household water insecurity which contains adequacy, reliability, accessibility and safety varies on the basis of one’s social condition and gender. When men prioritize water for agriculture and livestock, women become the household water managers in terms of health and sanitation, household food, and agriculture.

As noted, the main objective of the study is to analyze the discourse of water insecurity and gender inequality in Sri Lanka. This study identifies the insecurities in which rural women experience due to inadequate water availability and their capacity of adaptability, the intra-household disparities of women and men experience, while analyzing the discourse of water insecurity and gender inequality. Semi-structured interviews and content analysis were the main research techniques that were used apart from field observation. The primary data collection was done using an interview guideline to collect insights into the issues.

The study is significant as there is a dearth of literature investigating the discourse and the reality in water insecurity and gender inequality and also assessing the intersection between gender and water in the South Asian context. The existing literature is mainly focused on the general understanding of water insecurity rather than an in-depth, qualitative analysis of how water insecurities impact women from a sociological perspective.

This thesis consists of six chapters including introduction and conclusion. In the next chapter the foundation for the understanding of the available knowledge of water insecurities and gender inequality will be laid out. Relevant literature is used in this chapter. The chapter critically provides an insight about whether the water crisis is myth or real., water quality, quantity and health., how water insecurity

affect well-being., gender water relation, women, water and menstrual hygiene management., and household water insecurity.

The third chapter discusses the methodology and the research process of the study. The fourth chapter discusses the lack of water availability and insecurities. The major discussion varies from, water insecurities and adaptability, solidarity and collective consciousness and land inheritance. The fifth chapter lays out the findings of the study, the gender inequality in water access in household. This chapter discusses about the representation of women and water in mass media, intra household disparities, gendered division of labour, paid and unpaid work, and menstruation and access to water. Finally, the conclusion provides the important findings and the limitations of this research.

Chapter 2. Literature Review

Water, one of the basic needs of the living being on earth that maintains the biological process of life, has become a precious natural resource even though the 71% of the earth's surface is covered by water, while 96.5% is covered by the ocean. However, only 2.5% of the water on earth is fresh and suitable for consumption (USGS, 2019).

Humans have modified the hydrological cycle to allocate water for domestic, industrial, and agricultural users, control the water energy and make tradeoffs. These conflicting needs and, climate change has an impact on groundwater. However, in recent years, the depletion of groundwater levels has caused new anxiety among countries when they started to experience the consequences of massive groundwater exploitation. Since the economies in the regional countries including Sri Lanka are irrigation-based, over-exploitation and depletion of groundwater due to climate change have a severe impact on food security and drinking water supply.

2.1 Water Conflict – Myth or Real?

Water resources are threatened at the global level with climate change resulting in variations in weather conditions causing hydrological catastrophes such as floods and droughts which in turn has led to raised issues in water supply and existing ecosystem. However, it is likely that unequal distribution and allocation of water resources increase competition between specific users, industries, or even between neighboring countries (Zikos & Hagedorn, 2016). Many scholars are in believe that a lack of water resources and high consumption including over-exploitation of groundwater would cause water wars in near future. Bernauer et al. (2012) say that claims of water wars began to use widely with the discourse of climate change. Thomas Malthus issued a warning about resource shortage and the possibility of social unrest as early as 200 years ago in response to a growing population. This has led to the claim that enormous disputes and even wars will eventually result from the overexploitation of natural resources, particularly water, in the 1970s. Because of this, the phrase 'water wars' has become widely used in literature, popular science literature, and official announcements.

However, none of the conflicts has, up to this point, developed into an armed conflict that would be considered a war even though many analysts believe that there is still a good chance that future armed interstate conflicts may break out. Indus water Treaty was one such example of global cooperation in sharing water resources rather than ending up in a water conflict.

Moreover, according to Selby (2005), ‘water is taken for granted in the North, but in the Middle East, it can mean the difference between life and death and has significant economic and political ramifications’. The Middle Eastern water issue is portrayed in North America and Europe as an inter-state conflict and pessimistic in nature. However, the most common way they are expressed in the media, politics, and popular discourse is through exaggerated assertions about previous, ongoing, and upcoming ‘water wars’. It is frequently asserted that ‘water has become a commodity as vital as oil’ and that ‘battles of the next century will be over water’ in contrast to the fact that ‘many of the wars of this century were about oil’. This is the view of the World Bank. Additionally, it is also constantly said that the Middle East is going to experience another significant natural resource crisis’ (Selby, 2005).

Moreover, Biswas &Tortajada (2019) criticize the fact that academics and professionals in the field and International Organizations repeatedly use the projections of water scarcity given by the major international organizations without any validity and concrete evidence. Shiva (2002), also points out that the World Bank is the main international actor which creates water scarcity and pollution while maintaining control over water. Water wars between countries is a just an assumption of the International agencies due to their limited thinking of the water

scenario. The projections made by the world actors are quite unrealistic and provide a pessimistic picture of the global water crisis. However, even though the diverse range of literature asserts the possibility of water wars, rather than verbal disputes, conflict over water cannot be predicted as most of the tension over water has been resolved up until now.

The people who have an interest in these waters frequently come from diverse social, political, cultural, and religious backgrounds and have various economic, environmental, and other points of view regarding how to use and manage water. However, the diverse social and environmental backgrounds have shown different dynamics in the way the communities in different contexts perceive water insecurities, access to water, and water use. There can be competition over water resources but the issue can be addressed in a cooperative way as so far the international water management problems have been resolved in cooperation by avoiding tension.

2.2 Water Quality, Quantity and Health

Nearly, 450 million children and more than 1.42 billion people live in high-water vulnerable regions in the world. Due to inadequate access to drinking water and

sanitary facilities in homes and schools, children, particularly girls miss schools in Africa and Asia. According to UNICEF (2021), 1 in 5 children globally lack water for their basic daily needs. Girls' inability to attend school is caused by a variety of factors, including illness, the strain of carrying water from far-off sources, and lack of time and energy. Also, it is estimated that nearly 4500 children each day die from a lack of clean water and sanitation (Munasinghe, 2009).

High health costs are associated with poor water quality and sanitation. Therefore, improved water and sanitation facilities bring notable results socially and economically for an entire society. More than 90% of those who die from diarrheal illnesses in poor countries are children under the age of five (Munasinghe, 2009).

Moreover, low-quality water supplies and unreliable sources make the underprivileged to obtain water from dangerous alternative sources, putting their health at risk and exposing them to waterborne virus illnesses.

Many studies have proven the relation between poverty and virus-related water contamination, a direct correlation between poverty and water pollution, and a connection between poverty and dirtiness and dirtiness with microbially contaminated water. Children in rural households were more likely to have access to contaminated water sources than children in urban households. On the other

hand, rural women tend to reuse water for household purposes from pumps or wells, which show that poverty has a significant impact on children's health (Adelodun et al., 2021).

Studies have found that incident factors play a major role in water-borne diseases. The majority of water-borne disease cases that were reported were caused by environmental factors like poor environmental sanitation, improper waste disposal, persistent communal conflict, low topography, and swamps that lead to rapid microbial growth, and hardness of water and high pH levels in well and borehole water (Manetu & Karanja, 2021). Also, women are prone higher than men to waterborne diseases as they involve household responsibilities related to water (Adelodun, et al., 2021).

In the Sri Lankan context, according to ReliefWeb (2010), there are serious health problems due to unsafe drinking water. This has been reported highlighting the negligence of the government in providing safe drinking water. Nearly 15 districts out of 25 are affected as a result of water insecurity.

As per the Annual Health Bulletin (2005 as cited in, ReliefWeb, 2010) death rates due to urinary system diseases including kidney diseases have multiplied from 1980 to 2005, from 3.1 to 6.5 deaths per 100,000 persons. Urinary system diseases were

one of the 11th major causes of hospital deaths reported in 2005. *Vavuniya, Anuradhapura, Jaffna Trincomalee, and Badulla* districts reported a considerable number of deaths which follows by water pollution (Balasubramanya & Stifel, 2019).

Moreover, in rural areas of developing nations, individuals typically collect drinking water from the ground using a hand pump or turbine. Also private water supplies could threaten people's lives due to diverse bacteria, such as fecal coliform, which can contaminate groundwater as water is not treated before being consumed in private water supply systems. However, there may be additional issues caused by poor water quality. Unpleasant taste or odor, precipitation of dissolved minerals, and calcification of taps and kitchen utensils are examples of aesthetic as well as hygienic issues. Determining preventive actions against various water-borne diseases depends in large part on the perception of water quality according to Yasar et al. (2011).

On the other hand, people who have less knowledge of the quality of the water may not treat it before drinking, which could have serious health effects (Cairncross & Valdmanis, 2006 cited in Yasar et al., 2011). Drinking water quality satisfaction and risk perception are tightly connected. Risk perception in relation to drinking water is described as an individual's subjective judgment (Anadu & Harding, 2000).

This implied that a complex interaction of educational, cultural, social, and psychological elements resulted in the perception of drinking water quality danger.

2.2.1 Household Water Insecurity

Bio-cultural research has revealed that there is a significant relation between household and water insecurity, therefore, it leads to greater stress and is likely to develop physical and mental health outcomes. Economically vulnerable communities suffer more due to food and water insecurities from depression and anxiety some studies revealed (Brewis et al., 2021).

To address physiologic and sanitary needs, an individual needs 50 to 100 liters of water per day. People who are subject to a limit of 20 liters per day would consequently face significant health risks. Rural populations typically experience poorer economic situations than urban residents, which has an impact on the amount of water they use (Omarova et al., 2019).

Because there is not enough water for irrigation and there is not enough food produced to meet the demands of the community, food security, and water shortage are threatened in rural areas (Nephaew et al., 2021). Water insecurity could exacerbate food insecurity because it prevents households from producing food for

their own consumption; generating income to purchase food, or alternating between the two. Household water insecurity may diminish the effects of agricultural activities on reducing food poverty because house gardens or plots need enough water to function (Brews et al., 2021).

The requirement to buy clean water can seriously affect a family's ability to afford food and living expenses. Water purchases can put a significant strain on a household's finances. Water treatment to make it safe to drink also costs money and takes available money away from the household food budget (e.g., boiling it). Particularly when they must rely on water vendors or unregulated water markets, households in lower-income countries devote a disproportionate amount of their money to providing water (WaterAid, 2016).

The majority of Onitsha's in Nigeria water supply comes from a complex and well-organized water vending system that was developed and is run by the private sector. Many houses that acquire water from tanker trucks resell the water to people who cannot afford huge storage tanks or who cannot be reached by the tanker trucks by selling it to them in buckets. However, during the rainy season, water vendors generate high income than water utilities. Households in Onitsha are already paying

water vendors more than double the price of piped water on a yearly basis (Ishaku & Majid, 2011).

2.3 Water and its Effect on Well-being

Regarding the effect of water insecurity on human well-being, the quantity of water is just as significant as the quality. Water quality and quantity are also related since, a lack of water results in contamination and diminishing water quality, both of which have a negative effect on the poor (Munasinghe, 2009).

Moreover, the links between home water scarcity and increased sadness and anxiety have been observed consistently for a variety of water-insecure situations (Brewis et al., 2021). As stated by Wutich, Brewis, and Tsai (2020), these theorized emotion-based mechanisms include the stress effects of material uncertainty, the shame of failing to meet social expectations, worry about harm to physical health, loss of socially valued identities or connections, frustrations stemming from reduced autonomy or opportunity (e.g., with time spent fetching or queuing), and elevations of interpersonal conflicts (both community or within the household (Brewis et al., 2021).

According to Mexican research, women and those in lower socioeconomic strata reported being the most affected by unfair and uneven treatment and it has been a common experience for women to face such experiences in access to water. In Bangladesh, Sultana (2011) also documented how women experienced emotionally unpleasant situations as a result of discriminatory treatment surrounding water pumps and home water arrangements. On the other hand, studies have revealed sadness and anxiety decreased with household income, as did the likelihood of water insecurity.

Moreover, in many developing nations, there is a gendered division of labor due to social and cultural traditions, with women typically in charge of unpaid domestic tasks. The operation of the household depends heavily on domestic chores. However, women frequently don't get recognition for their contributions. According to research, a gendered division of household duties leads to disparities between men and women in terms of negative health effects, such as increased psychosocial distress for women. There is a substantial risk of falling and becoming hurt when carrying water containers over difficult or uneven terrain. Therefore, the relationship between the physical strain of carrying water and psychosocial well-being may be moderated by the terrain (Tomberge et al., 2021).

2.4 Gender-Water Relation

Water insecurity is gendered, racialized and linked to poverty. According to the research, individuals who are much more likely to face household water insecurity are indigenous peoples. Additionally, women are mostly responsible for addressing home security issues, making this another gendered issue (Coles & Wallace, 2005). Situations of water insecurity are frequently caused by a lack of infrastructure, malfunctioning infrastructure, a lack of affordability, or contamination (Radonic &Jacob, 2021).

Due to the fact that women are in charge of obtaining water for domestic consumption, the literature demonstrates how gender inequities are reflected and reinforced. Women frequently wait for hours for water delivery trucks, wait in line at public faucets, or travel great distances to carry heavy water containers home. Between suffering from water and suffering for water, Sultana (2011) makes a distinction. The author acknowledges the challenge of acquiring and managing water in contexts of insecurity by identifying the related but separate problems of living with restricted access to water and living with access to poor-quality water (Radonic & Jacob, 2021). These sufferings include physical pain and emotional anguish; they also have an impact on women's economic lives because obtaining

water prevents them from going to school or engaging in work-related activities (Truelove, 2011; Sultana, 2011).

