

# **WATER, SANITATION & HYGIENE INEQUALITIES IN ROHINGYA CAMPS AND HOST COMMUNITIES OF COX'S BAZAR: AN INTERSECTIONAL MULTILEVEL ECOLOGICAL MODEL PERSPECTIVE**

**Umme Busra Fateha Sultana<sup>1</sup>**

**Md Mokhlesur Rahman<sup>2</sup>**

## **Abstract**

Access to Water, Sanitation, and Hygiene (WASH) services remains inequitable in Rohingya refugee camps and surrounding host communities in Cox's Bazar, with disparities deeply rooted in intersecting factors such as gender, ethnicity, location, age, and disability. Using a Multilevel Ecological Model framework, this study explores the intersectional dimensions of WASH inequalities, addressing gaps in existing research despite the global focus on the Rohingya refugee crisis. The study identifies critical barriers and enabling factors affecting WASH access by employing a mixed-methods approach — including surveys, focus group discussions (FGDs), and key informant interviews (KII). Findings reveal that marginalized groups experience compounded disadvantages, further intensifying their vulnerability and exclusion. The study calls for targeted, inclusive policies and interventions that prioritize the needs of these groups, aiming to mitigate inequalities and foster equitable WASH access for all.

**Key Words:** Inequality, WASH, Rohingya, Host community, Ecological Model, Intersectionality

## **Introduction**

The Rohingya refugee crisis in Cox's Bazar, Bangladesh, represents one of the largest and most complex humanitarian emergencies of recent times. With nearly one million refugees living in 33 overcrowded camps, the region has faced unparalleled challenges in addressing basic needs like water, sanitation, and

---

<sup>1</sup> Professor, Department of Women and Gender Studies, University of Dhaka. Email: [u.b.sultana@du.ac.bd](mailto:u.b.sultana@du.ac.bd)

<sup>2</sup> Independent research scholar. Email: [mrsagar76@outlook.com](mailto:mrsagar76@outlook.com)

hygiene (WASH). Refugees face persistent WASH-related inequities, while host communities grapple with resource scarcity, environmental degradation, and the strain of accommodating such a significant population influx (UNHCR, 2024; UNICEF, 2024). These challenges are not uniform but vary significantly based on intersecting social identities such as gender, age, disability, and ethnicity, as well as structural factors like access to services and geographical location.

Existing studies have extensively explored the historical, political, and social dimensions of the Rohingya refugee crisis. However, there is a critical gap in understanding how WASH inequities manifest across different population groups in this context. Reports from humanitarian organizations highlight inadequate infrastructure and disparities in access, but there is limited scholarly focus on how intersecting identities and multi-level systemic factors shape these inequities. Addressing this gap requires a comprehensive analytical framework that considers both individual and structural influences on WASH access and outcomes. This study employs an intersectional multilevel ecological model perspective to investigate how intersecting identities (e.g., gender, ethnicity, and ability) and structural factors influence WASH inequalities in Rohingya refugee camps and host communities in Cox's Bazar. Specifically, it seeks to answer the following research question: How do intersecting social categories and systemic factors contribute to WASH inequalities among Rohingya refugees and host communities in Cox's Bazar?

The paper aims to provide a holistic understanding of WASH disparities by integrating intersectionality with a multilevel ecological model. It offers actionable insights for designing inclusive and equitable interventions for refugees and host communities. As a structure, this paper starting with an introduction provides the existing literature and theoretical framework. The theoretical framework has been derived from the review of the literature. Then, this paper provides a detailed methodology of the process of data collection, data interpretation, and presentation. Finally, the paper's findings have been presented with a discussion, recommendation, and conclusion.

## **Literature Review and Theoretical Framework**

The Rohingya refugee crisis has been one of the most pressing issues in Bangladesh for the last few decades. According to the 1951 Refugee Convention, refugees are people who have fled and become incapable of returning to their homeland due to a fear of being killed based on different categorical discriminations (race,

class, religion, nationality, etc.). Although Bangladesh is not a signatory to this convention, it has largely been affected by the refugee crisis as it holds a long history (in 1948, 1991 & 2017) of hosting the Rohingya refugees (Ahmed, 2019; UNHCR, 2007). Since 2017, the Rohingya refugee crisis has become more alarming for Bangladesh due to the vulnerabilities brought upon by human rights violations of the Rohingya community in their country of origin. There are nearly 967,765 Rohingya refugees in 33 camps in Ukhiya and Teknaf Upazilas (UNHCR, 2024). This refugee population includes children (52%), adults (44%), older persons (4%) as well as persons with disability (UNICEF, 2024). They experience limited sources of livelihood, lack of opportunities to fulfill basic needs, and limited chances of getting essential humanitarian services in camps. On the other hand, due to the sudden influx of Rohingya people in those districts, host communities also experience different difficulties in adapting to new changes (Islam, 2023; Islam & Rahman, 2023). The situation becomes complicated having various groups of people with diverse specific needs as there are important cross-cutting issues like age, gender diversity, disability, climate change, disaster risk reduction, etc. Therefore, it is significantly becoming necessary to investigate how the Rohingya refugee crisis impacts these cross-cutting identities.

Since the past decade, research and writing on the Rohingya issue have engrossed the global literature on the refugee crisis. Various dimensions have been explored to gather a comprehensive overview of the Rohingya crisis. Whereas some (Gavan, 2023; Kader & Choudhury, 2019; Mohajan, 2018; Uddin, 2020; Ullah, 2011) have addressed the multiple waves of Rohingya arrivals in Bangladesh over the years from 1978 to 2017 resulting from persecution, oppression, and restrictions, extrajudicial executions in their homeland in a context of religious conflict driven by political and economic factors; others (Ayin, 2014; Hossain, 2022; Martuscelli et al., 2024) reflected on the rightlessness of Rohingya refugees in the context of international law and human rights. There are also studies (Ahmed, 2019; Islam & Yunus 2020) investigating the political and geopolitical influence of the Rohingya crisis. Many scholars (Ahmed & Biswas 2022; Chowdhury et al., 2022; Islam & Rahman, 2023; Jeffries et al. 2021; Mohsin & Rahman, 2022) have significantly discussed protection and coping mechanisms and researched on gender-based violence with an intensive focus on trauma and mental health issues, including episodes of intense anger of the Rohingya refugee being forcibly displaced from their homeland. Some recent literature (Islam, 2023; Myat, 2018; Roy, 2020; Uddin, 2020) further brings to light the factors and emerging tensions between the host community and the Rohingya refugees due to limited options for livelihoods

and employment; as well as scarcity of education opportunity and other basic needs. However, very few of the works of literature have expanded on the issue of WASH in Rohingya camps. Although different humanitarian organizations have published reports on the poor WASH situation, there is a need for scholarly work to provide a comprehensive scenario of the WASH situation across gender and other intersecting identities both in the host community and the Rohingya refugee camp. From this perspective, it is essential to examine how a combination of the social categories of gender, ethnicity, disability, and location influences WASH inequalities at individual, societal, and community levels.

