Forum	General Assembly
Issue	Implementing measures to address water scarcity in war-torn regions
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Introduction

In many regions that are affected by conflict and war, water scarcity is a major challenge. Destruction of infrastructure, disruption of supply chains, and contamination of natural water sources make the situation even worse. Water plays a vital role in our daily lives, it's essential for our health, agriculture, and economic stability, ensuring its availability is a basic human right. Ensuring access to secure and reliable water and sanitation services is a crucial factor for the survival of millions of children. The study highlights that in fragile countries, children under five are 20 times more likely to die from diarrheal diseases than from violence. This alarming statistic underscores the urgent need for improved water, sanitation, and hygiene (WASH) services, as inadequate access to clean water significantly increases the risk of infections like cholera and rotavirus. In conflict-affected areas, damaged infrastructure and weakened healthcare systems exacerbate these risks, with malnutrition further compromising children's health. Many deaths from diarrheal diseases are preventable through basic interventions such as providing safe drinking water and promoting sanitation practices.

In regions torn by war, where resources are often used as tools of control, finding effective and sustainable solutions to provide clean, safe water becomes even more critical. Due to this many people are trapped by heavy combat and are sheltering in unheated basements, not having accessibility to running water, some have turned to melting snow or to using the water from radiators. The lack of safe drinking water can lead to outbreaks of waterborne diseases, further endangering vulnerable populations. Additionally, the destruction of sanitation facilities exacerbates unsanitary conditions, threatening public health. Humanitarian organizations face immense challenges in delivering aid as ongoing violence disrupts supply chains and endangers aid workers. Addressing these crises requires urgent international cooperation to rebuild infrastructure, implement innovative water purification technologies, and establish resilient systems that empower affected communities and reduce their vulnerability to future conflicts.

There are many effects of war on water resources, for example: contamination of water sources. Military operations may result in the release of heavy metals and toxic substances into waterpipes, particularly when military equipment is destroyed or abandoned in water bodies. This causes pollution and poses long-term health risks to local communities. In regions such like Gaza, these military actions have caused significant salinization of soil and freshwater sources, severely impacting agricultural viability and access to clean drinking water. Furthermore, Gaza's chronic water crisis predates the war and requires a massive injection of funds and equipment to provide clean water and toilets. Nearly 3,000 essential items are required for constructing water and sanitation infrastructure are still pending approval for entry through the mechanism, which necessitates Israeli authorization for both projects and individual items.

Definition of Key Terms

Salinisation

Salinization is the accumulation of water-soluble salts in soil and water bodies, which negatively impacts agricultural productivity, water quality, and environmental health. This process can occur naturally through high evaporation rates in arid regions or the weathering of rocks that release salts. However, human activities, particularly irrigation with saline or brackish water, significantly exacerbate salinization by introducing additional salts into the soil. Over time, these salts can build up to levels that hinder plant growth and reduce soil fertility, threatening food security in agricultural areas. As global populations rise and climate change progresses, managing salinization becomes increasingly critical for sustaining agriculture and ensuring access to clean water.

Sanitation

Sanitation refers to the systems and practices that ensure the maintenance of health and hygiene, particularly through the provision of clean drinking water, proper disposal of waste, and effective sewage management. It plays a crucial role in preventing disease and promoting public health by ensuring that environments are clean and safe for communities.

Cholera

Cholera is an acute diarrheal infection caused by ingesting food or water contaminated with the bacterium Vibrio cholerae. It poses a significant public health threat, particularly in areas with poor access to safe drinking water and sanitation. Cholera can lead to severe dehydration and death within hours if untreated, with an estimated 1.3 to 4 million cases and 21,000 to 143,000 deaths globally each year. Most infected individuals may not show symptoms but can still spread the bacteria. Effective prevention includes improving

water quality, sanitation, hygiene practices, and administering oral cholera vaccines in high-risk areas.