According to Plan International (2009), women gather water for families by walking the distance of 16 trips each day in South Africa alone. People who consume inadequate amounts of food may suffer adverse effects from the energy consumption required for water collecting. Carrying heavy buckets of water on the head can harm the spine's growth and health, resulting in deformities, arthritic conditions, and injuries. When women are providing care for people with AIDS, the daily freshwater requirement—which ranges from 20 to 100 liters depending on the source—increases significantly. Repeated diarrhea requires more frequent cleaning of bed linens, bathing, and consuming enough water to prevent dehydration.

Women do all the labor involved in collecting water, which takes time away from their education, participation in politics and culture, rest, and leisure activities. Additionally, it reduces the time available for tasks like food preparation and production. In India, women spend 150 million working days per year carrying water, costing the country 10 billion rupees in lost income. Their unpaid contributions have a tremendous economic worth, but because of their

disadvantaged financial status, they suffer disproportionately when water is priced, as is the case with water privatization (Bouwer, 2006).

Moreover, Flint's experience in the United States is now a symbol of water insecurity in the Global North. Despite the fact that they were all middle-class citizens of a high-income nation, their experiences were similar to those of women living in low-income nations who face water insecurity **(**Radonic &Jacob, 2021**).**

2.4.1 Women, water and menstrual hygiene management

Numerous research on women and girls found that, due to a lack of resources, women engaged in poor sanitation, hygiene, and menstrual hygiene management behaviors. Sanitation facilities were frequently reported as not being secure, sanitary, or reachable. As hygiene barriers, basic requirements like soap and washing facilities as well as hygienic items like toothpaste were noted. Six percent of the studies examined the role of menstrual, hygiene management, and the majority of the women who participated in them claimed that there were not enough clean pads, private spaces, or water sources for cleaning and sanitizing. One in ten students misses school because of their periods, which may be partially explained by the stigma associated with menstruation. The relationship between water, sanitation, and hygiene facilities in schools and absence was not clear, though. Stigma, cultural standards, and an imbalance in societal power contribute to gender

inequality. According to research by O'Reilly and Louis (2014), Yeasmin et al. (2017), and Winter et al. (2019 as cited in Pouramin et al., 2020), stigma actively discourages women and girls from adopting healthy behaviors like utilizing latrines or soap and water. However, stigma affects people's emotional and physical health more than it does their access to water, sanitation, and hygiene, and its harmful impacts on menstrual, hygiene management are obvious (Sommer et al.,2015). For instance, girls' emotions related to menstrual, hygiene management can include despair, tension or anxiety, physical discomfort, feeling unclean, and humiliation; as a result, their needs are frequently suppressed.

Chapter 3. Methodology

The chapter discusses the research process - the steps and the techniques used in the study. It includes the field setting, selection criteria of the sample, data collection method, and the ways the data is analyzed. Since the study is explorative research, qualitative data were used.

The study aimed to analyze the content of the water crisis, water insecurities, and gender inequality in access to natural resources while reviewing the relevant literature. Content analysis is highly applicable in this study as the study focused on gathering qualitative information. Since content analysis is a technique for making inferences by systematically and objectively identifying specified characteristics of messages, the data analysis was done during the process of the study. Also, visual data such as photographs were also used to understand water insecurities in the village and to interpret the scenario exploring new dimensions and specific characteristics in photographs while improving the quality of data via unspoken knowledge.

Semi-structured interview is the main research technique that is used in this study while applying the observation method where necessary.

Since these types of interviews provide qualitative in-depth data by allowing interviewees to talk about the subject without applying any barriers and maintain a positive rapport with the respondents, it stimulated the respondent to produce more information. There was a possibility of exploring new information at the same time.

Also, along with conducting semi-structured interviews, the observation method is also used where necessary to identify the household environment and to investigate the behavior of the community.

3.1 The Field of Study

The study area belongs to the *Weligepola* DS division in *Ratnapura* District which is prone to water insecurity and it is the most affected district as a result of floods (ReliefWeb, 2020). *Hatangala* GND was chosen out of 30 GN divisions in *Weligepola* purposively due to the dearth of water availability in the area.

The total population in *Hatangala* village, is 1714, among them, 863 are males and 851 are females. The total number of families living in the area is 567 and the children population who are below 18 years is 345. The majority is Sinhalese and there are only 03 people who are Tamils. Among the above-mentioned eight village

clusters, one most water dearth village clusters were selected which is *Hatangala* (District Secretariat Ratnapura, 2019).

Both males and females are engaged in their family land work. Some have small grocery and barber shops in the village. The community has a considerable income level and they are above the poverty line. Coconut, pepper, and cinnamon are the commercial crops in the village. The villages do not have any cattle, buffaloes, and goats for dairy purposes and manure like in other villages in Sri Lanka.

There are nearly 437 dug private wells for the community. Some household has nearly three or four dug wells in their lands. However, the wells do not contain sufficient water. The water quality and quantity of the water of these dug well seem to be very low and the community called this water red saline water or '*rath kwela'*. The water is almost red in color People tend to use the well water for sanitary purposes, washing clothes, and bathing.

3.2 Sample and the Criteria of Selection

The unit of analysis is women and men who experience household water insecurity. The sample for the study was selected purposively from the area of study. The data was collected during the month of August using an interview guideline with a help

of a research assistant in vernacular language. Each interview was one and a half hours long and was tape-recorded.

The whole population in the study area experiences water scarcity mainly as a result of the low quality and quantity of groundwater. The area and the sample for the study were selected identifying the areas and the individuals who have the least access to water supply in rural dry zones in Sri Lanka.

A total of 20 cases were selected purposively on the basis of water insecurity and difficulties they encounter in daily life in access to water. Participants for the study were identified after making several visits to the field on the basis of their experience with water insecurity. Nearly 10 women and 10 men were selected in order to have an equal gender representation out of 479 female population, and 462 male population. The age group of the selected sample was between 26 to 60 years and most of the participants are land owners who engaged in agriculture and there are laborers too. The participants who are suitable for the study were selected purposively, considering the factors such as age group, gender, and experiences.

The following table provides the demographic characteristics of the interviewees.

Table 1.1 Demographic Characteristics of Male Interviewees

Interviewee	Age	Marital status	Education level

01	45	Married	No education
02	33	Married	Sat for O/L Exam
03	50	Married	Studied up to Grade 5
04	40	Married	Studied up to Grade 10
05	58	Married	No Education
06	28	Married	Sat for O/L Exam
07	38	Married	Sat for O/L Exam
08	55	Married	No education
09	48	Married	Studied up to Grade 3
10	40	Married	Studied up to Grade 5

Table 1.2 Demographic Characteristics of Female Interviewees

Interviewee	**Age**	**Marital status**	**Education level**
01	45	Married	O/L Qualified
02	33	Married	O/L Qualified
03	50	Married	Studied up to Grade 5
04	40	Married	Studied up to grade 11
05	35	Married	O/L qualified
06	28	Married	A/L passed in Arts stream
07	37	Married	Studied up to grade 10
08	42	Married	O/L Qualified

09	31	Married	A/L passed in Arts stream
10	43	Married	O/L Qualified

Informed consent has been obtained from the participants and was allowed to participate voluntarily. They were allowed to withdraw at any time during the study while making sure to minimize the risk of harm when inquiring about sensitive questions. Permission was granted by the respondents to tape the interviews and they were assured of confidentiality and anonymity. The semi-structured interview guideline of the participants (attached in Appendix 1) was found very useful in understanding the situation in daily life experiences, barriers, and difficulties the participants undergo.

3.3 Secondary Data

The secondary data and information regarding the subject area of the research were collected from Sri Lankan government agencies—the Ministry of Health, the National Water Supply and Drainage Board, the Department of National Community Water Supply, and the Ministry of Women and Child Affairs.

Content analysis of publicly available data as per the research objectives, review of the literature, and visual images were the research techniques that were used. Content analysis was highly applicable in this study as the study focuses on gathering qualitative information. The study analyzed the content of records, available literature, abuse incidents related to public records, newspaper articles, documentaries, short films, analytical reports, photographs, and archival records, systematically and objectively, identifying specific characteristics of messages which related to objectives. All the records were classified and analyzed according to a structured criterion.

3.4 Data Analysis

The analysis of data was made with reference to the objectives and the research question. The analysis was done by reconstructing the manifest characteristics of texts and images. The construction of the message, its form, metaphors, and structure of the argument, were taken into consideration in the analysis. Furthermore, the deeper meaning of the messages was focused giving emphasis on latent meanings. Data analysis involved categorization and re-categorization of variables, explanations, and descriptive inferences. In data processing, data is

classified very similarly to the process of classification in categorization and re-categorization, on the basis of the research question.

A pilot study (see Appendix 3) was conducted prior to the main research and the findings of the pilot study contradict the present study as the field settings are in two different contexts. Also, during the analysis, it is found that the findings contradict the existing literature, therefore the initial research topic which was the impact of water insecurity on women's well-being was changed to the **"**Unpacking the discourse of water insecurity and gender inequality: A Sri Lankan case".

Chapter 4. Lack of Water Availability and Insecurities

This chapter brings forth the examination of one of the main objectives of the study which is the insecurities women experience due to the lack of water availability. The chapter is based on semi-structured interviews and a review of relevant literature. The discussion was done under several subtopics such as water insecurity and adaptability, solidarity and collective consciousness, and land inheritance.

No living being can exist without water. However, man's materialistic way of behavior and unsustainable consumption patterns have caused massive damage to the natural world's impact on natural resources mostly the water sources which have low restoratives powers. Also, the depletion of groundwater levels with climate change has caused new anxiety among countries when they started to experience the consequences of massive groundwater exploitation. Water is being extracted faster than nature restoring its resources.

Researchers have drawn public attention during the past ten years with alarming predictions and intriguing titles, such as 'water wars', and many studies predict that water will be the 'next oil' and will be no world peace due to the fact that it has already grabbed the geopolitical concern. It is true that resource scarcity is likely to

aggravate tensions, especially when accompanied by sociocultural stressors (Sirin, 2011). In spite of differences in climate zones, population sizes, territorial extents, and levels of democracy, countries with water concerns experienced similar levels of stress, according to the research (Wolf et al, 2003). The consequences of climate change have led to a decrease the water resources and at present, many countries experience water insecurities. However, does water insecurity leads to water wars, or does it more likely to boost cooperation?

4.1 Water Insecurity and Adaptability

The literature reveals that women have the responsibility of household work while experiencing water insecurity. Women's needs are ignored prioritizing the males, children, and disabled family members. Despite the severity of the water insecurity, women become voiceless to speak out about their right to water as a result of violence, ignorance of family members, and the patriarchal society as a whole. The social structure ignores the voice of women, her needs and priorities keep them marginalized by burdening the water responsibility on them. According to the United Nations (2022), water carriers are typically women and girls. This can be a risky, physically challenging task that consumes time. Long walks on foot, frequently more than thrice a day, can make women and girls more vulnerable to assault and frequently prevent them from attending school or working.

Nevertheless, even though the literature depicts the vulnerability of women due to water insecurities, the findings of the present study contrast the available literature and the common depiction of the UN agencies. According to the field data, though the village lacks drinking water access, they have adapted to the minimum use of water.

A female aged 35 in the study area revealed that she had been experiencing water insecurity since she was a child. According to her, ***"My parents have encountered the same problem, even my grandparents. So, for many generations, we haven't had water. So we are used to it. We have no danger of dying without water. We just manage whatever water amount we have****"*.

The field data shows the community is comfortable with their daily life routine. The insufficient water availability for the villagers is not perceived by them as a life-threatening issue they should migrate to water-accessible places.

On the other hand, a participant in the semi-structured interview revealed that they are reluctant to attribute a monetary value to water and reluctant to pay if they have monthly water tariff if they migrate to a water-accessible place.

"***If we just share our water needs, we can manage the water insecurity. If we go to the city we need to pay a huge water bill. Now we do not have any problems with paying. We do not want to go to an urban area. I felt many times to change the residents but again I thought we, as the family can manage the problem."***

Therefore, the monthly water tariff has become one of the pull factors for them to remain in the village. Availability of the land assets in the village has also become a pull factor for not making an internal migration seeking more convenient water facilities. It is evident that the community has the tolerance to overcome water insecurity by prioritizing the land assets. They have attached to the present geographical area due to sufficient water availability in the common water sources throughout the year even though they experience hardships to do the fetching.

However, they feel relieved if they have easy access to water but they do not lament due to insufficient water availability either. They agree that they experience some difficulties and limitations when using the water, however, they do not perceive the water issue as a life burden that impacts their quality of life. During the semi-structured interview, the mother age 40 revealed that,

"It is better if we have more water, then we do not want to think twice when we want to take a wash. We cannot wash our clothes and take a bath as we want any

time of the day. We have to think and rethink before we need water for our sanitary needs".

Moreover, collective social consciousness, storing water for emergency use also has led to adapting to water scarcity. Since they have a collaborative relationship with their fellow villagers, they share water resources with each other. Villagers who have endless water facilities offer their water by installing a water tap in a place where everyone has easy access to drinking water in the village. Also, people can fetch any amount of water liters from common water sources as no one is opposed. Therefore, some tend to store water by fetching it from common sources by motorbikes and trishaws., and selling it for an affordable price by only charging the fuel cost which they spent on their vehicles during the dry spells.