The existing literature shows that Rohingyas are living in marginal and cramped conditions in the Camps in Cox's Bazar. Thus, the theoretical framework for this study considers several perspectives to provide a comprehensive understanding of WASH inequalities. It proposes a hybrid framework combining a multilevel Ecological Model (Trickett, 2009) with Intersectionality (Davis, 2008). The following discussion is important to understand the rationale for this hybrid framework. The consequences of WASH inequalities are far-reaching, influencing relations from the community level to interpersonal relations. There is also a risk of gender violence in communities where WASH scarcity exists. Pointing to this risk, studies (Akhter & Kusakabe, 2014; Pommells et al., 2018) have rightfully argued that there is a pressing need to investigate these complex intersections between WASH access and violence, to ensure gender equity and universal access to WASH. A multilevel ecological model perspective is a participatory community-based approach designed to handle culturally complex issues affecting multiple sectors, from the individual level to family, society, and other institutions in a community. Involving local resources and stakeholders throughout the process, this model ensures that interventions are credible, supported, and tailored to the community's varied kinds of tacit knowledge and views. Following this approach, this research engaged both the host community as well as Rohingya refugees and multiple other stakeholders who were connected to the issue of WASH management. Besides, to identify WASH inequalities at the multiple stages, data were collected from individual, societal, and community levels through Household surveys, FGD, and KII. On the other hand, intersectionality is a tool for understanding interactions between gender, race, class, ethnicity, and other social categories of diversities. It helps analyze how such categories contribute to exercising power or becoming a subject of subordination/exclusion. It attempts to explore the interconnection of all forms of subordination by "asking the other question" (Davis, 2008). The other question is further explained in Davis (2008:70):

When I see something that looks racist, I ask, ‘Where is the patriarchy in this?’ When I see something that looks sexist, I ask, ‘Where is the heterosexism in this?’ When I see something that looks homophobic, I ask, ‘Where are the class interests in this?’

Through debates, controversies, and successes intersectionality has been received and applied with greater enthusiasm by social scientists, feminists, and researchers due to its potential for going beyond binary oppressions. Crenshaw (1991) and Yuval-Davis (2006) view intersectionality as a dynamic process situated at the crossroads (“axes of difference”). This perspective is particularly pertinent to this paper for measuring differences in accessing WASH facilities at the crossroads of multiple identities. Thus, to uncover the multi-layered inequalities due to WASH scarcity, that affect both host communities and Rohingya refugees, but differently, in this paper, we use a hybrid framework that combines a multilevel ecological model with intersectionality. This framework explores how intersecting identities influence WASH access at different ecological levels (individual, community, societal). It aims to provide a nuanced understanding of how multiple factors interact to shape WASH inequalities and guide towards a roadmap of targeted interventions.

## **Methodology**

### ***Research Design***

This paper follows a mixed-methods approach, based on primary data collected through both quantitative and qualitative methods. To investigate the WASH situation from a multilevel perspective it was essential to draw a representative sample from both the host community and the Rohingya refugee camps. Furthermore, how WASH inequalities impact at the individual level and what role gender and ethnicity play here needed thorough empirical investigation through qualitative methods. Therefore, we conducted Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) which also supplemented the quantitative data. A structured questionnaire was used for the household survey, and for FGD and KII an interview guide was used. To help us with the data collection, we recruited twenty field assistants from Cox’s Bazar who were skilled in the local dialect of the Rohingya language. The following discussion presents a detailed account of the procedure and instruments for data collection.

### ***Data Collection***

The data collection methods for the study incorporated diverse approaches to gather comprehensive insights from multiple stakeholders across the host community and

Rohingya refugee camps in Cox's Bazar.

### ***Household Survey***

A total of 893 households were surveyed, with 596 from the camps (n1) and 297 from the host communities (n2). The survey was conducted across 8 upazilas of the host community and 33 Rohingya refugee camps using digital data collection applications, specifically Kobo.

### ***Focus Group Discussions (FGDs)***

Thirteen FGDs were organized to engage various demographic and social groups, including children, adolescents, women, men, pregnant women, mothers, lactating mothers, community leaders, older people, and individuals with disabilities or Disability Support Committees. Among the 13 FGDs, 8 were conducted in the camps and 5 within the host community, distributed as follows: 2 FGDs with female groups, 4 with male groups, and 7 with mixed groups.

### ***Key Informant Interviews (KIIs)***

A total of 12 KIIs were conducted, targeting key stakeholders such as site management actors from IOM and UNHCR, sector focal persons (covering food, livelihood, education, protection, health, nutrition, and WASH), Majhi, faith leaders, government officials, local government representatives, private sector representatives, community leaders, and NGO representatives.

### ***Document Review***

Relevant and available secondary documents were reviewed to supplement primary data and provide contextual insights. The following Table presents a detailed account of the process of data collection for this research.

**Table 1: Data Collection Matrix**

<b>Name of Method</b>	<b>Sample approach</b>	<b>Sample size</b>	<b>ap- and Stakeholder-wise Distribution of the FGD/KII /IDI/stakeholders consultation</b>	<b>Distribution of the Survey/</b>	<b>Additional Notes</b>
Household Survey		893 (N)	Camp (n <sub>1</sub> ) - 596 & host (n <sub>2</sub> ) - 297  The Survey was conducted in 8 Upazilas of the host community and 33 Rohingya Refugee camps in Cox's Bazar		Digital Data Collection Apps (Kobo) were applied to conduct the Survey.
Focus Group Discussion (FGD)		13	FGDs were conducted with different groups such as children, adolescents, women, men, pregnant women, mothers, lactating mothers, community leaders, older people, and people with disabilities/Disability Support Committees.		13 FGDs (Camp-8, Host-5).  With Female Group- 2  With Male Group- 04  With mixed Group 7
Key Informant Interview (KII)		12	Site Management – IOM/ UNHCR actors, sector focal (Food, Livelihood, Education, Protection, Health, Nutrition & WASH), Majhi, Faith Leaders, and government officials.  Local government representatives, officials, private sector representatives, community leaders, and NGO representatives.		
Document Review			Relevant and available secondary documents were reviewed		

Quality of the data was ensured by applying different approaches namely putting some logic and linkage questions within the questionnaire, and random validation

(by asking the same questions differently over the phone) of a certain percentage of data. The field assistants were adequately oriented about data collection tools to collect error-free data from the respondents. The authors had repeated feedback-sharing meetings with them in the field to validate data quality. Data collection field visits and logistic planning were set up very carefully to collect smooth information from the surveys. To understand the context better, the authors visited different fields and conducted the FGDs & KIIs themselves.

### ***Data Triangulation***

A triangulation of the collected data was made considering the findings of both qualitative and quantitative data and aligning with the review from the necessary documents received from secondary sources.