Background

Water scarcity in conflict zones is both a direct and indirect result of war, and its effects are often devastating for local populations. The lack of access to clean water can lead to severe consequences, especially for civilians who are already vulnerable due to displacement, broken infrastructure, and the environmental stresses brought on by the conflict. In many war-torn regions, basic resources like water become increasingly scarce, making life even harder for those caught in the middle of violence and instability. This issue impacts millions of unfortunate people, particularly in areas where communities have been forced to flee, and where essential infrastructure like pipelines, wells, and water treatment plants have been damaged or destroyed. However, even most of these water sources are often contaminated by sewage, or intentionally destroyed as part of the conflict. Clean water not only becomes hard to find, but dangerous to drink.

Cholera Outbreak in Syria

Syria, a nation that is currently suffering with a severe humanitarian crisis that has been further exacerbated by a cholera outbreak. The ongoing civil conflict, coupled with economic collapse and the deterioration of essential water infrastructure, has created an environment conducive to the spread of infectious diseases. As of late 2022, the World Health Organization (WHO) reported over 60,000 suspected cholera cases across the country (even spreading into Lebanon), underscoring the urgent need for humanitarian intervention and comprehensive public health strategies to combat this preventable disease.

Cholera is an acute diarrheal illness caused by the ingestion of contaminated water or food, leading to severe dehydration and potentially death if untreated. In the past, Syria had managed to control cholera outbreaks effectively through robust public health measures and access to clean water. However, since the onset of the civil war since 2011, the situation has dramatically changed. The recent cholera outbreak began in September 2022, with the first case reported on August 22nd. By mid-December 2022, the United Nations had documented over 60,000 suspected cases across various regions of Syria, with significant spread into neighboring Lebanon. This alarming rise in cases is indicative of a broader public health crisis that requires immediate attention and action.

Damaged water infrastructure

Before the onset of the civil war, Syria had a relatively effective water supply system, with 98% of urban residents and 92% of rural populations enjoying reliable access to

clean water. However, the ongoing conflict has led to a dramatic decline in this access, with reports indicating that potable water availability has plummeted by nearly 40%. Currently, about 50% of the country's water and sanitation systems are non-functional, primarily due to the destruction of critical infrastructure, including water treatment plants and distribution networks. UNICEF has reported that nearly two-thirds communities to rely on unsafe alternatives such as polluted rivers and unregulated wells. This degradation of water infrastructure has severely impacted public health, as access to clean water is essential for maintaining hygiene and preventing disease. The resulting public health crisis is starkly illustrated by the recent cholera outbreak, with over 60,000 suspected cases reported since late summer 2022. This situation underscores the severe risks posed by inadequate sanitation and hygiene practices stemming from widespread water shortages. Without urgent international intervention to restore infrastructure and improve access to clean water, the humanitarian situation in Syria is likely to deteriorate further, increasing vulnerability not only to cholera but also to other waterborne diseases and health crises that thrive in unsanitary conditions.

Impacts of conflict

The deliberate attacks on water infrastructure have significantly damaged treatment facilities and pumping stations essential for providing clean water. UNICEF estimates that nearly two-thirds of Syria's water treatment plants and half of all pumping stations have suffered damage during the conflict, forcing many communities and individuals to rely on unsafe alternatives such as polluted rivers and illegally drilled wells. Although active fighting has decreased in certain areas of the nation in recent years, the long-term damage remains unaddressed due to the ongoing instability and lack of support and resources for reconstruction. As a result, more than two-thirds of Syria's population now requires humanitarian assistance, and only half of all water and sanitation systems are still functional. This prolonged neglect has left millions without access to safe drinking water, creating a public health crisis that is further compounded by ongoing violence, displacement, and the recent cholera outbreak.