Also, it is understood that people tend to adapt to the environment once the problems exist in society for a period of time and normalize in their daily routine. On the other hand, the behavior, response, and willingness to adapt to water insecurity depend the local perception of the problem. There is an absence of social vulnerability and risk in the village as they are following and strengthening further the local adaptation strategies due to the fact that there are different water sources available even at a distance, free of cost.

Their adaptation strategies vary from minimum use of water, rainwater collecting system, and rain-fed crop cultivation system. They cop and overcome the dry spells every year which last nearly four months by storing the rainwater during the rainy season to use during the dry spells. Cultivation of less water-demanding crops and less extraction of spring water in common water sources, and a limited number of households have led them to make their life less complicated and helped them to adapt to the water insecurities.

Therefore, it is evident that the villagers are aware of how to respond to water insecurity and they have their own practices and strategies, and responses in their context by attaching the meaning via their commonsense knowledge. As Peter Berger and Thomas Luckmann point out in Social construction theory (1979), the community has established a knowledge and practice system which is unique to them. They have already constructed the techniques and strategies to overcome water insecurities which are different from the science. They have understood the environmental challenges, and their vulnerability, and respond effectively on the basis of their situation utilizing their commonsense knowledge. They survive in their environment despite all the difficulties they experience. They have a collaborative consensus and are aware of how to deal with the problem collectively by constructing a meaning of water insecurity and the ways to deal with it. Their

mental capacities which they should deal with are constructed within society via meaning-making processes on the basis of their experience. Their knowledge may be not scientific but uncomplicated and unique consisting of their own identity and knowledge. They have their own rural wisdom. It is unique to them and passes from one generation to another. Their mental capacities have been influenced by the social and historical contexts which their ancestors have gone through and are reproduced from generation to generation. Therefore, they have adapted to the condition of the village. They do not perceive the water insecurity as a threat to their life even though the water sources are situated one and a half kilometer distance from their dwellings.

4.1.1 Water Quality and Quantity

The field data further revealed that the villagers are mostly concerned about the water quantity irrespective of its quality. The groundwater in some areas contains fluoride and in some places, it is contaminated with iron, therefore, the water looks red. '*Rath Kiuwl*', is a commonly used term by villagers, which means 'red fluoride'. If the taste of the water is good and the quantity is sufficient to meet their minimum needs, they are content. Their sanitation and hygiene needs are managed with the minimum quantity of water.

Moreover, some villagers have dug pits in their dwellings to collect rainwater during the rainy season and they use the collected water to drink and cook for sanitary purposes as well. They obtain the water via a distribution pipeline to their dwellings. These water-dug pits are unprotected and have high turbidity. The quality and the quantity of water are of low standard due to the fact that it stores in pits mixing with mud. On the other hand, the surface water flows to the pit with mud flow as there are no barriers to protect the pithead. These surface soil and water can contain contaminants.

Also, the water pits are not covered to protect from contaminants entering them. The quality of water they consume does not contain even the minimum water quality stranded as the drinking water contains contaminants. They have never tested the drinking water quality and are unaware of the fact that the water should be tested and purified. Even the most simple and principal way of killing the bacteria and organisms is boiling water to 100c, for nearly 20 minutes which leads to killing most of the pathogenic organisms (UNEP,2007) they never do so. However, these villagers use to consume cold water or lightly heated water without making it a full roll boil and consume without filtering it.

Some villagers fetch drinking water once in two days from spring water sources during the drought season and use it with extra care for only necessary needs. Some store water for emergency needs as well as to use during the drought season. Moreover, the villagers use unclean water containers to store water and, some tend to use empty plastic paint buckets to store and fetch water. Some use 30 Liter plastic cans and Sri Lankan traditional pot water catcher called *Kalaya* to fetch water. They are least concerned about the cleanliness of the storage containers and the possibility to re-contaminate the water in the storage containers seems to be high.

As mentioned before, water quality is decided by the villagers from 'water taste'. However, according to the literature, taste, is not always a reliable indicator of water quality. Unprotected springs and shallow, open, flowing artesian wells are frequently more sensitive to significant changes in water quality. Even though many are in believe that spring water is pure, some studies point out that spring water can be contaminated. Creatures, such as birds, are drawn to open springs and use the water for bathing or drinking. There is a possibility to contract tularemia and giardiasis from consuming water that has been contaminated by animals (Wisconsin Department of Natural Resources, n.d).

Nevertheless, the findings of the semi-structured interviews revealed that the villagers have not suffered from waterborne diseases even though they consume

contaminated water daily. However, since the village does not heavily depend on agriculture due to water scarcity, it can be assumed that water is not contaminated with agricultural pollution such as pesticides and herbicides as the main cultivated crops in the village are coconut, cinnamon, pepper, and the drought resistance crops -- cassava, sweet potatoes in the home gardens. In the study area, the water issue for the community is not a basic need or a priority in their own hierarchy of needs. They do not perceive that there is insecurity in access to water. It contrasts to the discourse on water insecurity and water quality in the literature. This case can be treated as an outlier. However, it also calls for an attention to the diverse local contexts and experiences.

4.2 Solidarity and Collective Consciousness

Even though many studies have pointed out that there can be water wars, conflicts, and tension as a result of limited water resources, this study finds that water sharing has been carried out among the community in the village since many decades ago without any tension and conflict among them. According to the field data, the community lacks access to clean drinking water as a result of the absence of groundwater in the area. The groundwater table in the area is at a low level and fluctuates throughout the year and some water wells are contaminated with fluoride and iron. However, the water table levels vary in the village as when some areas

contain enough water in the groundwater wells, some wells dry even during the rainy season and some go dry only in dry weather conditions while some wells have enough water throughout the year. The community has experienced serious dry spells last decades however, the field data revealed since last year, they do receive small-scale rainfalls during the dry spell period which has brought some relief for them. The pattern of weather conditions contains slight changes from the previous years as a result of the changes in the climate which has impacted them positively.

However, the community in the village uses to travel to the wells and, some of them, to water ponds to fetch drinking water, especially during the drought season which lasts nearly four months from September to December every year. Some villagers, those who have enough deep well water tend to share water with their fellow villagers and the community tends to maintain social solidarity by helping the fellow villagers to fulfill their water needs despite showing any resistance. The field data further revealed that the villagers are not used to being in tension or aggressive for their water rights even though they stand in long queues for hours at the common tap where people fetch water, especially during dry spells. Also, when the water bowser delivers water during the drought season free of charge, no one argues or has disagreements with each other during the water distribution time. Their

perception of the situation is that everyone equally experiences water scarcity therefore; everyone in the village needs drinking water.

A male respondent during the semi-structured interview said that.,

"***Everyone in the village has the same problem. We understand everyone's burden of the water problem. Everyone is trying to fetch water for drinking and we do not want to be angry with anyone. We all have a common problem and everyone is in a similar situation."***

The people in the village are integrated with each other on the basis of social cohesion and they have a collective consciousness that they need to share the water resources despite the difficulties they encounter. They have a moral phenomenon and common sentiments that the water should be shared. These shared ways of thinking have constructed a bond within them and they have become a tightly-knit community. Their behavior and the way they act and think are external to the individuals and develop social cohesion. The field data reveals that the support network and the unity in the village are strongly maintained. Not only do they share the water, but most of the villagers also tend to share their labor and tend work in other coconut fields when their fellow villagers need help irrespective of gender differences. However, they get a daily wage for the work they have done and this

pattern keeps on rotating from one villager to another. When they need additional labor in the coconut lands, they always receive help due to the fact that villagers have the moral responsibility and commitment to offer help to each other to maintain the bond on the basis of cooperation and moral commitment.

Moreover, the field data revealed that the time women go to nearby water sources to wash their clothes and have a bath, they tend to call all the other women who live in nearby houses and travel as a group. This has become a routine in society and women never go alone to bathe or wash clothes. Therefore, these kinds of tight bonds or close-knit interactions which exist in societies and families as Durkheim says, shape collective conciseness, and social solidarity through moral commitment while maintaining a strong social integration. The social structure which brings out by Durkheim in the theory of social solidarity and social rules has a similar illustration to the study area. According to Durkheim, traditional societies are segmented and absence of social hierarchy. However, these societies are interconnected and the community is made strongly attached to the domestic environment and, traditions via collective consciousness which reinforces to determine the group beliefs and practices (Hawkins, 1979).

Inequality, individualism, violence, dependency (commercialism), and immorality, the features of modern villages (Rigg, 1994) were not observed in the study area. The village has not been commercialized and commoditized but yet they follow the neoliberal market economy. Even though they have opportunities and alternatives to develop their livelihoods with proper access to water, their perception towards life is molded around the Buddhist values which are contentedness, satisfied with what you have" rather than chasing what you do not have. Although the village contains limited access to water, which is one of the basic needs to sustain life for living beings, the villagers are not impacted by the water insecurities.

Common water sources in the village have open access to everyone and these water sources are used by the villagers as per their own interests. The ownership of these water sources is not on the individuals and belongs to the community. Society shares the 'collective good' without exploiting it with harmony. The villagers maintain the social capital of bonding and bridging by trusting each other in sharing water.

The practice of sharing water has been internalized in the villagers as water is connected with the Buddhist culture as a sense of 'humility', 'purity', and 'unity'. There is significance for water in Buddhism and considered sacred. Buddhists are

in believe that if someone donates or offers water to a person who is thirsty will receive enormous merits in present life if not the next life. In Buddhism, water represents life, the purest form of nourishment, and it is the specific element that holds everything together in nature. Water is a sign of peace, clarity, and purity. It symbolizes purity, purifies our thoughts, and achieves purity. Dirt is removed with water. Everyone is delighted and joyful when they see water. This is due to the fact that they are reminded of their ability to clean their minds. They ought to purge themselves of all selfish and cruel ideas and become as pure as water. It is evident how, a single moral community becomes unified by religious beliefs and behaviors and maintains cohesiveness in society with its set of activities and beliefs by sharing water with each other as water is connected with sacredness as Durkheim more prominently highlighted in his definition of religion (Jr & Evans,1977).

On the other hand, the field data shows that the villagers are least considered about the monetary value of the water. A villager who has enough water in his water well offers his well water to everyone in the village by setting up a public tap near the public road for anyone to obtain water. Also, one or two villagers tend to offer drinking water for an overly cheap price, one liter for one rupee (0.0028 USD) by storing water in their houses which has been obtained from common water sources

when the villagers are in need of water during an emergency situation in the dry spells.

According to the literature, these patterns of behavior could be seen during ancient times as the water was not given a monetary value. Water availability was regarded as a fundamental human tradition in both urban and rural life in Sri Lanka. Community wells for drinking water, bathing, washing, and other uses have prevailed in the villages as a common good. A *Pin Thaliya* (a pot of water) was available at resting areas along the roads for travelers to quench their thirst. In some circumstances, water was given without charge and taken into consideration the rewards for good behavior (UNESCO, 2006). Also, water wells called '*Pinlida'* could be found in communities (a well that provides free water). These wells were built for the delivery of residential water on either public or private property. Due to issues with quality and quantity, many villages did not have wells even in the past. However, farmers' issues with domestic water quality and quantity were resolved by *'Pinlida.*' There were set standards for the usage of water in these wells, and these were maintained by the users of the water. The water in *'Pinlida'* was only being used for drinking (Jinapala & Somaratne 2002).

Therefore, the findings indicate that water has not been commoditized and commercialized yet in the study area and people are willing to share water and water resources as the monetary value of the water is the least concern. Also, they do not concern water as a modern object. Their spiritual life has made them accept their limited resources, with self-sufficiency and autonomy to maintain their life within the limited resources. These characteristics can be seen in traditional societies as the traditional societies tend to prioritize cultural and spiritual values more than modern values which influence to generate competition and tension among others. Therefore, these religious and cultural beliefs in the village can be assumed are intrigued the villagers to offer and share water in unity with fellow villagers without being in conflict and tension as they all encounter the same problem to a different extent. This in turn has strengthened their social solidarity and social cohesion to experience water insecurity as a collective action problem.

4.3 Land Inheritance and its Relation to Water

The village is a historical and traditional village that runs back to King *Valagamba* of the Anuradhapura Period in 103 BC and c. 89–77 BC. According to the archival sources, it is said that the King was overthrown by the South Indian rebels and he fled. He had been hiding in different caves until he

regained the throne. Later on, he converted these caves into temples during his ruling period (Geiger,1912).

The village and its temple are one of the places the king had been hiding from the South Indian invaders. Therefore, the community has a deep faith in their religion, Buddhism, and cultural roots, as they believe that they and their ancestors descended from the era of King *Valagamba.* The King has donated the lands and coconut fields which they own at present to honor their service to the king. The lands they own now are the ancestral properties and they keep the ownership of the lands within their family lineage.

As a result of the strong tradition and historical importance, the present community yet has its bond intimately tied to its past. Their ancestral lands are perceived as a precious asset for them. Therefore, they are reluctant to sell their lands to migrate to another area where there are more facilities. It is evident from the semi-structured interviews that land tenure is a sensitive issue for the villagers and they always tend to allocate their property right to land within their family. Outside the family is perceived as a threat to their family lineage as well as disrespect to the ancestors.