### ***Data Analysis***

Quantitative data was imported into MS Excel and SPSS format from the reports and primary data analysis was done using Excel and SPSS. Findings obtained through qualitative methods were analysed with a thematic data analysis approach and coding. Previous relevant reports and study findings were reviewed as well to gather secondary data.

### ***Ethical Considerations***

Before starting fieldwork, we submitted all the research instruments to the Refugee Relief and Repatriation Commission (RRRC) for permission to conduct fieldwork in the camps and host communities on the Rohingya response issue. Upon receiving approval from the RRRC, we had to adhere to strict ethical measures. At the beginning of data collection, the aim of the research was clearly explained to the respondents. A consent form was used to get informed consent from the participants. Before starting the interview, it was shared and confirmation was obtained. In the verbal consent, the respondents allowed us to use their information

for research purposes and in any future publications. For the survey, there was a specific section at the beginning of the Survey App which was read out loud by the field assistants. With the permission of the respondents, the discussions were recorded to avoid missing any important data and information. Before finishing a discussion or interview, interview notes or responses were shared with the respondents to ensure respondents agreed with the notes. Protection of personal data (such as name, sex, age, etc.) was strictly maintained. All quotations/statements are used anonymously.

### **Research Findings and Discussion**

Cox's Bazar district is one of the poorest in Bangladesh and is highly susceptible to recurrent climatic shocks. Approximately 33 percent of its population lives below the poverty line (WFP, 2020). The Rohingya community for its refugee status is more prone to this poverty situation and highly deprived, as evident from our research findings.

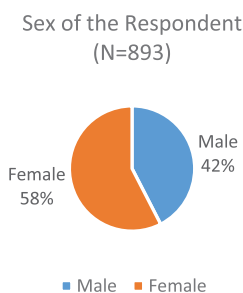
#### ***Demographic and Socio-economic Findings***

In the survey, altogether 893 respondents participated. Out of them, 67% were from different camps of Cox's Bazar and 33% were from surrounding host communities. The following Table 2 presents the comparative data.

**Table 2: Distribution of survey respondents: Community-wise**

Community	Respondents	%
Camp (n <sub>1</sub> )	596	67
Host (n <sub>2</sub> )	297	33
<b>Grand Total (N)</b>	<b>893</b>	<b>100</b>

Out of the total 893 survey respondents, 58% were female and 42% were male. However, there are slight differences among host and camp communities. As the following Figure-1 indicates, among the camp respondents (n<sub>1</sub>=596), female respondents were 56%. With a slightly higher percentage, 60 % (n<sub>2</sub>=297) were female among the host community respondents. The below Figure graphically presents the sex-wise distribution of the respondents.



**Figure 1: Sex of the respondents**

Community-wise more information on the sex of different categories of respondents is mentioned below:

**Table 3: Community and sex-wise respondents**

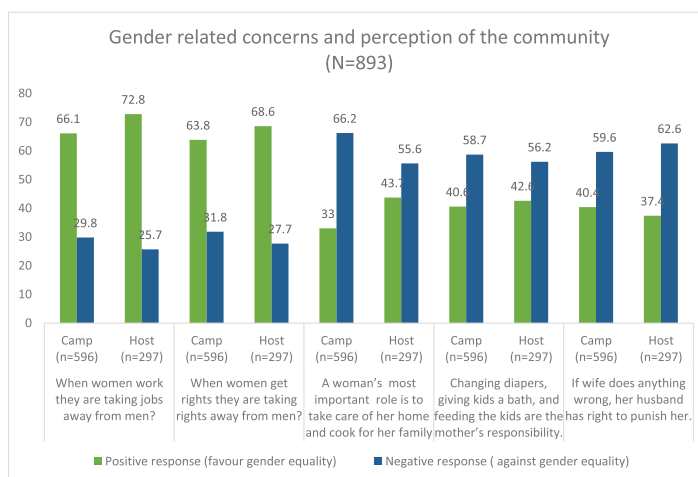
Type of the community	Female	Male	Grand Total
<b>Camp</b>	335	261	596
<b>Host</b>	179	118	297
<b>Grand Total</b>	<b>514</b>	<b>379</b>	<b>893</b>
<b>%</b>	<b>58</b>	<b>42</b>	<b>100</b>

In camp areas, Rohingya communities are not allowed to explore and exercise diverse livelihood options including field crop production. Their livelihoods are largely dependent on food assistance provided by different humanitarian agencies. As suggested in the existing research reports, since COVID-19 restrictions the food security situation for both Rohingya and the host community has deteriorated. For instance, 66% of the households reduced their food expenditure and 23% reported having limited access to food. Currently, almost all 900,000 refugees (95%) remain entirely dependent on humanitarian assistance (JRP, 2022). In the host community, where most families rely on daily-wage jobs, a slow economic recovery after the COVID-19 lockdown has increased the level of their vulnerability. A study conducted by WFP (2022) revealed that 52% of the families were identified as moderate to high level vulnerable which was 41% in 2019. With this, an increase in the number of Rohingya refugees has influenced the host community to develop negative feelings against them, considering them responsible for their hardships. Disliking the Rohingya community was created for many reasons and one of them is food scarcity. This was revealed while discussing with the host community. One of the respondents in the host community mentioned:

Now we cannot eat nutritious food. After the Rohingya influx, the price increased for almost all products. Fish, meat, and vegetables are not always available in our area. Nowadays, we cannot eat according to our needs. The traders take food to Rohingya camps and markets to sell at higher prices. We are having a hard time since these outsiders have occupied our community. (45 years old male, Host community).

### *Status of Women in the Rohingya and Host Community*

The data generated through both qualitative and quantitative methods demonstrates that a sexual division of labor persists strongly, and a shallow understanding of gender equality and women's empowerment underscores women's subordinate status both in the host and Rohingya communities. For instance, the survey and FGD respondents were asked questions, particularly on their perceptions about women's role in the family and public sphere, gender-based violence (GBV), women's empowerment, and men's attitudes towards women. Figure 2 demonstrates that although, in both the host and Rohingya communities the majority of the respondents support women's rights and have positive thinking about women's involvement in jobs, however, women's household role is always given more priority than any other task. Around 56% of the host community respondents and 66% of the Rohingya respondents think that a woman's major role is to take care of her home and cook for the family. Similarly, changing diapers, bathing kids, and feeding the kids are the mother's responsibilities that have been referred to by 56% of the host community and 59% of the Rohingya respondents. Also, more than 59% of the respondents think that husbands have the right to punish wives if they do anything 'wrong'.



**Figure 2: Understanding of Gender Equality and Gender Roles**

Similar to the survey findings, FGDs with both communities reveal that violence against women is a very recurrent phenomenon. Moreover, women's understanding of their lives, livelihood, and rights is significantly poorer than men's. Women in these communities still have this belief that men have the right to punish women if they are not obedient to their men. In one of the discussions, a female respondent was justifying wife battering. She said:

A husband's beating is justified if the wife is not obedient to the husband. Wives should behave well and act according to the mood of the husband (FGD, 35-year-old housewife, Rohingya community).