Conflict Causing Droughts

The intersection of water scarcity and conflict is increasingly becoming a pressing global issue, as highlighted by a recent report from the Pacific Institute. In 2023, incidents of violence linked to water resources surged by 50%, with 347 recorded incidents compared to 231 in the previous year. This alarming trend is primarily driven by ongoing military actions in regions such as Ukraine and Gaza, where critical water infrastructure has been deliberately

targeted, exacerbating existing vulnerabilities and disrupting access to essential services. Additionally, persistent drought conditions in farming-dependent areas have intensified competition for limited water supplies, further fueling tensions among communities. As populations grapple with the dual pressures of conflict and environmental degradation, the potential for disputes over water resources escalates, creating a cycle of violence that undermines social cohesion and stability. As environmental pressures mount and institutional weaknesses persists, particularly in regions with inadequate governance structures, the likelihood of conflict over water resources is likely to grow. The implications of these trends extend far beyond immediate humanitarian concerns; they pose significant challenges to global stability and security, affecting not only local communities but also national and international relations. Addressing these complex issues requires the implementation of effective conflict resolution mechanisms and proactive measures aimed at ensuring equitable access to these vital resources. Understanding the dynamics of water the intricate challenges of resource management in an era marked by climate uncertainty and geopolitical strife. By fostering dialogue, enhancing cooperation over shared water resources, and investing in sustainable practices, stakeholders can work towards mitigating the risks associated with water-related violence and promoting long-term peace and stability in affected regions.

Targets towards water facilities

In recent conflicts, both Russian and Israeli military forces have increasingly targeted water infrastructure as a strategic element of warfare. This includes deliberate attacks on dams, water treatment facilities, supply wells, and pipelines, which are critical for maintaining access to clean water for civilian populations. Such actions not only exacerbate humanitarian crises but also serve to disrupt the social fabric of affected communities. The report from the Pacific Institute indicates that these military operations are part of a broader trend of escalating violence linked to water resources, with notable increase in incidents in 2023. The targeting of water facilities highlights the intersection of environmental and geopolitical issues, as the destruction of these resource can lead to long-term instability and conflict over remaining supplies.

The accompanying graph in the report visually underscores the dramatic rise in water-related violent incidents, illustrating how geopolitical tensions and environmental stressors converge to create a volatile situation. The data reveals a stark increase in reported incidents from 231 in 2022 to 347 in 2023, reflecting a 50% surge. This upward trajectory emphasizes the urgent need for effective conflict resolution strategies and international cooperation to address the underlying causes

of water scarcity and violence. As highlighted by Peter Gleick, co-founder of the Pacific Institute, regions with weak governance structures are particularly vulnerable to such conflicts, suggesting that without proactive measures to protect water resources and ensure equitable access, the cycle of violence is likely to continue. The graph serves as a sobering reminder of the critical role that water plays in both conflict dynamics and humanitarian stability in an increasingly resources-constrained world.