The communities rely on their lands, forests, and ecosystem while retaining their food sovereignty. They least responded to environmental challenges such as lack

of water availability as they have adopted since generation to the inadequate water issue. Therefore, the villagers are opposed to new solutions like migration. Even the new generation of the area is molded in the same traditional way as their parents used to be and no attempt is taken to access quality water facilities. They try to preserve their lands as same as the way that the indigenous people protect their ancestral domain. Their lands are the source of income generation for them to survive as well as it gives them the internal satisfaction of a sense of wealth as land owners are considered to be the upper class in the rural social hierarchy.

The modernization and control over the traditional way of lifestyle were not observed in the village, rather, a cooperative, harmonious lifestyle where they tend to maintain the collective, rural, and family consciousness on the basis of norms, values, and customs which has been passed through from generation to another. It is learned from the socialization process via intra-connectedness or intra-village relations by passing the knowledge. Life world is being shared, building social relations when living together in the same geographical space as Alfred Schutz' explains in inter-subjectivity. The village has a static inter-subjectivity relation since they live in the same geographical area for generations and therefore most of the villagers are blood relations. They live together while having common goals by sharing an understanding of the life world with each other. Since it is strong inter

subjectivity their knowledge has been derived from human experience or commonsense knowledge by validating or adapting to it sometimes through the experience when shared with others. With time, it becomes one's own experience. Therefore, people, when living together share the same geographical space, for a period of time by sharing their knowledge, and experience, and transmitting their life experiences from one generation to another. As a result, the new generation follows the same unconsciously and gets adapted to the same environment irrespective of any difficulties they encounter while collectively experiencing the issues by sharing the hardships with everyone. Their experience in water insecurity and the knowledge that guides their everyday life in the absence of adequate water hands down from one generation to another and since this has been happening for many decades it is internalized through primary and secondary socialization and has become normal and ordinary for the new generations as well.

Finally, it is important to mention, that water scarcity due to climate change and over-exploitation of natural resources is experienced by societies on different dimensions. Societies follow mitigation and adaptation strategies that are unique to their social cultural and economic structures. Gender inequality and intra-household disparities are discussed in detail in the next chapter.

Chapter 5. Gender Inequality and Intra-Household Disparities

5.1 Representation of Women and Water and the Reality

Access to water is considered to be a basic human right by International human rights law. The household supportive environment and shifting the gender roles as a support to women lead women to engage in their family lands and their businesses. Women are likely to have an adaptive capacity to changing weather conditions and to adapt to minimize water use which leads them to be more resilient to limited water resources.

However, most of the images which are used in the major web pages of International Non-Governmental Organizations and the mass media tend to dramatize that water is a gendered phenomenon. It tends to alter reality by portraying poverty-stricken dark and rough-skinned women, or a minor, especially girl children who are suffering from malnutrition, carrying dirty water pots in a drought-prone area (see Appendix 02). Gender division of labor, which shows that water fetching is the duty of the woman, including child labor in domestic work is also reflected in the images. These kinds of images tend to universalize the water

issue as females' problem. On the other hand, it reflects that the people in developing countries are the one's experience water insecurities rather than developed nations.

The images used by media contain visual and symbolic power to enhance the message which convey to the reader. The messages which are transmitted are composed of verbal and visual signs with meanings encoded into them (Corner, 1986; Hodge and Kress, 1989 as cited in Burgess, 1990). These metaphorical symbols indicate the relation between water and women in turn women and the environment.

Gender sensitivity in water-related issues with sensualizing images and dramatizing stories is vast. It conveys the message that water is a vulnerable natural resource same as the women in society. Women are portrayed as passive victims. Women and girl children including minority groups are represented as vulnerable, suppressed, and marginalized in access to water.

The gender imbalance and racially discriminatory images, on the other hand, depict and further re-construct and re-establish the biases and stereotypes of the role of women, their image, and the sexual division of labor by consciously or

unconsciously supporting the deep-rooted beliefs. In turn, it will never allow women to come out from the gendered social structure and gendered division of labor as these images construct and re-construct the women's position in society. The way mass media present the constructed ideologies makes the public believe that it is the truth. These images further reflect how the general public should perceive women and men including minority groups and attempt to internalize and construct their consciousness, by communicating unrealistic and reflecting the limited perception of the world. The reality is constructed forming a mass opinion.

It is evident that the water insecurities in which developing counties like Sri Lanka experience their own unique characteristics on the basis of social political and economic phenomena of the particular community. Every society has its own cultural values, beliefs, and practices including its own social reality. It has a unique web of patterns that differs from one another. Every individual’s behavior and knowledge has its unique features basis on the way they have socialized and the way they encounter and perceive an issue. It is also subjective and relative in nature and contains individual and societal differences. Therefore, water insecurities cannot be universalized and the dominant discourse.

5.2 Intra-Household Disparities

Every civilization irrespective of ancient or modern, contains, social institutions called families. Family as an institution lives in one household. The family members tend to socialize within the family., eat, talk, and learn morals., a sense of culture, and social norms (Huijgen, 2010). In contrast to northern South Asia, where kinship relationships between son and parents are important to family structure, the Sri Lankan family is primarily composed of a husband, wife, and dependent children. The standing of women in Sri Lankan society was particularly high in South Asian terms due to the country's family structure. Women, therefore, had a significant influence on reproductive and health practices. Also, there is no restriction in the family system for education for girls, therefore education particularly that of girls, are benefited from the family system(Caldwell, 1996).

The field data, reveals that teenage girls never visit to fetch water as they are engaged in their school work even though young boys are often accompanying their fathers. The cultural restriction that young girls are not allowed to go out alone without a guardian and also the family support for the female's education can be the reason that they are not engaged in water fetching responsibilities.

On the other hand, 'Extended family' or 'joint family' are typical in Sri Lanka. The field data indicates that most of the families living in the village are extended families where the married son resides with the parents with his children including

the other elderly children of the parents. Therefore, the household family structure expands from a nuclear family where only parents and children are to an extended or joint family structure. This practice has existed in society since many decades ago and still can be observed in rural areas, especially within conservative families in Sri Lanka. The distribution of resources among the family members since the families are large constitutes problems within the family.

According to the field data, gender inequality in the distribution of resources due to the patriarchal value system also could be observed in one case. In this case, the family constitutes five children with grandparents where male preference is practiced in the family. In such families as per the field data, the female allocates the consumption of the males for every need, including their latrine water needs. In situations where she is unable to fetch and store water, it is revealed that there are always family disputes that end in violence. This pattern can be only observed in families which suffer from poverty. The intra-household allocation of water resources within the household, in this case, is unequal and the female's water consumption becomes limited as she tends to prioritize the males' needs. For washing and bathing purposes all the family members use to go to distant water sources once or twice a week and since the elderly mother cannot travel to the water source, the respondent bathes her at home once a week after fetching water. The

problems she experiences during the rainy season which is from January to September are slight as they collect rainwater to a pit and secure and manage the household and her personal needs according to her convenience. The issue arises in the remaining months when they experience dry spells. The female in the household had to fetch water for every adult and child in the family.

Contrary to the above-mentioned case, the other cases reveal that intra-household disparities in water consumption are not evident among males and females as males share the water fetching responsibilities from different water sources and store them in the storage vessels. However, common spring water sources in the village contain a considerable level of water throughout the year and tend to use different water sources based on their different water needs. Six spring water sources are used for drinking purposes while five spring water sources are used for bathing and sanitation purposes. The only difficulty for them is to travel to these sources several times to fetch water in large quantities. In addition, they do not experience any intra-household water consumption differences as male participants in the study believe females require more water for household work as well as their sanitary purposes. Many households share the water needs without any disputes between family members and they tend to share and allocate more water to the females within the household. It is a normalized practice in the area. Therefore, the water resources are

shared giving more preference to the females in the household. Males and elderly people in the household are disciplined in their water use behavior prioritizing their children and women. According to the semi-structured interviews, an elderly father 68 years old whose adult children co-reside with him revealed that he fetches water from the neighbor's house to support his children and his wife. His wife cannot carry water due to her illness and his adult children lack time as they are full-time employed in the service sector. Rural elderly tend morally support their children by helping them emotionally and also supporting their domestic work as the bond between parents and children is solid. They tend to maintain solidarity and reciprocal relationship with the children.

Most of the time males travel to the water sources by their, push bicycles, motorbikes, or trishaws to bathe with their other male counterparts mostly in the evenings after finishing their daily work thrice or twice a week. As mentioned before, males tend to share water fetching responsibilities as it needs physical work to fill the water vessels, and carry it to their vehicles and store water at home. Even though they have enough water during the rainy season stored in the household, they never use it for their bathing purposes. They tend to save that water for domestic water needs.

Males in the household play a responsible role in their residential households' water demands. There are some occasions when retired males also fetch water from the nearby house and fill in the storage vessels. Since they do not heavily engage in land work, they tend to help with the water needs of the household. The daily water consumption during the rainy season in a four-member household is 1000 liters. They pump water from their water wells. During the dry season, consumption is reduced, and most households fetch drinking water from outside water sources while using a minimum amount, negotiating with the family members. Even though the household decision-making power and authority are held by men they do not interfere with domestic water needs or control the water consumption of women in the household. Household water management is always controlled by women without intra-household disparities in water consumption.

Even though women experience water insecurities, they are in a positive psychological state when the water fetching responsibilities are shared with the other family members. Water insecurities for them are a climate issue that is beyond their control. However, they tend to adapt to water insecurity as the society collectively integrates and shares the water resources. On the other hand, water-fetching responsibilities are also shared. Therefore intra-household disparities in terms of gender relations are less evident in these cases.

It is evident that there are diverse social dynamics can be observed within different social and cultural settings where women's status is not subservient. Even though the man is the breadwinner and the woman is the homemaker in the family, there are situations where gender roles overlap, and men cooperate with the women in the household choir same as women support the income-generating sources in the agricultural lands and the small-scale family businesses. Therefore, intra-household disparities in the household are not so evident in the study area as both women and men are involved in each other's activities by exchanging and sharing their labor based on mutual understanding.

5.3 Gendered Division of Labor on Water

Gender has an impact on water collection, consumption, and conserving water resources (Coles & Wallace, 2005). According to the Dublin Statement on Water and Sustainable Development, women play a significant role in water issues. Gender matters in the acquisition and provision of water, according to international agreements, such as Agenda 21 of the Rio Declaration on Environment and Development (UN Conference on Environment and Development 1992) and the International Covenant on Economic, Social, and Cultural Rights General

Comment on the Right to Water (United Nations 2002 as cited in Wutich, 2009). However, these agreements and studies have ignored more fundamental issues surrounding the gendered construction of water insecurity (Coles &Wallace, 2005).

The majority of studies so far, have focused on how women and girls bear an unfair share of the burdens associated with water**.** Women typically manage the water consumption in the entire household and they may prioritize the needs of the other family members before their own exposing themselves to dehydration and water-related health issues**.** Insufficient water for sanitation needs may make them distress and embarrassed (Wutich, 2009).

Tomberge (et al. 2021) points out, there is a division of labor based on gender, with women being predominantly responsible for unpaid household work. However, the field data contradicts the available literature as it reveals different dynamics in gender water relations.

The semi-structured interviews revealed, as mentioned before, that the males tend to hold the household water fetching responsibility more than women in the study area. Even though many studies revealed that women and girls are the household water providers, this study finds that males also play a role in visiting public water

sources to fetch water for drinking and cooking. They do not allow their women to fetch water as women cannot carry heavy loads of water vessels. Some households maintain shared water fetching responsibilities as well. Environmental factors, geographical location of water sources, and household structures have influenced water fetching responsibilities. Even though the village households follow the patriarchy by giving the authority to males and overly respecting them placing them in the highest position in the family hierarchy by maintaining a clear household division of labor, men have taken the water fetching responsibilities in their households. They do not perceive the water collecting task as the responsibility of the woman and consider it as a man's duty as it needs masculine strength.

The males in the study area use their trishaws, cycles, and motorcycles to visit the water sources and use 30-liter vessels to fill water and carry two or three such vessels in one trip. They tend to store the drinking water for two-three days and fetch it when it finishes. Since such heavy vessels are impossible for women to carry supplying drinking water has become the man's task.

The household in which males share the water fetching responsibilities has a progressive nature of gender water relations. When the males travel to obtain water and wait in line especially at the public tap during the dry spells, women tend to

look after their businesses and land work. On the other hand, since fetching water during the dry spell is time-consuming and obstructs household work including food preparation in the family, males tend to take the responsibilities of water supply in the household. Also, it is a difficult task for women to visit the water sources a number of times during the day to fulfill the entire household water needs due to the fact that they can only able to carry a little amount of water in one trip. Moreover, the location of the spring water sources is one and a half kilometers away from the dwellings. Males have easy access by their vehicles than women as it takes hours for women to walk to the water points. Women tend to fetch water only from their neighbors' groundwater wells as it takes only 10 or 15 minutes to the water point from their dwellings. Walking to the neighbors' groundwater well several times a day when the water storage gets drained is not a difficult task for women due to the short distance from their dwellings to the water point.