Findings from the qualitative discussion (FGD) and interview (KII) show that the prevalence of GBV is very high in both camps and host communities. Different forms of GBV are taking place in the camps and host communities. Those include sexual harassment, wife beating, child marriage, polygamy, mental torture and rape. It was also found that the majority of cases of GBV remain underreported. Many of the victims do not realize or consider the act of physical or verbal abuse as violence. Even if some of them realize it, they fear complaining anywhere. Particularly, physical torture by the husband is widespread in the household as a form of domination and disciplinary practice rooted in patriarchal norms. One of the FGD respondents said:

In our block, no teasing, or rape happens. It is true husbands beat us. But not all the time. If his mood is off and we do not pamper him, then it happens. (FGD, 31-year-old housewife, Rohingya Community).

These findings about the prevalence of GBV are reflective of existing studies. Ripoll (2017) for instance, stresses that in Rohingya society, domestic violence is perceived as a family affair to be solved by the family alone. A vulnerability assessment conducted by ACAPS shows that the fear of adolescent girls being harassed is highly prevalent across communities (ACAPS, 2022). A study conducted by (GAGE, 2020:2) shows that only 4% of older adolescents (15-17 years old) reported experiencing any form of GBV in the past 12 months. Additionally, 6.1% of families stated that they had observed physical or sexual violence and abuse (Riley et al., 2017).

Findings from our qualitative research further explore the different forms of risks that make the community unsafe for adolescent girls and women. For instance, there is a lack of security for community people at night, especially in the camp area. To ensure their security, night guarding has been introduced in the camp. Nevertheless, this has become a concern for women since most of the police are

men. If their men are not around in the household, female members get scared if the police visit their home at night. One of the KII respondents highlighted these issues while talking to us. As she mentioned:

Night Guarding has become a fear for community people. Police come to monitor the camp at night. Female community members get scared if male members of the house are not available at the time. It becomes a threat for them because some community people have engaged in some illegal activities. So, police always try to protect the community through night guarding (Female, Protection Professional, KII).

It is in these intersectional contexts of refugee status and inferior gender position that the questions surrounding WASH access, WASH inequality, and the associated challenges need to be understood.

### ***Water, Sanitation, and Hygiene (WASH) Situation in the Host and Rohingya Community***

The current Water, Sanitation, and Hygiene (WASH) situation has improved compared to its initial stage. However, it is important to note that compared to the influx of Rohingya refugees, a lack of funding has led to the current situation falling short of satisfactory standards and remaining below the expected level of quality.

### **Sources of Drinking Water**

Access to a safe and reasonable water supply has been one of the major concerns for both the host community and Rohingya refugees. In the host community, a deep tube well is the major source of water supply. The highest 56.90% of the respondents from the host community said they collect water from a deep tube well. For washing clothes, bathing, and cooking, they use the water from the deep tube well. In contrast, the highest 66.28% of the respondents from the Rohingya refugees said that the piped water network/tap stand in the settlement site is the major water source. From the host community, 42.42% of the respondents use water from shallow tube wells (Table 4). It is a matter of concern as shallow tube wells are more prone to arsenic contamination.

**Table 4: Major sources of drinking water**

Labels	Community		
	Camp (n <sub>1</sub> )	Host (n <sub>2</sub> )	Total (N=893)
Piped Water Network / tap stand into the settlement site	66.28%	1.01%	44.57%
Deep tube well	47.15%	56.90%	50.39%
Shallow tube well	16.95%	42.42%	25.42%
Cart with small tank or drum	1.34%	10.10%	4.26%
Tanker truck	7.38%	4.71%	6.49%

The second largest water source of the Rohingya refugees is the deep tube well, although accessing water from the deep tube well is very difficult for the camp residents. One of the FGD respondents said:

In the camp area, every bloc has 200 households. There are only three deep tube wells in each bloc which is not enough to cover all the households. One deep tube well can cover only 20 - 30 households; therefore, the number of deep tube wells in each block needs to be increased. (FGD with Rohingya Refugee Male, Age 31, Camp - 13, Cox's Bazar).

### Challenges in Accessing Water

Findings from the quantitative survey show that in the Host Community, 43.4% of the respondents said they face difficulties in accessing water, whereas 35.7% of the respondents from Rohingya refugees face difficulties. Comparatively, the host community faces more difficulties than Rohingya refugees in those areas of Cox's Bazar. Long distances, high amounts of iron and salt, bad taste/smell, limited availability, and safety concerns are the major difficulties faced by both the host community and Rohingya refugees (Table 5). Findings from interviews and FGD show that a high amount of iron and salt in the water from the nearest tube well is a common problem faced by both categories of respondents. They need to walk a long distance to collect safe water. Long distances to collect water during the night also increase safety concerns for women and girls in the host community. One of the FGD respondents said:

We collect drinking water from a deep tube well adjacent to a mosque. As a female, it is very difficult for me to collect water from that tube well at night. It is also not that easy to collect water when the mosque is closed (FGD with the host community; Female, Age 40, Ukhiya, Cox's Bazar).

In the camp areas, Rohingya refugees receive drinking water from the water point which is not sufficient. The water point can accommodate only 5000 litres at once which is not enough to bear the need of the allotted 600 households. According to our survey findings, long waiting time to access water has been the major issue for the highest 88.73% (Table 5) of the respondents from Rohingya refugees and 48.06% (Table 5) from the host community.

**Table 5: Problems with accessing water**

Labels	Community		
	Camp (n <sub>1</sub> )	Host (n <sub>2</sub> )	Total (N=893)
Bad taste/smell	11.27%	35.66%	20.47%
Long wait times	88.73%	48.06%	73.39%
Only available sometimes	30.99%	30.23%	30.70%
Safety concerns	7.04%	15.50%	10.23%
Other	14.55%	17.05%	15.50%

Women and girls from the host community and Rohingya refugees face particular forms of challenges in accessing safe and reasonable water supply, such as safety concerns at the place (away from household) and time (night) of collecting water. Findings from FGD and KII inform that women and girls from both communities even face sexual harassment including harassment and bullying, which have been reported during water collection and toilet use. Some groups wait outside toilets, attempting to peep at women or even creating holes in the toilet door. While collecting water since there is no separate line between men and women, women are dominated by men. Men who come late, still get the chance to collect water ahead of women. One of the FGD respondents said:

During water collection, there is no separate line for men and women which is uncomfortable for us. We also face harassment, even sexual harassment while collecting water (FGD with Rohingya Female, Aged-21, Camp -13, Cox's Bazar).

