Volume 22 Issue 42
Originally issued as C5



Global Journal of human-social science: C
Sociology & Culture
Volume 22 Issue 5 Version 1.0 Year 2022
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-460X & Print ISSN: 0975-587X

Gendered Impression of Water Scarcity: The Impact of Water Scarcity on Women's Lives from Gender Perspectives

By Zarin Yesmin Chaity
Begum Rokeya University

Abstract- This paper intends to examine the water crisis issue from the perspective of gender. In order to accomplish this goal, the article has first discussed a few challenges that are unique to women and girls as a result of their gender position in society. After that, I discussed the reasons why gender should be addressed in relation to water issues. Secondary data were used for this research which was then followed by qualitative analysis.

The findings of this study indicate that women are more susceptible to water-borne and water-related diseases and they also experience severe pain in various parts of the body as a result of manually carrying heavy weights of water. Moreover, they are exposed to problems and diseases related to sanitation and hygiene and experience difficulties with reproductive health. The study also explored that they become victims of sexual harassment, rape, and other forms of violence while collecting water.

Keywords: gender; water scarcity; gender division of labour; gender inclusive water policy.

GJHSS-C Classification: DDC Code: 333.91 LCC Code: HD1691



Strictly as per the compliance and regulations of:



© 2022. Zarin Yesmin Chaity. This research/review article is distributed under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0). You must give appropriate credit to authors and reference this article if parts of the article are reproduced in any manner. Applicable licensing terms are at https://creative commons.org/licenses/by-nc-nd/4.0/.

Gendered Impression of Water Scarcity: The Impact of Water Scarcity on Women's Lives from Gender Perspectives

Zarin Yesmin Chaity

Abstract- This paper intends to examine the water crisis issue from the perspective of gender. In order to accomplish this goal, the article has first discussed a few challenges that are unique to women and girls as a result of their gender position in society. After that, I discussed the reasons why gender should be addressed in relation to water issues. Secondary data were used for this research which was then followed by qualitative analysis.

The findings of this study indicate that women are more susceptible to water-borne and water-related diseases and they also experience severe pain in various parts of the body as a result of manually carrying heavy weights of water. Moreover, they are exposed to problems and diseases related to sanitation and hygiene and experience difficulties with reproductive health. The study also explored that they become victims of sexual harassment, rape, and other forms of violence while collecting water. The opportunity cost of water collection also exacts a disproportionately hefty toll on women. When women are required to spend more time on water collection and water management concerns, it substantially impacts their ability to get an education, engage in productive activities, find work possibilities, and get enough rest. This study concludes that it is essential to incorporate the experiences, concerns, and active participation of women into any and all policies, projects, and activities to get a sustainable solution to women's water scarcity-related problems.

Keywords: gender; water scarcity; gender division of labour; gender inclusive water policy.

I. Introduction

The lack of available water presents people with a myriad of hurdles and difficulties (Rahman et al. 2017). However, women confront a number of challenges that are unique to them as a result of the gender roles that are traditionally assigned to them (Karim et al. 2012; Sigenu 2006). Because of the gendered roles that they traditionally play in the home, women have strong ties to water. As a result, they are more likely to be negatively impacted if there is a disturbance or turbulence in the water quality and quantity in a particular area. A lack of available water has repercussions on the lives of women and has an effect on their physical and reproductive health, as well as their social life and sense of safety (Ngomuo & Msoka 2018).

Author: Designation: Assistant Professor, Begum Rokeya University, Rangpur, Bangladesh. e-mail: zarinyesmin.bru@gmail.com

Women are closely connected to water irrespective of all societies because they are responsible for the collection, preservation, maintenance, and management of water sources, in addition to the use of water in the day-to-day activities of their households (Irura 2008; Sigenu 2006). Women collect water to be used for drinking, washing, taking regular baths, sanitation, and any other reason the family may need. There is a need for water from every member of the family, but there is only one person who can gather and organize it for the family's needs: the women (Ngomuo & Msoka 2018). In localities where there are insufficient supplies of potable water, it is necessary for women to travel great distances in order to get their water supply, which presents them with a number of challenges (Karim et al. 2012). Therefore, any issues that are associated with water are more likely to affect women than males in the household (Baguma et al. 2013; Caruso 2016). Even though everyone in society is impacted by water shortage (Rahman et al. 2017), women face an extra obstacle and are affected differently by this issue owing to the suppression of their gender roles in comparison to males in society (Lewis & Writer n.d.). This is a problem that eventually affects everyone in society.