The pattern further highlights that the water fetching responsibility varies on the basis of geographical locations as well as from the traditional, cultural, and religious backgrounds of the community. Also, it is based on the gender roles which males and females play within the household. The field data reveals that, in the past, women tend to collect water mainly in traditional water pots, however, the responsibility has shifted to the male due to the fact that every household has a

vehicle—trishaw, push bicycle, or motorbike. This has led them to fetch large quantities of water in one trip from different water sources in the village. Therefore, the water fetching responsibilities contain different dynamics while it differs from one social structure to another. Since it is a relative phenomenon, it cannot be universalized by emphasizing it as water fetching has become a women's job that cannot be applied in every social structure.

5.3.1 Counter Example

In Sri Lanka's history, gender roles in the public, political, and economic spheres were seen as consistent with femininity. According to social expectations, women had to spend their lives first preparing for their roles as wives and mothers and then fulfilling their roles according to the rules that were set forth for them (Perera,1987). However, even though these kinds of conservative patterns have changed by now, Sri Lanka society yet revolved around patriarchal ethos in different phases. Following is an example that depicts how the patriarchal social structure remains in the society.

One female respondent during the semi-structured interview revealed that her family’s water management responsibility has fallen on her even though there are three 18 years old adult sons. She tends to collect water for seven members of the family including for her elderly mother. Her sons and her husband in the family do

not support or contribute to ease her burden and the family tends to expect her to supply water for their every water need.

The following quote illustrates her daily water-collecting routine and her mental agony.

"I normally go to collect water in the morning, from 5.30 am to 7 am before I go to work, or sometimes in the afternoon from 12.30 p.m to 2.00 p.m. But sometimes, I won't be able to go to work if I get late from collecting water. I have to complete this task every morning. I travel to the water point six times without a break between the travels, and store water for the family. This is distressing me and feels tiring as I have to carry water for every need of the family. Even though I ask their help, they never help me"

The participant revealed that too much time spent on water fetching restricts her to work as an agricultural laborer. Since multiple trips to the water point are time-consuming she is unable to engage in paid work regularly which in turn curtails the income-generating sources that can boost her financial independence.

Since each family member's roles and obligations are socially assigned in the traditional Sri Lankan society women cannot deviate from their family responsibilities. According to the data, when men engage in their regular work

which gives them more pleasure and have more choices by separating their work from household work, such as exercising their skills, ownership of lands, and make the earning, women are limited to the household work engage in unpaid care work which does not give any monetary value. All the female respondents in the study are engaged in the family business, agricultural work, and care work including child and elderly care. Some maintain their vegetable gardens for their daily consumption. These works are out of the routine work which they contribute to their household even though their male counterpart also contributes to an extent.

As Beneria, Berik & Floro (2016) points out, even in a liberal economic structure, women's work is yet underestimated and less paid or unpaid. Physically demanding work that women do; for instance, fetching water and firewood, including food preparation spending five to six hours a day while engaging in many domestic activities is not recognized as economically active work. Men’s work is prioritized as economically active, even if he is engaged for a few hours a day.

However, as mentioned before, according to the field data, most of the men in the village help women by fetching them water. They, to an extent, maintain family ties with shared work responsibilities even though women are not paid or appreciated for their care work. Most of the work they engage in is the supplemental economic

activities in their family lands which are both engaged, however, the income from these lands is handled by men.

5.4 Menstruation and Access to Water

For women and teenage girls to be healthy and empowered, menstrual health and hygiene are crucial. More than 300 million women menstruate every day in the world. 500 million people worldwide are projected to lack access to menstruation products and sufficient menstrual hygiene management facilities. Girls and women need access to water, sanitation, and hygiene facilities, menstrual hygiene products that are inexpensive and appropriate, knowledge of good practices, and a safe atmosphere where they may manage their periods without embarrassment or stigma in order to manage their periods well (World Bank,2022).

Easy access to water helps women and girls to maintain their menstrual hygiene and sanitation. Poor access to water limits their menstrual hygiene management needs. Menstruation is a taboo in many societies and it symbolizes impurity. The semi-structured interviews revealed that women tend to use reusable cloth pads and wash them only with the minimum amount of water. They are less concerned about cleanliness during their menstruating period and also limited access to water had

not caused them any distress either. The field data further revealed that most women are in view they are unclean during menstruation, therefore, they do not need to be cleaned externally for hygiene purposes. They do not bathe, drink enough water, and use less water to clean themselves as these practices are rooted in society. They are in believe that following these practices may bring them illnesses, harm, and increase their blood floor. They are unaware of the fact that their menstrual practices are based on misconceptions and negative attitudes.

The immediate source of information on menstrual health is the poorly educated mothers in the rural setting, therefore, most adolescent girls learn menstrual hygiene practices from their mothers. The common sense knowledge of menstruation is transmitted from the older generation to the new, with all the societal taboos, and myths about menstrual blood.

On the other hand, the Sri Lankan school system still avoids teaching the students reproductive health due to cultural taboos. Even if they were taught in school, the proper information is not given, not thoroughly explained, or sometimes false information is taught, and ask their student study the lesson on their own. This is mainly because the teachers feel uncomfortable teaching the students due to the fact

that the culture has made to associate shame and embarrassment with reproductive health.

Moreover, menstrual health and hygiene are neglected when women travel to fetch water prioritizing the water needs of the family members. The field data reveals that some women during the menstruation period, travel climbing the hills several times a day to the water sources. This has led them not effectively handle menstruation hygiene leaving them to encounter many menstruation challenges.

Some families in the study area lack proper latrine access and some latrines get overfilled from time to time while others share the latrines with neighbors. However, they are yet to resort to following unhygienic practices. Social and cultural taboos have made them not expose their difficulties and not let to disturb their daily life.

On the other hand, women in the study area are not allowed to bathe in the village temple well, as they are considered ‘dirty’. They have a small separated area at an isolated place which is believed to be the bathing place of the queens of King *Walagamba*. The main pond is the place that the King used, therefore, men are allowed to bathe there but women should stay away from the main pond due to the societal myth of impurity. Women are embarrassed to use public water sources

because of period stigma and period shaming, which in turn leads to gender inequality in female health. As a result of cultural norms, women are seen as ‘impure’ and ‘dirty’ and society is in a view that they contaminate water.

The culture behind such practices comes from Hinduism as it has a notion of purity and pollution (Claveyrolas, 2018). According to Hindu cultural beliefs, both bodily wastes and the bodies that produce them are thought to be polluting. Water is said to be the most typical purifying medium. Therefore, it is of utmost importance to protect water sources from contamination. As a result of these embedded social and cultural taboos, women perceive them as impure and tend to self-justify the fact that menstruation is biological and impure that every woman should go through in their lifetime which is insignificant to be hygienic.

Chapter 6. Conclusion

The history of water management goes back to human existence on Earth. It's a main natural resource that sustains the life of living being apart from the air. During the hunters and gatherers period, millions of years ago, there had been no competition for natural resources however with the societal transformation and advancement of science and technologies the water sources and other natural resources gradually started to extinct resulting in a massive environmental crisis. With the novel social mechanisms, people were left behind to find their survival mechanisms adapting to the new way of life. The reciprocal relationship between man and nature and also between water supply, and food production is destructed with the development of new social organizations. At present, water has become a geopolitical issue with climate and human rights. Climate change due to the alterations done by mankind to the natural world has caused the world to experience the worst consequences regarding water.

The main objective of the study is to analyze the discourse of water insecurity and gender inequality in Sri Lanka. The specific objective is to explore the insecurities that women experience due to lack of water availability while analyzing how it affects their well-being by formulating the research question as to what are the

insecurities that women experience due to lack of water availability and how it affects women's well-being.

By analyzing the discourse around water insecurity and the experience of the local community in Sri Lanka, I showed that the competition over water is constructed and it does not reveal the reality as the grass root level community tends to maintain the sharing responsibilities. Moreover, the impact of climate change on water insecurity cannot be universalized since it contains many variations. However, there is water insecurity in the world, but not in the same way on every continent. People tend to adapt to the environment or conditions once the problems exist in society for a period of time and it becomes normalized in their daily routine as they start following the adoptive strategies.

Even though climate change has become one of the major reasons for the water crisis, it does not impact every continent and every community in the same way. The impact on the communities also varies based on the sociocultural, economic, and political contexts. The wide range of literature uniformly emphasizes the impact of climate change which in turn leads to water conflict and destabilization of communities. However, the findings of this study reveal that there have been various ways to deal with water insecurity through cooperation between

communities rather than water conflict. It informs us that we need to pay attention to the diverse social and environmental contexts and different dynamics in perception towards water insecurities, access to water, and water use.

Also, the reversed gender responsibility on water in the study area suggests that we need to take a more cautious approach in conceptualizing water as women's issues. The symbolic images which are published with the stories of the water crisis appear to be dramatized and sensationalized the crisis and universalize and generalize the gender water relation. The cultural stereotypes of women in the global South further reconstruct and re-establish the women's roles as water carriers and their status in society, emphasizing their passivity and victimization in patriarchy. However, it came out of disregarding the diverse social reality of the communities in different contexts and the dynamics of the ways in which they perceive and deal with water insecurities.

Moreover, this study shows that the community has dealt with the water insecurity problem. Although water scarcity has been a problem in this community for much longer than climate change, it is worthy of attention that there are different ways to deal with water based on solidarity rather than conflict. The findings show that the water insecurities the community encounter are dealt with by collective

consciousness responding to the problem collectively which the problem has made less severe. Due to the fact that the shared way of thinking, and collective consciousness, the community tends to share the water, and common water sources without making any disputes among others since water sharing has been a common practice for generations. Their harmonious lifestyle with high social capital has a significant impact on water-sharing responsibilities irrespective of the economic value of water allowing any villager to access public water points as well as sharing their private water sources with those who do not have sufficient drinking water. Also, their spirituality has helped them to accept their limited resources and become self-sufficient and autonomous to continue their way of life. They tend to follow cultural and spiritual values above modern values which can be found in traditional societies. Their emotional bond with their ancestral lands has become a pull factor to remain in the same geographical area experiencing water insecurities as their land inheritance is connected with their identity of wealth. Even the younger generations in the study area are raised with the same traditional values and tend to protect their lands similar to the way where their ancestors or grandparents used to do.

In terms of gender relations, the experience of this community offers different insights. Males perceive that fetching water is a duty of the man because it requires

strength; therefore they are reluctant to perceive it as a woman's obligation. A progressive gender water relation can be observable in the households which share and maintain water fetching responsibilities despite making it a woman’s job. As the results of the pilot study reveal different dynamics than the findings of the current study, the pattern further emphasizes that the responsibility for fetching water varies depending on geographic locations as well as the traditional, cultural, and religious backgrounds of the community.

Also, it shows that household members negotiate how much water to use among themselves while maintaining and attending to the water needs of the family although the gender division of labor which is associated with paid and unpaid labor exists. The data shows that although women face water shortages, their subjective well-being is not damaged as a result and in positive emotions and feelings. When water fetching duties are shared with other family members and the insecurities are also shared within the family, women do not become isolated from the problem as it is their problem that they have to encounter alone. They tend to experience water insecurity collectively within the family and as well as the community. Males and senior members of the household are responsible for their water usage, giving their daughters and wives priority.

In this study, women actively participate in family decision-making to a certain extent. In some circumstances, men and women work together to accomplish domestic tasks just as women support the sources of income in agricultural areas and small family businesses. Based on mutual understanding, men and women exchange and share their labor, participating in each other's activities. This may contribute to maintain the well-being of women despite water insecurity.

Finally, the thesis is focused on unpacking the discourse of water insecurity and gender inequality in the context of Sri Lanka. The study contributes to the existing literature at the following levels. The water fetching responsibilities have different dynamics based on different socio-cultural contexts. Since it is a relative phenomenon, it cannot be universalized as water fetching is a woman's job due to the fact that men also share the water responsibilities in local contexts. Moreover, the ways in which water insecurities are dealt with, have their unique characteristics based on the social political, and economic phenomena of a particular community. Water tariffs, land assets, collective social consciousness in water sharing, and adherence to adaptation strategies with their own practices and responses have become the main unique characteristics in which the community is dealt in water insecurities.

Though several interesting themes emerged from the data, it is important to note the limitations of this study and the potential for future research in this area. The study provided several themes, which can be followed up with further qualitative research, but larger studies of this nature are necessary. When conducting semi-structured interviews with the purposively selected sample, participants contributed with new perspectives and new insights. However, since the data collection was made by a research assistant there were some limitations in probing questions and neglecting the pertinent observations while conducting interviews.

References

ADB. (2015). *Water 12 Things to know*. https://www.adb.org/news/features/12-things-know-about-wate

Adelodun, B., Ajibade, F. O., Ighalo, J. O., Odey, G., Ibrahim, R. G., Kareem, K. Y., & Choi, K. S. (2021). Assessment of socioeconomic inequality based on virus-contaminated water usage in developing countries: a review. *Environmental Research, 192*. 10.1016/j.envres.2020.110309

Anadu, E. C., & Harding, A. K. (2000). Risk perception and bottled water use. *Journal-American Water Works Association, 92* (11), 82-92. https://doi.org/10.1002/j.1551-8833.2000.tb09051.x

Balasubramanya, S & Stifel, D. (2019) .*Chronic kidney disease in Sri Lanka*. https://www.iwmi.cgiar.org/2019/12/chronic-kidney-disease-in-sri-lanka/

Berger,P., &Luckmann, T. (1979).*The social construction of reality.* England: Penguin Books

Benería, L., Berik, G., & Floro, M. S. (2015). *Gender, development, and globalization: Economics as if all people mattered*. Routledge.