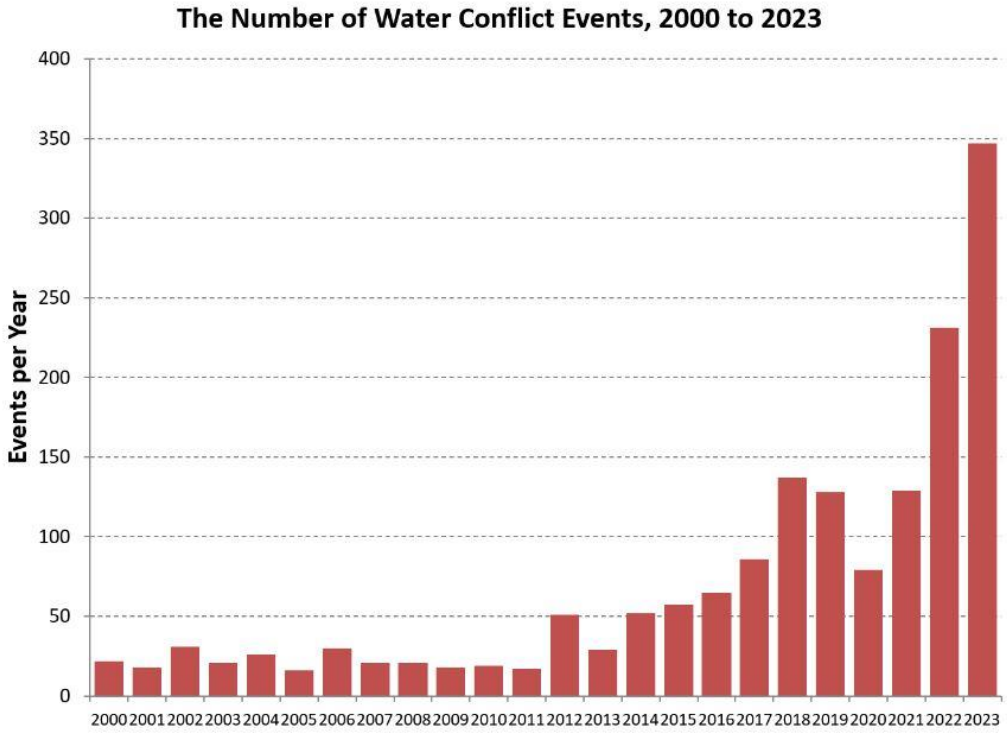

Figure 1 Bar chart of number of water conflict events, 2000 to 2023

Major Parties Involved

Framework Agreement on the Sava River Basin (FARSB)

The Framework Agreement on the Sava River Basin (FASRB), signed on December 3, 2022, in Kranjska Gora, Slovenia, represents a pivotal multilateral initiative aimed at fostering sustainable development and cooperation among the countries sharing the Sava River Basin. Ratified in 2004, this agreement marks a significant step towards establishing a collaborative framework for managing the river's resources and addressing environmental challenges. The FASRB outlines 3 primary objectives: the establishment of an international regime for navigation on the Sava River and its tributaries, the implementation of sustainable water management practices, and the undertaking of measures to mitigate hazards such as floods, droughts, and pollution incidents. These objectives reflect a comprehensive approach

to water governance that prioritizes both ecological sustainability and economic development.

The implementation of FASRB is facilitated through the establishment of National Competent Authorities designated by each party involved. These authorities are responsible for coordinating efforts within their respective countries to achieve the goals set forth in the agreement. Additionally, the International Sava River Basin Commission (ISRBC) plays a crucial role in overseeing the execution of the FASRB. This commission acts as a platform for dialogue and cooperation among member states, ensuring that all parties adhere to the agreed principles of sovereign equality and mutual respect for national legislation. By fostering collaboration among governments, institutions, and civil society, the ISRBC aims to enhance regional stability and promote sustainable practices in managing shared water resource.

FASRB's principles include sovereign equality among states, territorial integrity, and a commitment to common benefits derived from shared resources. The emphasis on good faith cooperation underscores the importance of building trust among stakeholders while respecting national interests. As climate change continues to exacerbate water scarcity and increase the frequency of extreme weather events in the region, the FASRB serves as a vital framework for addressing these challenges collectively. Through its structured approach to governance and commitment to sustainable development, the FASRB not only aims to improve navigation and water quality but also seeks to enhance resilience against environmental hazards in the Sava River Basin.

International Committee of the Red Cross

The International Committee of the Red Cross (ICRC) is a neutral and independent humanitarian organization based in Geneva, Switzerland, dedicated to protecting and assisting victims of armed conflict and other situations of violence. Establishment in 1863, the ICRC operates under international humanitarian law, including the Geneva Conventions, to ensure the humane treatment of individuals affected by war, including wounded soldiers, prisoners, and civilians. The ICRC plays a vital role in addressing water scarcity in war-torn regions by implementing comprehensive programs aimed at restoring and maintaining access to clean water and sanitation. Recognizing that safe access to these essential services is crucial for mitigating the humanitarian impact of conflict, the ICRC works to rehabilitate damaged water infrastructure, ensuring that communities can secure safe drinking water and adequate sanitation facilities. Their initiatives often include repairing or constructing water supply systems, establishing emergency water distribution points, and providing technical support to local authorities to enhance their capacity to manage water

resources effectively. By prioritizing these efforts, the ICRC not only addresses immediate needs but also contributes to the long-term resilience of affected communities.