This research will concentrate on the unique water-related challenges that women experience while collecting water in areas where there are few or no accessible sources of clean water. After that, there will be a discussion on the significance of incorporating a gender perspective into initiatives relating to water in order to improve the current situation for women. To do so, the study explored the responses to the following questions: *What challenges do women experience as a result of limited access to water and the need to collect water? How exactly does the gendered division of labour make life more difficult for women? Why should gender be considered when making decisions on water and planning projects?*

a) Rationale of the study

Most studies on water scarcity commonly mention that women and girls are responsible for household water collection (Geere & Cortobius 2017; Sigenu 2006), but we rarely ask the questions- what are the gender-differentiated impacts of this responsibility

© 2022 Global Journals

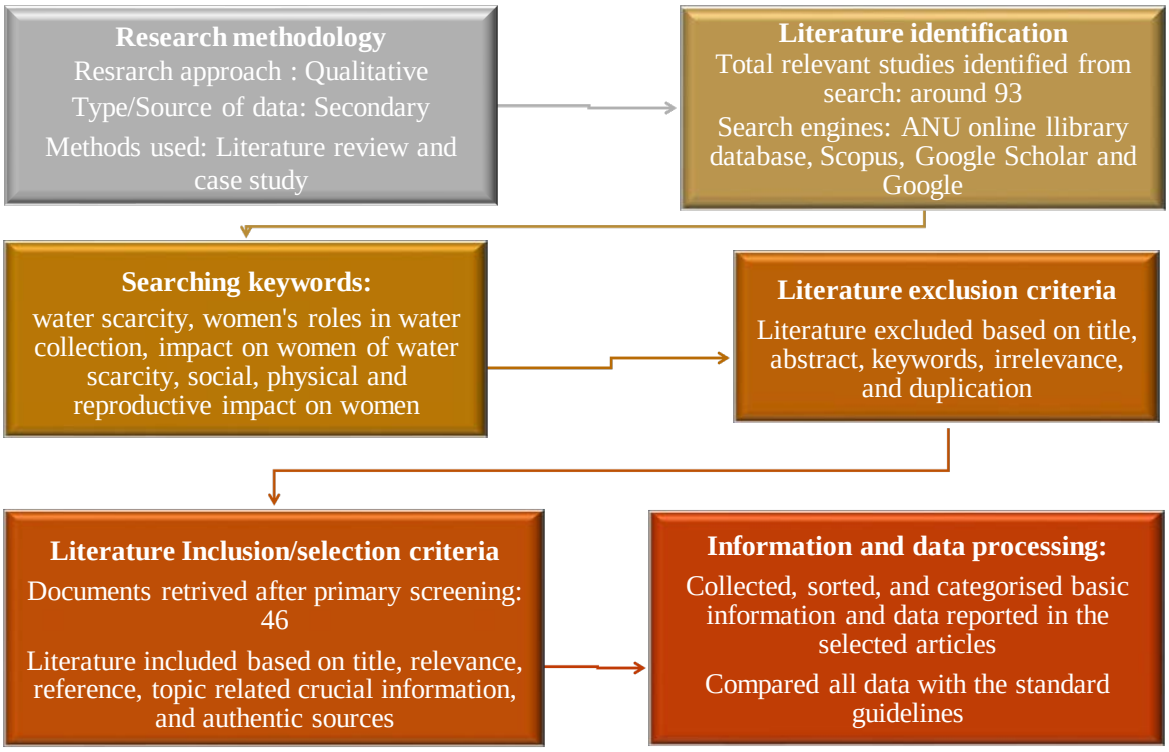
and why "women" are primarily responsible for household water collection, rather than men. The answer lies in the gender division of labour in our society (Baguma et al. 2013), which divides indoor non-productive work into women's work and public productive work into men's work, that is called the public-private dichotomy. This makes the gendered division of labour seem to be a natural order while in reality, it is a socially manufactured phenomenon. As a result, all of the tasks associated with running a family are delegated to women without any acknowledgement or questioning from society (Baguma et al. 2013; Karim et al. 2012). Therefore, this research has focused to explore these commonly unasked questions. Exploring these questions is necessary to contribute to the knowledge level by highlighting the gendered experiences of women due to water scarcity and the necessity of developing gender-inclusive water policies and interventions.

b) Limitations of the study

This research was carried out in July and August of 2020, during the COVID-19 epidemic, when there were restrictions placed on the mobility of people. As a consequence of this, the data for the research came from secondary sources. Primary data may have provided a lot of additional dimensions; however, owing to the challenging circumstances and time constraints that were present at the time, this was not feasible. In terms of the potential future scope of the study, this research may be carried out on a more extensive scale in order to collect further empirical data. Researchers might conduct this study using primary data on a wider scale in order to more broadly generalize the results and add empirical evidence.