Although data in Table 5 demonstrates that only a poor percentage mentioned safety concerns (15.5% in the host & 7.04% in the Rohingya community), nonetheless the qualitative findings suggest that many keep quiet due to social stigma and fear of being pointed out as victims of assault which may contribute to not getting a marriage proposal in future. Such a trend was also observed by ACAPS (2022), GAGE (2020), and Akhter and Kusakabe (2014) who mention that in fear of losing their job or being ostracised Rohingya women do not report physical or verbal

abuse, even incidents of rape. KII with Sector Leads of our study informs further issues of insecurity. After the Rohingya influx, there has been a significant focus on assisting the Rohingya population, yet it became evident that the host community had unmet needs as well. Consequently, some members of the host community felt overlooked, particularly those living near the Rohingya camps. This led to tensions and conflicts between the host community and Rohingya residents. On occasions, these conflicts resulted in situations when the host community lacked access to water while the camp residents did not; which further fuelled frustration in the host community. Contrarily, during the dry season when water resources are scarce, the host community has access to various water sources, yet the Rohingya people struggle to access water; furthermore, the host community sometimes restricts their access. In some instances, members of the host community have resorted to damaging water infrastructure, such as cutting pipes, to prevent Rohingya individuals from accessing water.

### Latrine and Bathroom Facilities

Findings extracted from the survey (Table 6) show that 93.12% of Rohingya refugees and 83.50% of the respondents from the host community have access to latrine facilities. It is important to note that 16.16% of the host community and 6.71% of the respondents from the Rohingya refugees still consider that the latrine facilities are not safe in many aspects. For example, as evident in Table 7, the lack of accessible latrine facilities for persons with disability and elderly people has been a big concern in both the host community and camp areas.

**Table 6: Access to safe latrine facility**

Have a reasonable and safe latrine facility	Community		
	Camp (n <sub>1</sub> )	Host (n <sub>2</sub> )	Total (N=893)
No	6.71%	16.16%	9.85%
Yes	93.12%	83.50%	89.92%
don't know	0.17%	0.34%	0.22%
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

The highest 41.41% (Table 7) of the respondents from the host community and 28.86% from Rohingya refugees said they do not have accessible and safe latrine facilities for persons with disability and elderly people.

**Table 7: Status of accessible latrine facility for people with disabilities and/or elders**

Labels	Community		
	Camp (n <sub>1</sub> )	Host (n <sub>2</sub> )	Total (N=893)
No	28.86%	41.41%	6.16%
Yes	66.61%	49.16%	33.03%
Do not know	4.53%	9.43%	6.16%
Total	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Supporting the findings from the quantitative research, data gathered through the qualitative approach also indicate that persons with disabilities and elderly people are the most vulnerable group and are exposed to unsafe latrine facilities. Inadequacy of lights is a common problem if using a latrine at night. One of the FGD respondents said:

I face problems using the latrine and tube well at night; there is no light on the way to the latrine and tube well. (FGD with the host community, Female, Age - 52, Ukhiya, Coax's Bazar).

### Challenges in accessing latrine facilities

In terms of accessing latrine facilities, long distances, too many people using the same latrine, unclean, insufficient water supply, and bad smell flies are the commonly identified problems in host communities and camps. According to the quantitative study findings (Table 8), the highest 78% of the respondents from Rohingya refugees said that 'too many people using the same latrine' is a major problem for them. In contrast, the highest 49% of the respondents from the host community said that the 'unclean latrine facility' is a major concern for them.

**Table 8: Problems related to latrine facility**

Challenges in accessing safe latrine facility	Community	Percentage	Total
Latrine is too far	Camp	55%	44%
	Host	24%	
Too many people using the same latrine	Camp	78%	62%
	Host	34%	
Not clean	Camp	47%	48%
	Host	49%	

Insufficient water supply	Camp	36%	37%
	Host	40%	
Bad smell/many flies	Camp	31%	35%
	Host	42%	

In the host community, not clean, insufficient water supply and bad smell/many flies are the major three issues, whereas too many people using the same latrine, latrine being too far away, and not clean are the major three issues for the Rohingya refugee. One of the FGD respondents said;

One latrine can be used by 10 households but in the camp, 30 - 35 households use one latrine. Often, we need to wait in a queue for a long period to use the latrine which is very inconvenient for us. Furthermore, the latrines become dirty after multiple uses (FGD, Rohingya Male, aged 40, Camp 19, Cox's Bazar).

Besides, residents living in hilly areas encounter difficulties accessing these latrines, especially during the night. There are some roads and places inside the camps where people's mobility is limited. Those places are also risky places where kidnapping, human trafficking, and abduction can easily take place. Similarly, if toilets are far away from home, then using toilets at night is also another concern for women. Different incidents have been reported and can also happen in the future. One of the protection experts, with whom the research team interacted emphasised this point. As he said,

The roads where there are less or no people are dangerous at night. It is risky as kidnapping, human trafficking or abduction can happen. Besides, it becomes more dangerous at night while going to the latrines or WASH points, as some latrines are very far from the house. It is more serious for girls and young women (Protection Professional, KII).

During the rainy season the camp, adjacent areas, and roads become slippery. The fear of landslides is always there, and thus, the lack of safe latrine facilities for girls and women from both communities has been an issue. One of the KII respondents said,

At camps, the number of solely latrines and bathing cubicles for female users is very few. As a result, communities try to use their household space to set up temporary latrines and bathing facilities for female users. Thus, the privacy of grown-up girls and women is threatened by the congested living space. (KII with INGO staff, Cox's Bazar).

### Women's bathing facility

The study's quantitative findings show that 72.79% of the respondents have household bathing facilities in designated areas, and 19.93% have a community-based bathing facility/chamber (washroom). Surprisingly, 8.42% of the host community and 2.85% of the respondents from Rohingya refugees have no designated bathing facility (Table 9).

**Table 9: Status of women's bathing facility**

Labels	Community		
	Camp (n <sub>1</sub> )	Host (n <sub>2</sub> )	Total (N=893)
Community-based bathing facility/ chamber (WASH room)	23.49%	12.79%	19.93%
Household bathing in designated area	71.48%	75.42%	72.79%
No designated bathing facility (e.g.: water pumps or rivers)	2.85%	8.42%	4.70%
Don't know	1.51%	1.68%	1.57%
Other	<b>0.67%</b>	<b>1.68%</b>	<b>1.01%</b>

There are also safety concerns in accessing bathing facilities during the daytime. Hence, they use the toilets very early, around 5-5:30 am when there are very less people around.

### Access to Menstrual Hygiene Management (MHM) for Women and Girls

The quantitative data analysis findings show that only 63.5% of the women and girl respondents have received MHM through a distribution process (centralized/door to door). The highest 29.63% from the host community and 15.77% of the respondents from Rohingya refugees still have not received MHM through any distribution process.