Bernauer, T., Bohmelt,T., & Koubi. V. (2012). Environmental changes and violent conflict. *Environmental research letters,7*(1). http://dx.doi.org/10.1088/1748-9326/7/1/015601

Biswas, A.K & Tortajada. C. (2019). Water crisis and water wars: myths and realities, *International Journal of Water Resources Development, 35*(5), 727-731. DOI: 10.1080/07900627.2019.1636502

Bouwer, K. (2006). Women and Water. *Peace Review, 18* (4), 465-467. https://doi.org/10.1080/10402650601030336

Brewis, A., Roba, K. T., Wutich, A., Manning, M., & Yousuf, J. (2021). Household water insecurity and psychological distress in Eastern Ethiopia: Unfairness and water sharing as undertheorized factors. *SSM-MentalHealth, 1*. https://doi.org/10.1016/j.ssmmh.2021.100008

Burgess, J. (1990). The Production and Consumption of Environmental Meanings in the Mass Media: A Research Agenda for the 1990s. *The Royal Geographical Society (with the Institute of British Geographers,15*(2) .https://www.jstor.org/stable/622861

Caldwell, B. (1996). The family and demographic change in Sri Lanka. *Health Transition Review*, 45-60. https://www.jstor.org/stable/40652250

Chandrasekara, S. S. K., Chandrasekara, S.K., Gamini,P.H.S., Obeysekera,J., Manthrithilake, H., Kwon H-H., & Vithanage, M.(2021). A review on water governance in Sri Lanka: the lessons learnt for future water policy formulation. *Water Policy, 23* (2), 255–273. doi: https://doi.org/10.2166/wp.2021.152

Claveyrolas, M., Goreau-Ponceaud, A., Madavan, D., Meyer, E., & Trouillet, P. Y. (2018). Hindus and Others: A Sri Lankan Perspective (Introduction). *The South Asianist Journal, 6*, 1-22.

Coles, A., & Wallace, T. (2005). *Gender, water and development*. Berg.

Collins, S. M., Mbullo Owuor, P., Miller, J. D., Boateng, G. O., Wekesa, P., Onono, M., & Young, S. L. (2019). 'I know how stressful it is to lack water!' Exploring the lived experiences of household water insecurity among pregnant and postpartum women in western Kenya. *Global public health, 14*(5), 649–662. https://doi.org/10.1080/17441692.2018.1521861

District secretariat Ratnapura.(2019).*Performance report*

Elmhirst, R. (2015). Feminist political ecology. *In The Routledge handbook of political ecology* (pp. 519-530). Routledge.

Geiger, W. (1912). trans. The Mahavamsa or Great Chronicle of Ceylon. *Journal of Women s Health*.

Hawkins, M. J. (1979). Continuity and change in Durkheim's theory of social solidarity. *The sociological quarterly*, *20*(1), 155-164. https://www.jstor.org/stable/4106395

Huijgen, C. M. J. (2010). *Family formation and marriage patterns: a comparison between Sri Lanka and Europe* (Master's thesis).

Ishaku, H.T., & Majid,M.R. (2011).Water supply dilemma in Nigerian rural communities: looking towards the sky for an answer. *Journal of Water Resource and Protection, 3* (8). http://dx.doi.org/10.4236/jwarp.2011.38069

Janssen, M.A., & Osnas,E.E.(2005). Adaptive capacity of social- ecological systems: Lessons from immune systems. *Ecohealth 2*, 93-101. https://doi.org/10.1007/s10393-004-0158-7

Jinapala, K., & Somaratne, P. G. (2002). *Relevance of cultural knowledge*

and practices for efficient water management in today\u2019s context (No. H031120). International Water Management Institute.

Evans Jr, A., & Evans, A. (1977). AN EXAMINATION OF THE CONCEPT" SOCIAL SOLIDARITY". *Mid-American Review of Sociology*, 29-46. https://www.jstor.org/stable/23254926

Manetu, W. M., & Karanja, A. M. (2021). Waterborne disease risk factors and intervention practices: a review. *Open Access Library Journal, 8*(5), 1-11. 10.4236/oalib.1107401

Munasinghe, M. (2009). Sustainable development in practice. *Cambridge: New York, NY, USA.*

Nephawe, N., Mwale, M., Zuwarimwe, J., & Tjale, M. M. (2021). The impact of water-related challenges on rural communities food security initiatives. *AGRARIS: Journal of Agribusiness and Rural Development Research, 7*(1), 11-23. 10.18196/agraris.v7i1.9935

Omarova, A., Tussupova, K., Hjorth, P., Kalishev, M., & Dosmagambetova, R. (2019). Water Supply Challenges in Rural Areas: A Case Study from Central Kazakhstan. *International journal of environmental research and public health, 16*(5), 688. https://doi.org/10.3390/ijerph16050688

Pannilage,U.(2016). Globalization and construction of local culture in rural Sri Lanka. *Sociology Study,6(*7),448-461.doi: 10.17265/2159-5526/2016.07.003

Perera, H. M. (1987). The changing status of women in Sri Lanka. *International journal of sociology of the family*, 1-23. https://www.jstor.org/stable/23028444

Plan international.(2009). *Because I am a girl* .

https://plan-international.org/publications/the-state-of-the-worlds-girls-2009-girls-in-the-global-economy/because_i_am_a_girl_2009_-_full_report_english/

Pouramin, P., Nagabhatla, N., & Miletto, M. (2020). A systematic review of water and gender interlinkages: Assessing the intersection with health. *Frontiers in Water, 2(*6). https://doi.org/10.3389/frwa.2020.00006

Radonic, L., & Jacob, C.E.(2021). Examining the cracks in universal water coverage: Women document the burdens of household water insecurity, *Water Alternatives, 14*(1), 60-78.

Reliefweb. (2021, April 9). *Rural water supply schemes for climate-vulnerable communities in the dry zones*. Rural water supply schemes for climate-vulnerable communities in the dry-zone - Sri Lanka | ReliefWeb

Reliefweb. (2020). *Sri Lanka drinking water crisis*. https://reliefweb.int/report/sri-lanka/sri-lanka-drinking-water-crisis-dg-echo-dmc-media-echo-daily-flash-23-march-2020

Reliefweb.(2010). *Sri Lanka lack of safe drinking water leading to upsurge health problems*. https://reliefweb.int/report/sri-lanka/sri-lanka-lack-safe-drinking-water-leading-upsurge-health-problems

Rigg,J. (1994). Redefining the Village and Rural Life: Lessons from South East Asia. *The Geographical Journal, 160* (2). https://www.jstor.org/stable/3060071

Rigg, J. (1988). Land Ownership and Land Tenure as Measures of Wealth and Marginalization: Evidence from Northeast Thailand. *The Royal Geographical Society,20* (4), 339-345. https://www.jstor.org/stable/i20002640

Rocheleau, D., Thomas-Slayter, B., & Wangari, E. (1996). A feminist

political ecology perspective. *Feminist political ecology: Global issues and local experiences, 3*(26). https://vtechworks.lib.vt.edu/bitstream/handle/10919/70076/5011_Rochelleau_Gender_and_Environment.pdf?sequence=1

Selby, J. (2005). The geopolitics of water in the Middle East: fantasies and realities. *Third World Quarterly, 26*(2), 329-349.

Sector vulnerability profile: water. (2010). *Climate change vulnerability in Sri Lanka.* http://www.climatechange.lk/adaptation/Files/Water_SVP_Nov-16-2010.pdf

Shiva, V. (2002). *Water wars:Pollution, profits and privatization*. Pluto

Sirin, C. V. (2011). Scarcity-induced domestic conflict: examining the interactive effects of environmental scarcity and 'Ethnic' population pressures. *Civil Wars, 13*(2), 122-140. doi: 10.1080/13698249.2011.576141

Sommer, M., Hirsch, J. S., Nathanson, C., & Parker, R. G. (2015). Comfortably, safely, and without shame: defining menstrual hygiene management as a public health issue. *American journal of public health, 105*(7), 1302-1311. doi: 10.2105/AJPH.2014.302525

Sultana, F.(2011).Suffering for water, suffering from water: Emotional Geographies of resource access, control and conflict. *Geoforum, 42*(2), 163-172.

Sultana, F. (2011). Water, culture, and gender: An analysis from Bangladesh. *In Water, cultural diversity, and global environmental change* (pp. 237-252). Springer, Dordrecht.

Tennakoon, S. D. R., & Mahees, M. T. M. (2021). Environmental Injustice

in the water Sector in Sri Lanka. *Technium Soc. Sci. J.*, *18*, 537.

The World Bank. (2022). *Menstrual health and hygiene.* https://www.worldbank.org/en/topic/water/brief/menstrual-health-and-hygiene

Tomberge, V. M. J., Bischof, J. S., Meierhofer, R., Shrestha, A., & Inauen, J. (2021). The physical burden of water carrying and women's psychosocial well-being: Evidence from rural Nepal. *International journal of environmental research and public health, 18*(15),7908.

Trocaire. (n.d.). *The gendered impacts of large-scale land based investments and women's responses*. Trócaire - Together for a Just World (trocaire.org)

Truelove, Y. (2011). (Re-) Conceptualizing water inequality in Delhi, India through a feminist political ecology framework. *Geoforum, 42*(2), 143-152. https://doi.org/10.1016/j.geoforum.2011.01.004

UNESCO. (2012). *Managing water under uncertainty and risk: united nations world water report 4.* https://www.google.co.kr/search?hl=en&tbm=bks&tbm=bks&q=inauthor:%22UNESCO%22&sa=X&ved=2ahUKEwianJWSlNz6AhUDfXAKHQj5BDgQ9Ah6BAgGEAU

UNEP. (2007). *Source book of alternative technologies for freshwater augmentation in Latin America and the Caribbean : Disinfection by boiling and chlorination.* https://www.oas.org/dsd/publications/unit/oea59e/ch23.htm

UNICEF.(2021). *Fact sheet : On global hand washing day.* https://www.unicef.org/mena/press-releases/fact-sheet-global-handwashing-day

United Nations (2022). *Water and Gender*. https://www.unwater.org/water-facts/water-and-gender

UN-water . (2021). *Water scarcity*. https://www.unwater.org/water-facts/water-scarcity

USGS. (2019,November ,13). *Water science school*. https://www.usgs.gov/special-topics/water-science-school/science/how-much-water-there-earth

WaterAid. (2016). https://www.wateraid.org/us/media/worlds-poorest-spend-the-most-on-water

Water matters.(2007). *Water scarcity in Sri Lanka: Fact or fiction?* https://www.iwmi.cgiar.org/News_Room/Newsletters/Water_Matters/PDFs/Water%20Matters_Issue2-Final.pdf

Wisconsin Department of Natural Resources. (n.d.). *Unprotected springs can be hazardous to your health.* https://dnr.wi.gov/files/PDF/pubs/dg/DG0013.pdf

World wildlife. (2022). *Overview*. https://www.worldwildlife.org/threats/water-scarcity

Wolf, A. T., Stahl, K., & Macomber, M. F. (2003). Conflict and cooperation within international river basins: The importance of institutional capacity. *Water Resources Update, 125*(1), 31-40.

Wutich, A. (2009). Intrahousehold disparities in women and men's experiences of water insecurity and emotional distress in urban Bolivia. *Medical anthropology quarterly*, *23*(4), 436-454.

Wutich, A., Brewis, A., & Tsai, A. (2020). Water and mental health. *Wiley Interdisciplinary Reviews: Water*, *7*(5), e1461.

Yasar, A., Khan, N. Y., Batool, A., Tabinda, A. B., Mehmood, R., & Iqbal, A. (2011). Women perception of water quality and its impact on Health in Gangapur, *Pakistan. Pakistan Journal of Nutrition*, *10*(7), 702-706. DOI:10.3923/pjn.2011.702.706

Zikos , D., & Hagedorn, K. (2016). Competition for water resources from the European perspective DOI:10.1016/B978-0-12-803237-4.00002-1

Appendix 1

The impact of household water insecurity on women's wellbeing

Section 01- Socio demography:

-Household size -
-Age of children-
-Age/ sex-
-Educational level-
-Ethnicity-
-Gender of Household head and age-
-Who is responsible for collecting water in the household-
-Monthly income-
-Occupation -

Section 02- Water source identification and water availability

1. Can you explain your primary source of drinking water and non-drinking water?

2. Since how long you experience water scarcities and how do you manage water needs?

3. Which months of the year that your households experience water shortage and which months of the year you have plenty of water. And what times of day households experience water shortages?

4. Do you have adequate water in the water sources any time of the year?

5. How long it will take you to access water? How long it takes you to go to the water source, get water (including drawing or pumping water, and waiting in line), and return home?

6. Explain the difficulties you experience during water access?

7. Normally how much time is wasted due to water scarcity and due to the water vendor?

8. Do you encounter any gender based abuse and violence in access to water? If so, explain

9. How many trips you make to the indicated water source each week?

10. Do you frequently or anyone in your household worry about the safety of the person getting water for your household? (Traveling to, collecting the water, and returning with the water?)

11. Have you experienced there has been no water whatsoever in your household?

12. Have you or anyone in your household thought of leaving the area because there was no water?

13. Do you or anyone in your household worry that you would not have enough water for all of your household needs? If so, can you explain the burden of limited access to water and how you experience it as a woman?