II. Methodology

This research is underpinned by feminist research methodology. Feminist methodology reveals the questions from the perspective of women's experiences. It also uses women's perspectives as a significant indicator of the reality against which hypotheses are tested (Harding 1987). This study focused on feminist epistemology because it was primarily concerned with women and their differing experiences and perceptions from those of men. It has tried to reveal women's different reality because of water scarcity and the responsibility to collect water, which men do not experience ever. This research is qualitative research based on secondary data. The data was collected in 2020 while COVID-19 restrictions were ongoing. Therefore, fieldwork wasn't conducted to collect primary data. Secondary data has been collected from online academic books, research articles, government and non-government reports, and print and electronic media reports. These information sources were accessed from Google Scholar, Scopus, Google, and the Australian National University (ANU) library database. The secondary data was searched and narrowed down through specific keywords. Critical literature review and case study methods are applied to investigate the research questions.



**This flow chart is developed by the researcher*

Figure 2: Research methodology and data processing flowchart

© 2022 Global Journals

III. Findings and Analysis

- Water scarcity and water-related diseases

Women do not drink the required quantity of water that a human being should drink consistently in order to maintain their health since there is a shortage of water and a lack of understanding. Women are more likely to miss drinking water in order to save water or, in certain regions, in order to avoid going to the toilet because of sanitation concerns (Ngomuo & Msoka 2018). Both of these behaviours put them at a greater risk for a number of illnesses, including those that are caused by inadequate water intake. Because of this, individuals also suffer from a wide variety of diseases that are caused by a deficiency of water in the body. Some examples of these disorders include infections of the kidneys and urine, amongst others. Lack of access to safe water often causes diarrheal diseases (Abedin et al. 2019). This is particularly true of children and women. Consuming water from any source that might potentially be contaminated poses serious health risks (Abedin et al. 2019). The health of families and the economy of society are both negatively impacted as a result of these disorders (Barech & Ainuddin 2019). If women and children are often affected by these illnesses, then they are more likely to become weak, malnourished, and susceptible, and they are unable to engage in other forms of productive labour (Ngomuo & Msoka 2018). Even if they are unwell, women are not allowed to take time off from their obligations in the home; instead, they are expected to do their tasks even if they are incapacitated. In addition to this, women are the ones who take care of ill children, which is an additional obligation that falls on their shoulders. In a larger context, the expense of one's time, as well as medical care, has economic implications (Barech & Ainuddin 2019).

- Physical problems

Women endure various forms of physical difficulties as a consequence of carrying a large weight on their heads or waists for extended periods of time in order to gather water from a great distance (Barech & Ainuddin 2019; Pahwaringira et. al 2017). Sometimes, in order to satisfy the need for water inside their households, women are required to do the task of water collecting many times each day. As a result, carrying excessive amounts of water might result in a wide variety of long-term and short-term diseases and discomforts to the body. The women who are responsible for collecting water often complain of experiencing discomfort in their neck, spine, waist, back, and spine-related issues, as well as headaches. According to research carried out by Geere, who is both a lecturer at the Norwich Medical School at the University of East Anglia and a physiotherapist, 69% of the people who participated in the study had spinal pain, and 38% of women have back pain (Geere, Hunter & Jagals 2010).

These strenuous tasks, which require women to move heavy objects and carry water many times a day, leave them feeling fatigued (Barech & Ainuddin 2019; Otufale & Coster 2012). In addition to the women who reported experiencing physical discomfort, some women indicated that even if they haven't noticed any medical concerns, they nevertheless feel exhausted when engaging in these activities. Because this is one of the household chores for women among dozens of other household chores (Hallett 2016; Otufale & Coster 2012). Hallett brought up Ben Crow's viewpoint on the amount of time women spend working, which is that women often have less time to relax and sleep in order to do all of their tasks (household responsibilities and others). They have to spend a significant amount of time gathering and storing water, which is time that they might have spent doing other tasks or relaxing instead.