In addition to infrastructure rehabilitation, the ICRC emphasizes the interconnection between water supply, sanitation, and public health in its humanitarian response. The organization conducts assessments to identify the specific needs of communities impacted by conflict and implements tailored solutions that addresses both water scarcity and hygiene challenges. By promoting sustainable practices and community engagement, the ICRC seeks to empower local populations to take ownership of their water resources and sanitation facilities. This holistic approach not only alleviates the immediate consequences of water scarcity but also fosters a sense of stability and security in conflict- affected areas, ultimately contributing to improved health outcomes and enhanced community resilience in the face of ongoing challenges.

Previous Attempts to Solve the Issue

For the past decade, the International Committee of Red Cross (ICRC) has undertaken thousands of engineering projects aimed at addressing water scarcity in conflict-affected regions, responding to emergencies while also providing sustained support to local service providers to stem the decline in service delivery. During the first half of 2021, the ICRC, in collaboration with the Syrian Arab Red Crescent, executed hundreds of projects across Syria, enabling over 15 million people to access safe water by rehabilitating critical water pumping stations in areas most impacted by conflict. These initiatives not only ensured access to potable water but also facilitated agricultural irrigation for hundreds of farmers, a crucial source of income in a country where 80% of the population and preservation of critical infrastructure in line with international humanitarian law, emphasizing that safeguarding these resources is essential for humanitarian efforts.

Despite these efforts, the unprecedented scale of challenges faced today necessitates greater engagement from a diverse array of actors, including humanitarian organizations, development agencies, and the private sector. The ICRC's initiatives reflect on broader recognition that access to water is increasingly a matter of survival in conflict zones. As highlighted in their reports, the organization continues to emphasize that water infrastructure must be shielded from military operations to prevent exacerbating humanitarian crises. The ICRC's commitment to improving access to clean water and sanitation is vital not only for immediate relief but also for fostering long-term resilience among affected populations. The complexity of these challenges underscores the need for collaborate approaches that integrate humanitarians' assistance with sustainable development strategies to effectively address water scarcity in war-torn regions.

In addition, due to the devastating wrecked regions of Mykolaiv and Kherson Oblasts in Ukraine, the Dan Church Aid (DCA), in collaboration with Norwegian Church Aid (NCA) and the Southern Development Strategy (SDS), is undertaking a vital initiative to combat this issue. The ongoing conflict has damaged essential infrastructure, leaving over 20,000 residents without reliable access to safe drinking water since the full-scale invasion began. In response to this humanitarian crisis, DCA and its partners have launched a comprehensive project funded by the Ukraine Humanitarian Fund, with an allocation of approximately $1. 27 million. This initiative is focused on constructing three new centralized water supply systems and rehabilitating three existing ones, directly addressing the urgent needs of communities that have been severely impacted by the conflict. The project aims to restore not only the physical infrastructure necessary for water delivery but also the trust and stability within these communities that have been eroded by years of violence.

Furthermore, to infrastructure improvements, DCA's project emphasizes a community-driven approach that fosters local engagement and resilience. As part of this strategy, the organization plans to provide cash transfers up to $10,000 to support at least 30 local initiatives aimed at enhancing water management and access. This funding allows communities to identify their specific needs and implement solutions tailored to their circumstances, thereby empowering them to take an active role in addressing their own water challenges. By promoting local ownership of water resources and decision-making processes, DCA's efforts not only work towards restoring essential services but also contribute to broader public health outcomes and social stability in these vulnerable regions. The holistic approach combines immediate infrastructure repairs with long-term capacity building, ensuring that communities are better equipped to withstand future crises and manage their water resources sustainably amid ongoing conflict.