**Table 10: Status of women/girls of reproductive age receiving MHM through a distribution process**

Access to MHM Services	Community		Total (N=893)
	Camp (n <sub>1</sub> )	Host (n <sub>2</sub> )	
Don't know	3.69%	42.42%	16.57%
No	15.77%	29.63%	20.38%
Yes	80.54%	27.95%	63.05%

Findings from the qualitative study further inform that MHM is not provided to all women/girls of reproductive age and they also cannot afford to buy MHM. However, in the camp, most of the women and girls of reproductive age have received hygiene kits/dignity kits which are good in quality but low in quantity. One of the key informants we spoke with informed us:

We used to distribute sanitary kits twice a year, but the frequency has been reduced due to limited funds. Women living in the camp have expressed that they now use cotton clothes. However, they face challenges in publicly washing and properly drying these clothes in direct sunlight. This situation has resulted in unhygienic conditions for using the cloth, leading to physical health issues as a consequence. (Public Health Promotion Co-Ordinator, KII)

The following table (Table 11) displays the status of used MHM in both the host community and the camp. It is alarming that 48.15% of the respondents are still using old clothes for MHM.

**Table 11: Status of used MHM**

Labels	Community		
	Camp (n <sub>1</sub> )	Host (n <sub>2</sub> )	Total (N=893)
Disposable pads	38.09%	12.79%	29.68%
Reusable pads	13.42%	6.40%	11.09%
Cloth	39.26%	65.99%	48.15%
Underwear/panties	5.03%	10.77%	6.94%
Other	4.19%	4.04%	4.14%

The quantitative survey findings indicate that the highest 24.92% of the respondents from the host community and the lowest 17.45% from Rohingya refugees are not satisfied with the provided MHM. Comparatively women and girls from the host community are facing more issues in accessing reasonable MHM than the Rohingya refugees. Table 12 shows the reason for dissatisfaction with the provided MHM.

**Table 12: Reasons for dissatisfaction with provided MHM**

Labels	Community		Total
	Camp	Host	
I don't like Reusable pads	2.88%	10.81%	6.18%
I don't like Clothes	21.15%	37.84%	28.09%

I don't like disposable pads	3.85%	4.05%	3.93%
The number of provided items is not enough (pads/cloths)	56.73%	35.14%	47.75%
Poor quality of the materials used for pads/cloths	10.58%	6.76%	8.99%
Sizing of the pants	4.81%	1.35%	3.37%

In addition, findings from FGD suggest that a lack of orientation among women and girls about hygiene and menstrual health also contributes to the poor management of menstrual health and hygiene.

**WASH Inequality at Different Ecological Levels – Analysis through Intersectional Lens**

The research findings underscore that the WASH facilities in Rohingya camps and host communities in Cox’s Bazar are associated with its demographic situation and availability of natural resources. Cox’s Bazar district is among the poorest in Bangladesh and has recurrent climatic shocks. At the crossroads of poor livelihood options and insufficient natural water sources, access to WASH facilities and its inequitable distribution simultaneously crystalizes intersectional power and powerlessness. This will be more obvious as we reflect in the following discussion using an intersectional lens.

The application of intersectionality as a theoretical lens at the multiple levels unmasks a deeply rooted case of WASH inequalities and such rightlessness is based on different intersecting identities; gender, ethnicity, ableism, and location. Despite efforts by the government and humanitarian organizations, research findings from both the qualitative and quantitative methods reveal that WASH arrangements in both host communities and Rohingya refugee camps lack gender-segregated and easily accessible facilities. Collecting water from long distances or in shifts makes it difficult for women to manage household chores. Rohingya women at pregnancy find it particularly difficult to collect water or access latrines as they need to walk up and down the hill. The presence of high amounts of iron and salt in water or bad taste/smell makes women susceptible to domestic violence for cooking food that tastes bad. In charge of cooking, cleaning, and storing drinking water out of the poor supply of water, women end up walking extra miles to collect water from alternative sources like mosques; or spend additional hours storing rainwater. Apparently, from an intersectional lens, it seems women in both communities are victims of water violence, beaten and verbally abused for poor water situations.

Despite their pivotal roles in managing household WASH services, women lack decision-making authority, which hinders education and economic activities. Women of reproductive age encounter obstacles in maintaining dignified and safe menstrual hygiene due to unmet need for menstrual kits and shared facilities with males, multiple households, or strangers, leading to sexual harassment and gender-based violence. Such challenges result in reduced educational attendance and achievement, as well as decreased economic potential for women as was also found in a study by Villarreal et al. (2022).

In the Rohingya camps, a significant lack of lights around communal latrines creates numerous problems for women, and among those, as is also supported by other studies, evidence of sexual and gender-based violence is of major concern (Riley et al., 2017; Ripoll, 2017). The lack of lights adds a further dimension of insecurity to access latrines leading to open defecation inside shelters, which poses health risks. Women and girls from both communities reported facing sexual harassment including harassment and bullying, during water collection and toilet use. Findings from FGD and KII inform that some groups wait outside toilets, attempting to peep at women or even creating holes in the toilet door. Unfortunately, the reporting tendency is much less compared to the number of incidents due to social stigma and fear of an uncertain future. Our study further informs that both in the host and Rohingya communities the persisting idea of gender justice, women's rights, and dignity is very much on the surface level. A strong sense of female-centric reproductive roles perseveres which validates wife battering if the meals are not cooked timely or the chores are not done on time; both tasks are impossible to perform promptly as WASH facilities are inadequate. It was also found that the majority of cases of GBV remain underreported. Many of the victims do not dare to complain anywhere for fear of being further stigmatized. Particularly, physical torture by the husband is widespread.

At the crossroads of location, ethnicity, and different ecological levels, Rohingya refugees whether be a man or a woman, suffer insecurity and mistrust; and are susceptible to cultural intolerance by the host community. Evident in the above research findings, coming from a different location and belonging to the "other" ethnic identity, the Rohingya refugees — known as the most persecuted ethnic minority in the world (Uddin, 2022) are more prone to poverty situation than the host community. Living a temporary life in limbo, in an unknown land where mobility is restricted and earning a livelihood is denied, the Rohingya refugees are already in compromised mental well-being. The trauma of government-sanctioned atrocities and unexplainable brutalities perpetrated by the Myanmar

security forces and vigilantes (ibid.), that made them bound to flee, has never faded away. The long-standing oppression and memory of violence in Myanmar influence the present life in the Rohingya camps in many ways. One such incident is suspecting the police or nightguards employed to ensure the security of the people in the camp. This has become a concern for women since most of the police are men. On the contrary, the host community has a certain rigidity toward Rohingya refugees accusing them responsible for their hardship and poor WASH situation. The emphasis of humanitarian organizations on the Rohingya refugees leads to negativity against them by the local people. KII with Sector Leads of our study further informs about the issues with damaging water infrastructures by some members of the host community. This led to tensions and unrest between the host community and Rohingya residents. Thus, cultural intolerance persists against Rohingya refugees due to their ethnic identity and being born in a different location other than Bangladesh.