Some research has referred to cases of women's health being permanently damaged as a result of carrying water (Barech & Ainuddin 2019). These cases include chronic fatigue, spinal and pelvic deformities, a threat to reproductive health and an impact on that health, such as high-risk pregnancies and an increased incidence of abortions (Abedin et al. 2019; Otufale & Coster 2012; SIDA 1997).

- Concerns Relating to Hygiene and Sanitation

Since there is not enough water available, women are unable to properly maintain sanitary facilities. The challenges that women face with regard to water, sanitation, and hygiene are inextricably linked (Ngomuo & Msoka 2018). A whole circle of women's vulnerability is being created as a result of one issue triggering a problem for another issue. In places where there is a shortage of water and sanitation facilities, women may consume less water and food in order to reduce the number of times they need to defecate or to keep themselves under control until nightfall in order to gain privacy when defecating in the open. This allows them to conserve water and also helps them address the issue of a lack of adequate sanitation systems in their households or in the surrounding area (Barech & Ainuddin 2019; World vision n.d.)

While women and girls do not have access to sufficient water for personal hygiene during menstruation, pregnancy, or other times when their bodies are particularly vulnerable, then they face an increased risk of infection, bacterial diseases, and sexually transmitted diseases, in addition to other medical issues (Gahungere 2008; Ngomuo & Msoka 2018). The health and cleanliness practices of mothers have a direct bearing on the general well-being of their families (Ngomuo & Msoka 2018). If mothers have poor lifestyle choices that put their health at risk and cause their children to develop chronic illnesses. Moreover,

© 2022 Global Journals

such behaviours will be passed on to the next generation and continue the cycle.

- Violence and insecurity

Water scarcity and lack of water sources in close proximity increase the risk of violence and insecurities among women (Karim et al. 2012). Having to travel a long distance or lonely path to get water sources puts women in a much more vulnerable position. Women who go long distances alone to gather water often be subjected to eve-teasing, marital violence or other forms of sexual harassment (Karim et al. 2012; Ngomuo & Msoka 2018). Karim et al. (2014) shared that, women who have to collect water from a distant place or well during the lean period, are subject to domestic violence because they sometimes fail to fulfil their other household chores in due time. The report by Médecins Sans Frontières titled "The Crushing Burden of Rape-Sexual Violence in Darfur" which was published in 2005 mentioned that in Darfur, 82% of almost 500 women were treated for rape attacks while they were doing household work such as water fetching or firewood collection just within five months. Rape, sexual attacks, and eve-teasing occur while the women get out to collect water from a distant water source and go alone (Ngomuo & Msoka 2018). Even though they are aware that they run the danger of being subjected to sexual assault or rape, women in certain societies are expected to go out for defecation in groups before dawn and after sunset, when it is still dark outside and there is no access to clean water or sanitation facilities (Sweetman & Medland 2017).

- Gender division of labour

The majority of the responsibility for obtaining water for domestic tasks and storing it for later use falls on women (Baguma et al. 2013). However, despite the fact that men also need water for their day-to-day activities, they are seldom held accountable for the water collecting process (Musa 2008). Women are the only ones who collect water, but males perform the role of builder in-home water management, which includes activities like digging wells and constructing tanks, among other things (Rahman et al. 2017). Additionally, men are in charge of making choices on water management in a family. In addition, men are in charge of the water outdoors, which may be used for irrigation or any other reason (Karim et al. 2012). As a result of the gender division of labour, women are given unpaid job that lacks respect or authority (Baguma et al. 2013). Hence, the task of taking care of the family falls completely on women, despite the fact that there is no biological relationship between completing these works and being a woman. On the other hand, males are often tasked with public works, which are tasks that are compensated for and acknowledged as having economic worth. As a result, males have more economic power than women do in the majority of nations.