Possible Solutions

Establishing emergency water supply systems is a critical intervention for providing immediate relief to communities affected by conflict, particularly in regions where water infrastructure has been severely compromised. The International Committee of the Red Cross (ICRC) has implemented mobile water treatment units and water trucking services to deliver clean water directly to those in need, ensuring that basic hydration and sanitation requirements are met during emergencies. This approach is vital in arise where traditional water supply systems have been damaged or rendered inoperable due to violence, as seen in conflict zones such as Syria and Yemen. By swiftly deploying these emergency measures, the ICRC not only addresses the urgent needs of affected populations but also helps to prevent outbreak of waterborne disease that can arise from inadequate access to safe drinking water. Moreover, the provision of emergency water supply systems plays a

significant role in stabilizing communities during prolonged conflicts. For instance, during the first half of 2021, the ICRC and the Syrian Arab Red Crescent acquired out hundreds of projects across Syria, which allowed over 15 million people to access safe water by rehabilitating critical pumping stations. These initiatives not only provided immediate relief but also facilitated agricultural activities for local farmers, thereby supporting livelihoods in context where 80% of the population lives below the poverty line. The implementation of such emergency systems underscores the importance of protecting and preserving critical water infrastructure in line with international humanitarian law. However, the unprecedented challenges faced today necessitate a collaborative approach involving humanitarian organizations, development agencies, and private sector actors to ensure sustainable solutions to water scarcity in war-torn regions.

Another solution would be community engagement and training. They are essential strategies for effectively combating water scarcity in war-torn regions, as they foster local ownership and ensure the sustainability of water projects. Involving community members in the planning and implementation of water supply initiatives empowers individuals to take an active role in managing their water resources. This participatory approach enhances the relevance of projects to local needs, as community members can provide valuable insights into their specific challenges and preferences. Furthermore, by engaging local populations, humanitarian organizations like the ICRC can build trust and rapport, which are critical for successful project implementation. When communities feel a sense of ownership over water systems, they are more likely to support and maintain these initiatives, leading to improved outcomes.

Training community members in maintenance practices for water systems is crucial for ensuring long-term functionality and resilience against future disruption. By equipping individuals with the knowledge and skills necessary to maintain and repair water infrastructure, communities can respond effectively to disruptions caused by conflict or environmental factors. Training programs can encompass a wide range of topics, including routine maintenance procedures, troubleshooting techniques, water quality monitoring, and effective resource management strategies. This capacity-building not only enhances the immediate functionality of water systems but also fosters a culture of responsibility and stewardship over local resources. In contexts where external support may be limited or temporary, empowering local stakeholders becomes imperative for the continuity of water services. Moreover, trained community members can serve as local leaders or trainers themselves, further disseminating knowledge within their communities and promoting collective action. Ultimately, integrating community engagement and training into interventions aimed at addressing water scarcity is essential for building resilient systems that can withstand the pressures of conflict while ensuring equitable access to this vital

resource for all community members. This approach not only addresses immediate hydration needs but also lays the groundwork for improved governance, cooperation, and social cohesion among community members in the face of ongoing challenges.

Finally, the use of alternative water sources is increasingly critical for combating this issue, especially where traditional sources have been compromised due to conflict. For instance, in southern Ukraine, the ongoing conflict has severely disrupted water supply systems, with infrastructure damaged by military actions leading to significant shortages. To address these challenges, implementation of innovative solutions such as drilling boreholes equipped with reverse osmosis systems (International Organization for Migration). These systems allow communities to access groundwater that would otherwise be unsuitable for drinking due to high salinity or contamination. By providing alternative water supplies, these initiatives not only meet immediate hydration needs but also enhance the resilience of local populations against future disruptions caused by ongoing hostilities or environmental changes. In addition to ground water extraction, the establishment of desalination plants offers a viable solution for coastal areas facing acute water shortages. In Gaza, for example, the reliance on the Coastal Aquifer has led to severe contamination issues due to over-extraction and seawater intrusion, exacerbated by the current conflict and blockade. The destruction of water infrastructure by airstrikes has left many residents without access to clean water, pushing them to depend on small-scale desalination units and private water tankers that are often unregulated and costly. As a result, these compounded challenges, the average Gazan Palestinian is left with only a fraction of the necessary daily water supply. By investing in alternative water sources such as desalination and improved ground water extraction techniques, humanitarian organizations can help mitigate the severe impacts of war on water security, ensuring that affected populations have access to safe drinking water and reducing the risk of waterborne diseases that often arise in such crisis situations.

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