Finally, disability is another intersectional dimension that makes them vulnerable to WASH inequalities. Data gathered through the qualitative approach also indicate that persons with disabilities and elderly people are the most vulnerable group and are exposed to unsafe latrine facilities. Moreover, most of the people in both communities do not have any awareness about the special care that disabled, elderly, and pregnant women need. Accessing latrines, water sources, or bathing facilities at the bottom of hilly areas, dark latrines, and scarcity of menstrual kits are the issues requiring more attention specifically for people with special needs.

## **Conclusion & Recommendations**

The present study reveals significant disparities in WASH access among Rohingya refugees and host communities, driven by intersecting factors such as gender, ethnicity, disability, and location. The research findings highlight the urgent need for tailored policies that address the specific needs of marginalized groups. Based on these findings our study makes the following recommendations:

1. Improving the supply of safe and accessible water through infrastructure development is an immediate need. The sources of water supply need to be increased in both communities.
2. Raising awareness and providing technical support on alternative ways of managing safe drinking water is essential.
3. Advocating and raising awareness on separate water collection facilities for women and girls in camps is necessary. The safety concerns around

accessibility to the water collection space in the early morning or in the dark need to be addressed urgently.

4. Infrastructure development for promoting safe latrine facilities in the camps through the installation of a new latrine facility.
5. Raising awareness on and promoting an inclusive hygienic sanitation system, considering the needs of persons with disability and elderly people is a must.
6. Providing technical support and introducing alternative techniques for developing an adequate supply of water in the latrine should be addressed. Safe and reasonable bath-taking space development in both communities should be a major concern.
7. Facilitating accessible MHM in both communities considering the needs in terms of both quality and quantity.
8. Implement inclusive WASH programs, enhancing resource allocation to underserved areas, and incorporating community feedback into policy development. And finally,
9. Gender sensitization at multiple levels of the community is required; so that the brunt of WASH inequality does not overburden women, children, or the ethnic minority. A sense of shared responsibility has to be developed.

Future research should further explore the impact of these interventions and examine their effectiveness in bridging the equity gap. To conclude, it should be mentioned that due to time and resource limitations, this research could not include in-depth interviews as a tool for data collection. Nevertheless, the insights from this research provide a complex understanding of the intersectional challenges in the WASH sector which can feed into future research to combine in-depth interviews and offer a nuanced understanding of the dimensions of inequalities. This is essential allowing the key stakeholders to better plan to ensure equitable WASH facilities for all. Moreover, the association between WASH inequality and gender-based violence in the Rohingya refugee camps has remained inadequately researched and needs more attention. Future studies can expand on these directions.

## Endnotes

<sup>i</sup> The authors are thankful to World Vision Bangladesh for the generous funding provided to carry out a Multi-Sectoral Needs Assessment of the Rohingya Refugee Camps and Host Communities in Cox's Bazar in November 2022, which has contributed to the collection of primary data used in this paper.

<sup>ii</sup> Respondents could share multiple responses if they availed water from more than one source.

## References

- ACAPS, (2022). *Needs and priorities of Rohingya refugees and host communities in Cox's Bazar since 2017: what has changed?* ACAPS. Retrieved from [https://www.acaps.org/sites/acaps/files/products/files/20220830\\_acaps\\_thematic\\_report\\_cxb\\_needs\\_and\\_priorities\\_of\\_rohingya\\_refugees\\_and\\_host\\_communities.pdf](https://www.acaps.org/sites/acaps/files/products/files/20220830_acaps_thematic_report_cxb_needs_and_priorities_of_rohingya_refugees_and_host_communities.pdf) (Accessed on 28 December 2022).
- Ahmed, I. & Biswas, N. R. (2022). *Rohingyas in Myanmar and Bangladesh: The Violence-Protection Dialectic and the Narratives of Certain Unsafety/Uncertain Safety*. University of Dhaka: CGS.
- Ahmed, I. (2019). *The Plight of the Stateless Rohingyas*. Dhaka: UPL.
- Akhter, M., Uddin, S.M.N., Rafa, N., Hridi, S.M., Staddon, C., & Powell, W. (2020). Drinking Water Security Challenges in Rohingya Refugee Camps of Cox's Bazar, Bangladesh. *Sustainability*, 12(18). doi:10.3390/su12187325
- Akhter, S. & Kusakabe, K. (2014). Gender-based Violence among Documented Rohingya Refugees in Bangladesh. *Indian Journal of Gender Studies*, 21(2), 225-246. <https://doi.org/10.1177/0971521514525088>
- Ayin, K. (2014). Nature of Human Rights Violations against the Rohingya Refugees in Bangladesh and Myanmar. *Stamford Journal of Law*, 81-104. Retrieved from [https://www.academia.edu/8250382/Nature\\_of\\_Human\\_Rights\\_Violations\\_against\\_the\\_Rohingya\\_Refugees\\_in\\_Bangladesh\\_and\\_Myanmar](https://www.academia.edu/8250382/Nature_of_Human_Rights_Violations_against_the_Rohingya_Refugees_in_Bangladesh_and_Myanmar) (Accessed on 3 September 2023).
- Chowdhury, M., Williams, N., Thompson, K., & Ferdous, G. (2022). The Rohingya refugee crisis in Bangladesh: an analysis of the involvement of local humanitarian actors. *Third World Quarterly*, 43(9), 2188-2208. Retrieved from <https://www.tandfonline.com/doi/abs/10.1080/01436597.2022.2085087?journalCode=ctwq20> (Accessed on 30 August 2023).
- Crenshaw, K. (1991) 'Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color', *Stanford Law Review* 43(6), 1241-99.
- Davis, K. (2008). "Intersectionality as a Buzzword: A sociology of science perspective on what makes a feminist theory successful", *Feminist Theory*, 9(1), 67-85. DOI: 10.1177/1464700108086364
- GAGE, IPA & Yale. (2020). *Age- and gender-based violence risks facing Rohingya and Bangladeshi adolescents in Cox's Bazar*. Cox's Bazar, Bangladesh: GAGE. Retrieved from <https://www.gage.odi.org/wp-content/uploads/2020/04/Age-and-gender-based-violence-risks-facing-Rohingya-and-Bangladeshi-adolescents-in-Cox%E2%80%99s-Bazar-1.pdf> (Accessed on 28 December 2022).
- Gavan, Y. (Eds.) (2023). *Rohingya Crisis Response in Bangladesh: Do we need a strategic shift from the current approach?* Dhaka: UPL.
- Hossain, A. N. M. Z. (2022). Geopolitics of Rohingya Refugee Crisis and Regional Security. *International Journal of Safety and Security Engineering*, 12, 167-177. doi:10.18280/ijss.120204 <https://www.wfp.org/publications/coxs-bazar-urban-vulnerability-assessment-july-2020>
- Islam, M. M., & Yunus, M.Y. (2020). Rohingya refugees at high risk of COVID-19 in Bangladesh. *The LANCET Global Health*, 8 (8), E993-E994. Retrieved from doi:[https://doi.org/10.1016/S2214-109X\(20\)30282-5](https://doi.org/10.1016/S2214-109X(20)30282-5) (Accessed 5 August 2022).
- Islam, R. (2023). The State of Social Cohesion in the Post-Settlement of Rohingyas in Cox's Bazar, Bangladesh. *International Journal on Minority and Group Rights*, 31(2), 233-264. <https://doi.org/10.1111/ijm.12500>