- An increase in workload

Research conducted in 24 Sub-Saharan African countries suggests that women are the main water collectors who spend on average more than 30 minutes daily collecting water, and the involvement of women in water management ranges from 46% to 90% (Graham et. al 2016; Otufale & Coster 2012). As our culture is male-dominated, the unpaid job of home chores has traditionally been assigned to women. This work is done without any appreciation, and it is regarded as rather common from a sociological standpoint. In most cases, males do not contribute to the upkeep of the family, which means that women are exclusively responsible for all aspects of domestic life (Karim et al. 2012; SOAWR 2008). Because women need water throughout the day for activities like cooking, washing, cleaning, maintaining personal and family hygiene, and so on, the fact that they do not get sufficient water in comparison to their demand impedes their normal job (Ngomuo & Msoka 2018; Tshabatau 2021). Safe water supplies in the home, such as tap water, tube wells, ponds, or any other kind of processed water source, may dramatically lessen the amount of work pressure that women are under and allow them more breathing room within their otherwise packed daily schedules. But if they have to gather water from a faraway area by walking and standing in line for a significant amount of time, then this increases the amount of labour that women have to do and the amount of time they spend working (Karim et al. 2012; Tshabatau 2021). Women spend more than hours every day tending to meet the water requirements of their families and walk an average of 10 km daily to collect water (Tshabatau 2021). Women in some regions of Africa devote a significant portion of their days—up to eight hours—to the task of gathering water, which is a significant proportion of their time (Facts about women and water n.d.; Tshabatau 2021). Where there is a lack of access to water, this is an extra task that falls on the shoulders of women, which results in an increase in both their working hours and their workload (Karim et al. 2012).

- Opportunity costs

Women and girls bear a disproportionate share of the opportunity costs associated with water shortages (Karim et al. 2012). These opportunity costs include lower levels of education and employment, worse health, and lower levels of national productivity. Both the women's time and the energy they put into collecting and processing water may have been put to better use elsewhere (Tshabatau 2021). Girls who are tasked with the responsibility of water collection often sneak out of class to do their duties. According to the findings of one research, many young women in South Asia and Africa

© 2022 Global Journals

choose not to attend a school or give up their education altogether so that they may spend more time helping their moms gather water (Gahungere 2008). If we were to translate the amount of time that women spend on water collection and management into monetary worth, we would see that we are missing out on a significant amount of value that might be contributing to our national productivity and revenue (Tshabatau 2021). It is estimated that women in India spend 150 million working days each year to collect water, which is equivalent to 10 billion rupees per year that India loses from its national revenue (NCW n.d.). It was said in Drop4Drop (2016) that the time that women and girls in sub-Saharan African countries spend on water collecting is equivalent to forty billion hours, which is time that they might have utilized for other things in their life.

IV. Why Gender should be Included in Water Policies?

The problems that have been discussed here are not new nor unheard of. On the subject of water shortage difficulties, different types of studies have been conducted, and numerous conversations have taken place; nonetheless, this problem has not yet been solved. In spite of the tremendous efforts made by local, national, and international development organizations, the pace of improvement is quite sluggish. The most important aspect of this topic that I wanted to highlight is the fact that a lack of water has a gendered aspect to it, and if we want to find a long-term solution, we need to engage the group "women," who are often the ones that are connected and impacted by water issues. However, in the majority of instances, their perspectives are not heard. When it comes to issues concerning taking control of, power exercise or the administration of water resources, the majority of the time it is males who take the initiative and oversee the involvement (Rahman et al. 2017).

For instance, based on the researcher's personal experience of living in a southern coastal area of Bangladesh known as Koyra in the Khulna division, where there are very few sources of safe drinking water due to the high salinity in the water, she found that there is a high gender disparity between water collectors and water decision-making power holders. This was one of the things that stood out to her during her time there. In those areas, drinkable water sources are being provided by a number of national and international organizations, including World Vision, Plan Bangladesh, Shushilan, and Podokkhep (Abedin et al. 2014). These water sources are managed by local people through water management committees (Rahman et al. 2017).

However, the majority of the members of the water management committee were males. There were a few female members there who were either organizational members or local representatives. Women who were directly linked with water collection and management were not members of any committee that is responsible for management or decision-making about water sources. As we've seen in the discussion, in most societies, the task of gathering water falls under the purview of the female population. The primary reason for this is the way our society constructs gender roles. In a society that is dominated by men, the gender division of labour typically entails women performing unpaid work in the private sector and men performing paid work in the public sector. Men are never taught that the task of taking care of the family is a joint obligation in which they should both engage equally (Baguma et al. 2013). In addition, under a patriarchal culture, women are seen as weak, which leads males to believe that women are helpless and subject to violence or domination.