14. Have you experience water contamination, If so, describe how.

15. Have you experienced any health concerns related to water contamination?

Section 03- How does water insecurity affects daily life

1. Can you explain, how is the time spent getting water prevented you or anyone in your household from earning money (e.g. engaging in paid work, economic activities)?

2. Can you explain the time spent getting water prevented you or anyone in your household from caring for children in the household?

3. Can you explain how frequently has the time spent getting water prevented you or anyone in your household from doing household chores (such as cooking, preparing food, washing clothes, etc.)?

4. Are there days that the children in your household miss school because they were getting water? If so, can you explain where they travel to get water and what are the difficulties they experience?

5. How frequently has your household not had enough water for your garden, crops, or fruit trees? Explain whether your household do not has enough water to give to your animals and poultry? How do you manage the water for other activities.

6. How frequently have you or anyone in your household had to change what was being eaten because there wasn't enough water (e.g. for washing foods, cooking, etc.)?

7. Have you or anyone in your household ever had to go without washing their body because there wasn't enough water?

8. Can you explain how frequently did you or anyone in your household have problems with water that caused difficulties within your household?

9. Do you or anyone in your household always feel upset about your water situation? Please explain

10. How frequently has there not been as much water to drink as you would like for you or anyone in your household

11. Have you or anyone in your household not gotten water where you wanted to because you were too sick or weak to get water? If so please explain

    - Can you tell me ways that the water situation affects your children?

    - How do you feel when there is lack of water for the household needs?

    - How do you maintain your sanitation and hygiene needs?

- Does the inadequate water availability affect your menstrual hygiene and how do you manage it?

Section 04 -Borrowing and purchasing water

1. Have you or anyone ever in your household lacked money needed to buy water
2. How do you use purchased water and how many times per month you purchase water?
3. How frequently did you or anyone in your household want to buy water but there was nowhere to buy it from?
4. Do you or anyone in your household drink water that tasted bad? If so, how frequently you use bad taste water and have you ever experience water borne diseases?
5. How frequently have you or anyone in your household actually drank water that you thought was unsafe?
6. Do you borrow or share water from other villagers? If so, how frequently have you or anyone in your household asked to borrow water from other people? Other than villagers, do you borrow water from any other sources? -What do you give in return?
7. How frequently have you or anyone in your household loaned water to anyone? Do you think it's a burden to you? please explain

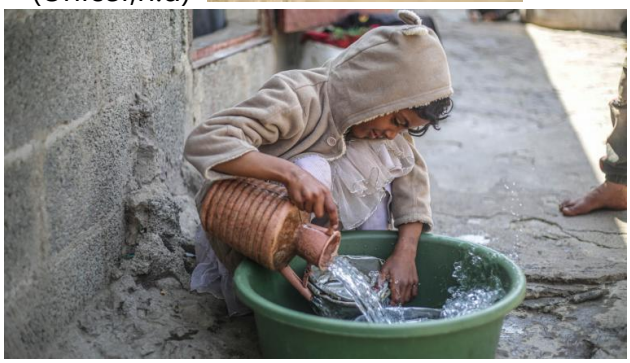
8. Have you or anyone in your household have problems with water that caused difficulties with neighbors or others in the community? If so please explain
9. How many liters of water do you store in the house for drinking and for other uses- for domestic purposes (cooking, cleaning, washing), and for drinking water storage
10. The number of times they have experienced specific thoughts or feelings within the last four weeks due to water shortage?

Section 05- Intra household disparities

1. Who is managing and control the water needs in the household?
2. Who experience most stressful events due to lack of water
3. Have you ever lost your income due to water scarcity
4. Who is most responsible in household water needs
5. Who use more water in the household
6. Has water issue affected your level of happiness, comfort, or quality of life? Explain
7. How do you use water, for what do you give the priority
8. Do you feel worry, fear, Anger and anger with family members? Explain

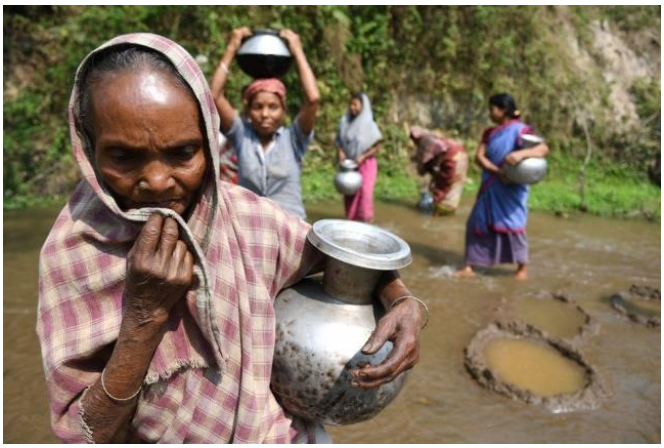
Appendix 2

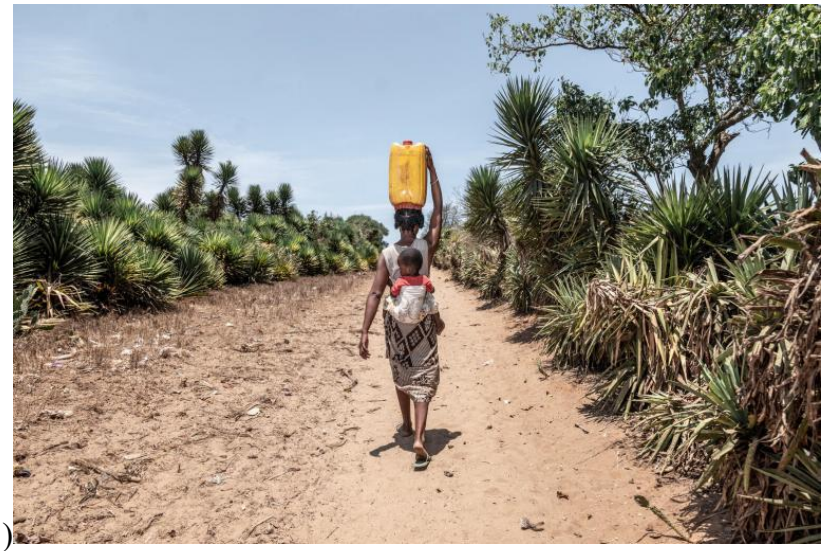
(Unicef,n.d)



(Daily mirror, 2017)

(Unicef,n.d)

(BBC,2018) 

(UNICEF, 2021) 

Appendix 3

The impact of household water insecurity on women's well-being in Sri Lanka: A rural community case

S.D.R.Tennakoon(Yonsei University)

Abstract

This paper attempts to examine the impact of household water insecurity on women's well-being in Sri Lanka. Sri Lanka experiences water scarcity due to changes in spatial and temporal water availability in the recent past. Water insecurity is a gendered issue that affects women and men differently in terms of exposure, sensitivity, and adaptive capacity.

On the other hand, women are marginalized from water governance. As a result, women's well-being is threatened by water shortages, exposing them to unique ramifications such as menstrual hygiene issues, personal safety and security, nutrition and food security, and reproductive health. Based on the interviews of rural women, this paper documents how household water insecurity undermines the well-being of rural women and analyzes how household water insecurity intersects with the gendered social structure in Sri Lanka.

Key words- water insecurity, water rights, women's well-being

Introduction

Hydropolitics has become a global issue in the 21st century with the emergence of international water politics. Water-scarce countries are in constant battle within the countries and out of the national boundaries to secure their water resources. Freshwater will be the 'new oil'. This is because it will be the most valuable and scarce resource on earth for the survival of living being due to the fact that there is only 3 % of water is fresh on earth even though there is 70% of water coverage (World wildlife, 2022).

Water insecurity has become a part of the environmental crisis impacting women and

children at large. Also, it is a gendered phenomenon and impacts women and men in different ways. Women have become the most vulnerable group affected by water insecurity as a result of their gender role responsibilities and reproductive health. The burden of their daily chaos worsens when they walk miles to fetch water and search for water points exposing them and family members to frequent water-borne diseases, sanitation and hygiene complications in turn having an additional burden of care on women. It is estimated that 200 million hours are spent by women and children to collect water every day. Also, many hours are wasted searching for water sources by women (Water.org, 2022).

Water is neither a substitute nor an infinite resource; therefore water insecurity is accelerating especially in Asia. There is 60% of the world population in the continent; however only 36% of water resources are available for the entire population (UN water, 2014). As a result, 90% of the population is experiencing a water crisis in Asia. It is estimated that 75% of the region is water insecure and the availability of groundwater has begun to decline rapidly threatening the agricultural food production (ADB, 2015). Thus, its economic and political complexities have become acute and challenging in terms of demand and supply.

In the Sri Lankan context, more than 337,000 people experience water scarcity, out of 21 .92 million population at present. Almost, 8 districts, undergo water insecurities out of 25 districts (Reliefweb, 2021) even though the country consists of 103 river basins and 54 small drainage basins with 120,000mcm total volume of annual rainfall (Sector vulnerable profile: Water 2010). Changes in spatial and temporal water availability in the recent past have contributed to decline the availability of water in the country (Somasundaram et al., 2020).

Methodology

The main objective of this paper was to assess the feasibility of the impact of household water insecurity on rural women's well-being in Sri Lanka. An analysis to explore the ways that household water insecurity impacts the well-being of women was conducted using the primary and secondary data and information. The content analysis method was used.

This is a pilot study to assess and analyze the possibilities and practicality of the proposed study. Therefore, data was mainly gathered from the available literature regarding water insecurities and women's well-being and from the government agencies in Sri Lanka, such as the Ministry of Health, National water supply and drainage board, Department of national

community water supply, and Ministry of women and child affairs. Also, newspaper articles, documentaries, short films, analytical reports, and photographs were used to collect information and analyzed the data objectively by classifying it according to a structured criterion.

Primary data was gathered by semi structured interviews. The participants for the semi-structured interviews were purposely selected and information was gathered from a few women participants in this stage following a preliminary interview guideline. The main purpose was to gather the basic information and prescreen the current situation on water insecurity and its' impact on their well-being.

The collected data were interpreted and analyzed based on feminist political ecology and the political ecology of water following eco feminist perspective-- a feminist approach to environmental ethics by Karen Warren and Michel Foucault's discourse of power which elaborates "every society has its regime of truth and its general politics of truth which accepts and makes function as true" (Foucault, 1980 cited in Darier,1999). Also, the social construction of reality theory by Peter Berger and Thomas Luckmann which describes how all knowledge, knowledge of everyday reality is maintained by social interactions was used (Pollock,1996).

The household water insecurity experience scale known as HWISE scale was applied to identify and analyze the situation of the vulnerable women who experience household water insecurities. It measures four major components in water insecurity--such as adequacy, reliability, accessibility, and safety, and consists of 12 items that can identify the proportion of water insecure household. Moreover, a subjective well-being assessment tool that consists of 40 items to identify the independent feelings of well-being in daily life concerns as a result of the household water insecurity was also applied.

Water insecurity in Sri Lanka

Water insecurity in general can be defined as "Insufficient or uncertain access to safe water for an active and healthy lifestyle" (Hadley & Wutich,2009). Accessibility affects human health and well-being in turn affecting economic productivity and the global burden of disease. The impact of water insecurity begins with individuals and begins to impact on families, society, and the world at large as each entity is interrelated with one another.

Sri Lanka is vulnerable due to limited water sources and water systems. The unseasonable

weather conditions have led to high intensity and long duration of rainfall, flood, and drought (Tennakoon & Mahees, 2021). As a whole, physical scarcity or absolute scarcity, economic scarcity, and institutional and political scarcity equally contribute to water insecurity in Sri Lanka.

Safe water coverage, which is "the proportion of the population having access to water supplies from piped water systems, protected wells, or rainwater systems" is 90% , and yet there are spatial differences (World Bank, 2021). These figures do not reveal the reality as there are many parts of rural areas that lack equality in access to clean drinking water (GLASS, 2014). There are issues in water quantity, quality, and accessibility. The pipes' water coverage in the country is 51.5% and piped sewerage is only 3.49% at present (Water board, 2022). Nearly 40.1% of coverage is made by wells, tube wells, streams, and rivers and 8.4% do not have access to safe water (Water board, 2022). However, even though the SDG -goal 06 reinforces "clean water and sanitation for all" the country has barriers in ensuring access to safe drinking water. Climate change, urbanization, budgetary barriers, unsystematic planning methods, and corruption have made barriers in improving the water sector in the country.

Impact on women

Water quality, quantity, and accessibility undermine the right to water and water security as a result of social-economic political factors, in turn making women vulnerable in access to clean water. According to WHO (2022), the reasonable distance to travel to fetch water is 200 meters or 0.2 km and the acceptable quantity for domestic use for a person per day is 20 liters. It is reported that 20.1 % of households' drinking water in Sri Lanka is outside houses. The highest is reported in the Northwestern province, which is 47.6% and 34.6% is reported in the North-central province. In the Northern Province, 5% of the household women walk more than 500m to fetch water which shows that women sacrifice their energy, health consequences, and time, risking their lives (ADB,2016).

Household water insecurity -- "the inability to access and benefit from adequate (appropriate quantities of water for all household uses), reliable and safe water for well-being and a healthy life" consists of various characteristics and functions with multiple components (Young et al., 2021). Women encounter hardships in water insecurity in terms of household economic wealth, which associates with status, function, and well-being (Wutich et al., 2017).