org/10.1163/15718115-bja10121

- Islam, T. M. & Rahman, T. (2023). Violence and Atrocity-led Displacement and Potential of Intolerance in the Destination Place: Rohingya Exodus from Myanmar to Bangladesh. *BIJSS Journal*, 44(4), 391-427. DOI: <https://www.doi.org/10.56888/BIJSSj2023v44n4a2>
- Jeffries, R., Abdi, H., Ali, M., Bhuiyan, A., Shazly, M., Harlass, S., et al. (2021). The Health Response to the Rohingya Refugee Crisis Post August 2017: Reflections from Two Years Health Sector Coordination in Cox's Bazar, Bangladesh. *PLoS ONE*, 16(6), e0253013. Retrieved from <https://doi.org/10.1371/journal.pone.0253013>
- J-MSNA, Report (2021). *Joint Multi-Sector Needs Assessment (J-MSNA): Bangladesh Host Communities*. Retrieved from <https://reliefweb.int/report/bangladesh/joint-multi-sector-needs-assessment-j-msna-bangladesh-host-communities-december-2021> (Accessed on 5 November 2022).
- JRP (2022). *Joint Response Plan Rohingya Humanitarian Crisis*. Retrieved from <https://humanitarianaction.info/plan/1082> (Accessed on 29 November 2022).
- Kader, M. F. & Choudhury, A. H. (2019). Historical Background of the Rohingya Refugee Crisis and the Implications of their Statelessness. *International Journal of Social Sciences and Economic Review*, 01(01), 8-15. Retrieved from <http://ijsser.com/index.php/ijsser/article/view/23/106> (Accessed on 30 August 2023).
- Mohajan, H. (2018). History of Rakhine State and the Origin of the Rohingya Muslims. *The Indonesian Journal of Southeast Asian Studies*, 19-46. Retrieved from [https://mpira.ub.uni-muenchen.de/88186/1/MPRA\\_paper\\_88186.pdf](https://mpira.ub.uni-muenchen.de/88186/1/MPRA_paper_88186.pdf) (30 August 2023).
- Mohsin, A. & Rahman, M.A. (2022). *Living with Violence and Trauma: The Case of Rohingya Women in Myanmar and Bangladesh*. University of Dhaka: CGS.
- Martuscelli, P.N., Ahmed, B. & Sammonds, P. (2024). 'Resettlement is worthwhile for our children's future': reflections from the Stateless Rohingya refugees in Malaysia. *Comparative Migration Studies*, 12 (46). doi <https://doi.org/10.1186/s40878-024-00407-x>
- Pommells, M., Schuster-Wallace, C., Watt, S., & Mulawa, Z. (2018). Gender Violence as a Water, Sanitation, and Hygiene Risk: Uncovering Violence Against Women and Girls as It Pertains to Poor WaSH Access. *Violence Against Women*, 24(15), 1851-1862. <https://doi.org/10.1177/1077801218754410>
- Riley, A., Varner, A., & Ventevogel, P. H. (2017). Daily stressors, trauma exposure, and mental health among stateless Rohingya refugees in Bangladesh. *Transcultural Psychiatry*, 54(3), 304-331. doi: <https://doi.org/10.1177/1363461517705571>
- Ripoll, S. (2017). Social and Cultural Factors Shaping Health and Nutrition, Wellbeing and Protection of the Rohingya within a Humanitarian Context. *Social Science in Humanitarian Action*. UK: Institute of Development Studies. Retrieved from <https://www.socialscienceinaction.org/resources/social-cultural-factors-shaping-health-nutrition-wellbeing-protection-rohingya-within-humanitarian-context/> (Accessed on 5 May 2024).
- Roy, S. (2020). Statelessness of Myanmar's Rohingya ethnic population: Assessing the role of the international community. *Social Science Review*, 37(1), 277- 295.
- Uddin, N (2020). *The Rohingya: An Ethnography of 'Subhuman' Life*. New Delhi: Oxford University Press.

- Uddin, N. (2022). Rohingya Experience of Atrocity: A Case of Genocide and the Crimes Against Humanity. *Voices of the Rohingya People*. Palgrave Macmillan, Cham. [https://doi.org/10.1007/978-3-030-90816-4\\_3](https://doi.org/10.1007/978-3-030-90816-4_3)
- Ullah, A. A. (2011). Rohingya Refugees to Bangladesh: Historical Exclusions and Contemporary Marginalization. *Journal of Immigrant & Refugee Studies*, 9(2), 139-161. <https://doi.org/10.1080/15562948.2011.567149>
- UNHCR Report, (2007). *Bangladesh: Analysis of Gaps in the Protection of Rohingya Refugees, May 2007*. Retrieved from <https://www.unhcr.org/media/bangladesh-analysis-gaps-protection-rohingya-refugees-may-2007> (Accessed on 16 July 2022).
- UNHCR Report, (2020). *Global Trends: Forced Displacement in 2019*. Denmark: United Nations High Commissioner for Refugees. Retrieved from <https://www.unhcr.org/statistics/unhcrstats/5ee200e37/unhcr-global-trends-2019.html> (Accessed on 16 July 2022).
- UNHCR (2024). *Operational data portal – Bangladesh. The United Nations High Commissioner for Refugees* (UNHCR). Retrieved from <https://data.unhcr.org/en/country/bgd> (accessed on 12 October 2024).
- UNICEF (2024). *UNICEF Bangladesh Humanitarian Situation Report*, 67 (1 Jan- 31 March, 2024). Retrieved from <https://reliefweb.int/report/bangladesh/unicef-bangladesh-humanitarian-situation-report-no-67-1-jan-31-mar-2024> (Accessed on 20 May 2024).
- Villarreal, A. C., Schweitzer, R. & Kayser, G., 2022. Social and geographic inequalities in water, sanitation and hygiene access in 21 refugee camps and settlements in Bangladesh, Kenya, Uganda, South Sudan, and Zimbabwe. *International Journal for Equity in Health*.
- WFP Report (2020). *World Food Programme Overview*. Retrieved from <https://www.wfp.org/publications/2020-world-food-programme-overview> (Accessed on 5 November 2022).
- WFP Report (2022). *WFP Annual Review 2022*. Retrieved from <https://www.wfp.org/publications/wfp-annual-review-2022> (Accessed on 5 August 2023).
- Yuval-Davis, N. (2006). Intersectionality and Feminist Politics. *European Journal of Women's Studies* 13(3), 193-210.