Therefore, in order to lessen the severity of these difficulties and reduce the gender gap in water management, we need to prioritize gender equality concerns in any intervention involving water (Baguma et al. 2013); failing to do so would prevent us from reaching long-term resolutions. It is highly crucial to listen to the voices of women since they can represent true circumstances from their own empirical viewpoint. To acquire empirical knowledge about the issue and identify solutions that are both effective and sustainable, all interventions relating to water should consider gender to be an important element in the design of the intervention and pay special attention to the opinions of women, who are most involved with water.

V. Concluding Remarks

Issues relating to the collection and management of water are intricately connected to gender problems. This article discussed several concerns that are caused by a lack of water that is only encountered by women and girls. Women have to collect water to meet the water demand of the whole household. They walk extra miles and spend a substantial number of hours collecting water which affects several aspects of their lives. Women suffer from physical pain, discomforts, illness and waterborne diseases due to water scarcity and lack of access to safe water. They lack proper hygiene and sanitation facilities which hamper their reproductive health as well as their family health. They also become victims of sexual harassment and violence while collecting and managing water. Moreover, women pay high opportunity costs in their lives to fulfilling the responsibility of water collection. Young girls and women get deprived of education, employment opportunities, health facilities, and low or no amount of rest time in their life. This study discussed that gender division of labour is one of the crucial reasons for this disparity of responsibility for water collection and management in society. Therefore,

© 2022 Global Journals

we should emphasise on gender perspective to improve the situation.

Finally, this study discussed the importance of incorporating a gender perspective into all water policies and projects so that any water-related interventions benefit all inhabitants of the society irrespective of their gender and ensure their access to safe water. To do so, a few suggestions were made here. These include addressing gender perspective in water policy, technology, and distribution; increasing female participation in water management committees and projects; ensuring gender-sensitive policymaking and women's active participation in policymaking; raising awareness of gender issues among community members; and, most importantly, redefining men's roles in household work to achieve a more equitable distribution of labour.

References Références Referencias

1. Abedin, Md. A., Collins, A. E., Habiba, U., & Shaw, R. (2019). Climate Change, Water Scarcity, and Health Adaptation in Southwestern Coastal Bangladesh. *International Journal of Disaster Risk Science*, *10*(1), 28–42. https://doi.org/10.1007/s13753-018-0211-8
2. Abedin, Md. A., Habiba, U., & Shaw, R. (2014). Community Perception and Adaptation to Safe Drinking Water Scarcity: Salinity, Arsenic, and Drought Risks in Coastal Bangladesh. *International Journal of Disaster Risk Science*, *5*(2), 110–124. https://doi.org/10.1007/s13753-014-0021-6
3. Baguma, D., Hashim, J. H., Aljunid, S. M., & Loiskandl, W. (2013). Safe-water shortages, gender perspectives, and related challenges in developing countries: The case of Uganda. *Science of The Total Environment*, *442*, 96–102. https://doi.org/10.1016/j.scitotenv.2012.10.004
4. Barech, S., & Ainuddin, S. (2019). The Impact Of Water Scarcity On Women In Rural Area In Quetta. *Pakistan Journal of Gender Studies*, *18*(1), 129–143. https://doi.org/10.46568/pjgs.v18i1.29
5. Caruso, B 2016, *To empower women, give them better access to water*, The Conversation, viewed 24 April 2019, http://theconversation.com/to-empower-women-give-them-better-access-to-water-56244
6. Drop4Drop (2016) 'Water and women: the importance of gender inclusive development' Drop4Drop, 11 January 2016, viewed 24 April 2019, https://drop4drop.org/woman-water/
7. *Facts about women and water* n.d., viewed 24 April 2019, http://www.gender.cawater-info.net/what_is/facts_e.htm
8. Gahungere, C 2008, *Burundi: Access to water is a human right*, *Pambazuka News*, viewed on 17 April 2019. http://www.soawr.org/sites/default/files/soawr_wom_wat_san.pdf
9. Geere, J., & Cortobius, M. (2017). Who Carries the Weight of Water? Fetching Water in Rural and Urban Areas and the Implications for Water Security. *Water Alternatives*, *10*, 513–540.
10. Geere, J., Hunter, P., & Jagals, P. (2010). Domestic water carrying and its implications for health: A review and mixed methods pilot study in Limpopo Province, South Africa. *Environmental Health : A Global Access Science Source*, *9*(1), 52. https://doi.org/10.1186/1476-069X-9-52
11. Graham, J. P., Hirai, M., & Kim, S.-S. (2016). An Analysis of Water Collection Labor among Women and Children in 24 Sub-Saharan African Countries. *PLOS ONE*, 11(6), e0155981. https://doi.org/10.1371/journal.pone.0155981
12. Hallett, V 2016, Millions Of Women Take A Long Walk With A 40-Pound Water Can, NPR.org, viewed 24 April 2019, https://www.npr.org/sections/goatsandsoda/2016/07/07/484793736/millions-of-women-take-a-long-walk-with-a-40-pound-water-can
13. Irura, C 2008, Women, water and sanitation: going the extra mile | Pambazuka News, viewed 24 April 2019, https://www.pambazuka.org/gender-minorities/women-water-and-sanitation-going-extra-mile.
14. Karim, K. M. R., Emmelin, M., Resurreccion, B. P., & Wamala, S. (2012). Water Development Projects and Marital Violence: Experiences From Rural Bangladesh. *Health Care for Women International*, *33*(3), 200–216. https://doi.org/10.1080/07399332.2011.603861
15. Lewis, L & Writer, G n.d., Water and Womens Inequality, The Water Project, viewed 24 April 2019, https://thewaterproject.org/water-scarcity/women-and-water-inequality
16. Médecins Sans Frontières (2005), 'The Crushing Burden of Rape - Sexual Violence in Darfur', Library of Congress, Washington, D.C. 20540 USA, pdf, viewed 24 April 2019, https://www.loc.gov/item/lcwa00088995/
17. Musa, R 2008, Gender perspective on water and sanitation | Pambazuka News, viewed on 17 April 2019 http://www.soawr.org/sites/default/files/soawr_wom_wat_san.pdf
18. National Commission for Women (NCW) (n.d.). *Women and Water: A report by the National Commission for Women | India Water Portal*. (n.d.). Retrieved September 15, 2022, from https://www.indiawaterportal.org/articles/women-and-water-report-national-commission-women
19. Ngomuo, A., & Msoka, A. (2018). Effects of Water Scarcity on Women in Pastoral Areas: A Case Study of Melela Ward in Mvomero District – Morogoro, Tanzania. *Utafiti Journal*, *9*(1 & 2), Article 1 & 2. http://www.journals.udsm.ac.tz/index.php/uj/article/view/1344
20. Otufale, G. A., & Coster, A. S. (2012). Impact of Water Scarcity and Drudgery of Water Collection on