Especially, low-income women in rural areas encounter barriers and discrimination by becoming the major victims as a result of deeply rooted gender inequality and women's subordination in the Sri Lankan society. They constantly experience hardships, discrimination, and oppression in access to water. Socio-cultural taboos, gendered division of labor, and gender inequality, bring unfavorable outcomes for women in water management, making an impact on their well-being.

On the other hand, the hegemony of men on water governance and infrastructure, is maintained through water allocation, distribution, and access to water resources. Failure in recognizing the needs of women has violated women's rights to water. Thus, it is evident that household water insecurity is a gendered issue in the Sri lank context. The attitudes and values or the social and cultural dynamics which have been rooted in the society reinforce the females' subordination, submission and the inequality, in turn making them suffer in absence of adequate, reliable safe water. The patriarchal social and power structure favors the suppression, based on class, caste, and ethnicity which is evident in household water insecurity experienced by women in a rural setting. Thus water insecurity that rural Sri Lankan women encounter is evident based on the social stratification that exists in the country.

There is a strong disparity between urban and rural water supply system in Sri Lanka as the urban water supply is managed and governed systematically whereas many parts of rural areas experience water scarcity disputes. Low-income women become the major victims as a result. The poorest among the poor and the marginalized in the social structure end up paying the high price for water whereas the affluent neither pay a high price nor experience water insecurity. The oppressed rural women cannot challenge and question the injustice as a result of the social pressure, and hegemonic power. Therefore, they confine to the male dominated social system accepting the tasks, responsibilities, expectations, control, and humiliations in everyday life (Furlong et al.,2019).

Moreover, the daily journey to fetch water is unpaid care work. The findings reveal that women have a double burden of work, in the agricultural fields and fetch water at the same time. They can elevate their social status and financial independence if they utilize the time to paid work rather than unpaid care work. However, the social norms and practices have internalized acceptable and unacceptable tasks of women confining them to traditional gender roles and beliefs.

The burden of their daily chaos worsens when they walk miles to fetch water and search for water points. The finding reveals women find it hard to fetch water during the drought period with the dry and hot weather conditions. Some carry water buckets and some use

wheelbarrows as they can load many water pots. There are instances women take their children with them to fetch water despite the harshness of the weather. This makes them expose to numerous difficulties in safety and security. However, their unpaid care work of reproductive and domestic work is perceived by the society as the female's duty and responsibility which is assigned them by birth.

On the other hand, the findings revealed, due to contamination of water, women and their family members expose to frequent water-borne diseases and, sanitation and hygiene complications. This makes women have an additional burden of care. According to the findings of the study, children in these families often suffer from diarrhea. As a result, women spend unnecessary time taking them often to the rural hospital, spending extra on transport and medication. Semi structured interviews revealed that it brings mental distress for women during their children's sickness with burden of household responsibilities and water responsibilities at the same time.

However, with the capitalist economic system, water has become a profit-generating source due to the private sector involvement in water supply in water scares areas in Sri Lanka. Water vendors sell Reverse osmosis (RO) water for exorbitant prices in which most women purchase for drinking and cooking purposes. The finding revealed that women cannot bear the water cost with the increase of the food price due to the current economic system in the country. They tend to save water expenditure by drinking less water and using less water than needed. According to the WHO, (2022) water intake of the average woman is 2. 7 liters per day. However, the women in the study area consume less than three glasses of water. This is mainly due to save water for the needs of the family members and cooking purposes which leads them to save water cost.

Women and Well-being

According to the Department of Health UK (2014), well-being is "about feeling good and functioning well and comprise an individual's experience of their life; and a comparison of life circumstances with social norms and values". There are two dimensions of well-being, such as subjective or personal well-being and objective well-being. Subjective well-being is "the way people think and feel about their wellbeing, and includes aspects such as life satisfaction (evaluation), positive emotions (hedonic), and whether their life is meaningful

(eudemonic)". On the other hand, objective well-being is "based on assumptions about basic human needs and rights, including aspects such as adequate food, physical health, education, safety, etc." (Department of Heath UK, 2014). Therefore, health, basic human needs and rights, and safety and security are closely associated with well-being.

According to the findings, diarrhea is the most common disease mostly suffered by children due to consumption of poor quality water. Some women were used to follow unhygienic food preparation practices, such as lack of hand washing and use of unclean vegetables and utensils when they prepare food. They tend to consume un-boiled water and save water and water expenses by following poor hygiene practices. However, this in turn has alleviated the disease burden on women making them more frustrated and distressed.

Menstrual hygiene is one component of the water right (United Nations, 2022). However, due to water insecurity, both women and adolescent girls experience menstrual hygiene issues. Lack of availability of water for washing menstrual material and poor hygiene practices have caused discomfort by threatening their menstrual period safety as well as dignity. Even the absence of continuous water supply to latrines has made them vulnerable to violence and harassment which in turn have threatened their privacy.

Moreover, women in rural areas use nappies rather than disposable sanitary napkins. It needs constant washing with clean water and laundry soap, to maintain hygiene, which they rarely practice. Those who carry out constant washing, use small quantity of water. They use and reuse these unclean menstrual management material throughout the day or for long hours despite having a bad odor. On the other hand, carrying water from distance water sources during the menstruation makes them frustrated, exhausted, and irritated with physical difficulties which have led them to engage with their children and family members. Therefore, as a whole, women encounter difficulties in maintaining their privacy, dignity, and safety in menstrual hygiene management while having physical and psychological difficulties as a result of household water insecurity. Despite these difficulties, they are forced to fetch water as they are burdened with their water responsibilities. However, women tend to accept their suffering due to the patriarchal social structure in the society.

The findings also revealed that during menstruation women are embarrassed to use public water sources because of period stigma and period shaming. This reinforces gender inequality. As a result of cultural norms, women are seen as 'impure' and 'dirty' during their menstruation. Therefore, they are in a view that they contaminate water, which leads them to mental distress during their menstruation.

Women have the responsibility of household work while experiencing water insecurity.

Women's needs are ignored prioritizing the males, children, and disabled family members. Even though women engage in their family caregiving duties, they become vulnerable and lack support when they get ill. The findings revealed that women tend to retire from their agricultural work and other productive activities when they are burdened with the caregiving duties. This makes them lose income-generating opportunities and skill development work in which help them to maintain their financial independence, dignity, and proper social status.

Despite the severity of the water insecurity women become voiceless to speak out their right to water as a result of violence, ignorance of family members, and the patriarchal society as a whole. The social structure ignores the voice of women, her needs and priorities keep them marginalized by burdening the water responsibility on them.

Conclusion

Access to water is considered to be a basic human right by the International human rights law. The consequences of water insecurity in Sri Lanka are experienced by disadvantaged and vulnerable communities on the basis of social class, caste and gender. On the other hand, household water insecurity affects women's well-being based on physical, psychosocial, nutrition, and economic aspects. Traditional gender roles which are associated with femininity and motherhood have made women vulnerable in access to water in turn affecting their well-being. Women who are in poverty are more vulnerable to water insecurities. This makes an impact on access to economic activities, financial services, and educational opportunities. The absence of shared water responsibility in the household by both men and women shows that women are the primary decision-makers about water. Gender disparities in access to water which are constructed by society violate women's right to water while affecting their well-being.

References

ADB. (2015). *Water 12 Things to know.* https://www.adb.org/news/features/12-things-know-about-wate

Darier, E. (1999). *Discourses of Environment.* UK: Blackwell Publishers Ltd.

Furlong.K.,Servat.D.R., Acevedo-Guerrero,T.,& Botero-Mesa,M.(2019). Everyday Practices, Everyday

Water: From Foucault to Rivera-Cusicanqui (with a Few Stops in between). *Water, 11*(10). https://doi.org/10.3390/w11102046

GLASS.(2014). *Sanitation, drinking-water and hygiene status overview: Sri Lanka.* https://cdn.who.int/media/docs/default-source/wash-documents/glaas/glaas-2013-14/glaas-2013-14-country-highlights/sri-lanka.pdf?sfvrsn=758ca3b7_8

Hadley,C., & Wutich, A .(2009). Experience -based measure of food and water security: Biocultural approach to grounded measures of insecurity. *Human organization 68*(4). https://doi.org/10.17730/humo.68.4.932w421317680w5x

National Academies of Sciences, Engineering, and Medicine .(2004, February11). Report Sets Dietary Intake Levels for Water, Salt, and Potassium To Maintain Health and Reduce Chronic Disease Risk. https://www.nationalacademies.org/news/2004/02/report-sets

Pollock,S. (1996). *Social construction of reality.* http://stephen.pollock.name/writings/res/socialconstruction.html

Relief web. (2021, April 9). *Rural water supply schemes for climate-vulnerable communities in the dry zones.* Rural water supply schemes for climate-vulnerable communities in the dry-zone-Sri Lanka | ReliefWeb

Sector vulnerability profile: water. (2010). *Climate change vulnerability in Sri Lanka.* http://www.climatechange.lk/adaptation/Files/Water_SVP_Nov-16-2010.pdf

Somasundaram, D., Zhang,F., Ediriweera, S., Wang,S., Li J & Zhang,B.(2020). Spatial and temporal changes in surface water area of Sri Lanka over a 30 -year period. *MDPI , 12* (22). https://doi.org/10.3390/rs12223701

Tennakoon, S. D. R., & Mahees , M. T. M. (2021). Environmental injustice in the water Sector in Sri Lanka. *Technium Social Sciences Journal, 18*(1), 537-549. https://techniumscience.com/index.php/socialsciences/article/view/2984

The department of health. 2014). *Well-being and health policy. Government UK.* https://www.gov.uk/government/publications/wellbeing-and-health-policy

United Nations. (2022). *OHCHR and the right to water and sanitation.* (https://www.ohchr.org/en/water-and-sanitation).

United Nations .(2022).Menstrual hygiene day. https://www.ohchr.org/en/special-procedures/sr-water-and-sanitation/menstrual-hygiene-day

UN water. (2014). *International decade for action water for life 2005-2015.* https://www.un.org/waterforlifedecade/asia.shtml

Water board.(2022). http://www.waterboard.lk/

Water.org.(2022). *A women's crisis.* https://water.org/our-impact/water-crisis/womens-crisis/

WHO. (2022). *Guidelines for drinking water quality.* https://apps.who.int/iris/bitstream/handle/10665/44584/9789241548151_eng.pdf

World Bank. (2021). *Sri Lankan water resources.* https://www.worldbank.org/en/news/feature/

2021/03/22/srilankas-water-resources

World wildlife. (2022). *Overview*: https://www.worldwildlife.org/threats/water-scarcity

Wuticha,A.,Budds,J., Eichelberger,L.,Geere,J.,Harris, L.M.,Horney,J.A.,Jepson, W.,Norman,E., O'Reilly,K., Pearson,A.L., Shah,S.H.,Shinn,j.,Simpson,K.,Staddon, C.,Stoler,J., Teodoron, M.P., & Young,S.L. (2017).Advancing methods for research on household water insecurity: Studying entitlements and capabilities, socio-cultural dynamics, and political processes, institutions and governance. *Science Direct Water Security, 2*.

https://doi.org/10.1016/j.wasec.2017.09.001 2468-3124/ 2017 Elsevier B.V

Young,S.L.,Bethancourt.H.J., Ritter,Z.R., & Frongillo,E.A.(2021). The Individual Water Insecurity Experiences (IWISE) Scale: reliability, equivalence and validity of an individual level measure of water security. *BMJ Global Health*. doi:10.1136/ bmjgh-2021-006460

Abstract in Korean

물 불안의 담론을 풀고 성 불평등: 스리랑카 사례

연세대학교 정경대학원
여성농촌지역개발 석사학위과정
T.M.S.D.R Tennakoon

이 연구는 스리랑카의 사례 연구를 기반으로 물 불안과 성 불평등에 대한 담론을 탐구하기 시작했습니다. 생물의 생물학적 과정과 연결된 물은 남용과 기후변화로 인해 현재 귀중한 천연자원이 되었습니다.

본 연구의 주 목적은 스리랑카의 물 불안과 성 불평등 담론을 이해하기 위한 탐색적 실증적 사회학적 연구를 수행하는 것입니다. 이 경험적 연구는 질적 데이터를 기반으로 합니다. 반 구조화된 면담, 현장 관찰, 공문서 내용 분석을 실시하였습니다.

의도적으로 선택한 표본에서 성별 10 건씩 20 건의 반 구조화된 인터뷰를 실시했습니다. 이것은 지역사회가 일상 생활에서 물에 접근할 때 직면하는 어려움을 바탕으로 선택되었습니다.

연구 결과는 기후 변화가 수자원 불안정에 미치는 영향이 다양한 변수를 포함하고 있기 때문에 보편화 할 수 없음을 밝혔습니다. 그러나 전 세계적으로 수자원 불안이 있지만 모든 대륙에서 같은 방식은 아닙니다. 물 전쟁과 갈등은 현실이 특정 상황에서 물의 부재가 공동체 간의 협력을 장려할 가능성이 있음을 보여주기 때문에 문학에서 오용됩니다. 따라서 물에 대한 경쟁이 구성되고 풀뿌리 수준의

커뮤니티가 공유 책임을 유지하는 경향이 있으므로 현실을 드러내지 않습니다. 반면에 여성은 물에 대한 불안감을 겪더라도 남성과 책임을 분담할 때 긍정적인 심리적 상태에 있게 됩니다.

키워드: 적응성, 기후변화, 성 불평등, 권력, 물 불안