© 2022 Global Journals

Women' Health in Ogun of Nigeria. *Journal of Human Ecology*, *39*(1), 1–9. https://doi.org/10.1080/09709274.2012.11906493

21. Pahwaringira, L., Chaminuka, L., & Muranda-Kaseke, K. (2017). The Impacts of Water Shortages on Women's Time-Space Activities in the High Density Suburb of Mabvuku in Harare. *WH2O: The Journal of Gender and Water*, *4*(1), 65–72.
22. Rahman, M.T.U., Rasheduzzaman, Md., Habib, M. A., Ahmed, A., Tareq, S. M., & Muniruzzaman, S. M. (2017). Assessment of fresh water security in coastal Bangladesh: An insight from salinity, community perception and adaptation. *Ocean & Coastal Management*, *137*, 68–81. https://doi.org/10.1016/j.ocecoaman.2016.12.005
23. Sigenu, K. (2006). *The role of rural women in mitigating water scarcity*. http://scholar.ufs.ac.za/xmlui/handle/11660/1610
24. Sweetman, C., & Medland, L. (2017). Introduction: Gender and water, sanitation and hygiene. *Gender & Development*, *25*(2), 153–166. https://doi.org/10.1080/13552074.2017.1349867
25. Solidarity for African Women's rights (SOAWR) (2008), Gender and water, and sanitation in Mozambique | Pambazuka News, viewed on 17 April 2019 http://www.soawr.org/sites/default/ files/soawr_wom_wat_san.pdf
26. Tshabatau, M. (2021). *Women and water scarcity in Botswana: Challenges and strategies in Kweneng District -The case study of Gakuto Village*. http://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-434108
27. World Vision n.d., Access to clean water - essential for womens health and safety | World Vision Australia, viewed 24 April 2019, https://www.worldvision.com.au/global-issues/work-we-do/climate-change/access-to-clean-water-essential-for-women

© 2022 Global Journals