E-ISSN: 2706-8927
P-ISSN: 2706-8919
www.allstudyjournal.com
IJAAS 2022; 4(4): 145-146
Received: 19-08-2022
Accepted: 25-09-2022

Subhadip Mondal
Department of Geography, Vedanta College, Kolkata, (Under University of Calcutta), Kolkata, India

Gulnaz Hussain
Department of Geography, Vedanta College, Kolkata, (Under University of Calcutta), Kolkata, India

Shivani Shaw
Department of Geography, Vedanta College, Kolkata, (Under University of Calcutta), Kolkata, India

Lopamudra Ganguly
Associate Professor, Vedanta College, Kolkata & Research Scholar, University of Calcutta, Kolkata, India

Corresponding Author:
Lopamudra Ganguly
Associate Professor, Vedanta College, Kolkata & Research Scholar, University of Calcutta, Kolkata, India

Human migration & Water

Subhadip Mondal, Gulnaz Hussain, Shivani Shaw and Lopamudra Ganguly

DOI: https://doi.org/10.33545/27068919.2022.v4.i4c.883

Abstract
Background: Historically, nomads and pastoralists seeking water and food for their cattle were frequently associated with the concept of water migration. Whereas the largest refugee flows since the Second World War is currently occurring because of water scarcity. One of the most critical worldwide concerns nowadays is water-related issues and their associated migration.
Methodology: The research is supported by secondary materials that are found in reputable journals and web pages.
Results: Due to the ongoing climate change brought on by environmental migration factors such as water contamination or land degradation, millions of people are now facing various water emergencies. Ten percent of the increase in global migration is attributed to water shortages. Global water stress is already at extremely high levels in 17 countries, which are home to 25% of the world's population. Climate change is hastening this issue. Migration is more affected by a lack of water than by an abundance of it.
Conclusion: Around 2040, the threat to humanity from increased water risk will be at its highest. The crisis could turn violent, triggering both forced and voluntary migration. In deduction, the study focuses on pertinent socio-economic and migratory issues while also examining well-known cases of water degradation.

Keywords: Water, migration, climate, crisis

Introductions
Water availability is fundamental to human survival, culture, and advancement. It is easy to predict that by the end of 2040 there will be significant inward and outward movement of water across the globe as a result of the rising water stress on the planet [4]. It has been found that a lack of water undermines the civilizations' place-specific livelihood systems and strategies. Statistics indicate that more people are moving about today than ever before as a result of water crises. There is a lot of evidence in the literature to suggest that people can experience higher water stress. Increased water stress is associated with temperatures, which are also regarded to be a contributing factor. As temperatures rise, there may be more evaporation, less water, or other factors that cause water stress and growth in the need for water in agriculture [3]. However, the connection between temperature and water stress is not just a drought problem. Recent studies show that combination increases in migration are associated with extremes in temperature and rainfall. Rates away from the locations where these alterations can be seen. In light of this, the causative. It is still unclear how temperature, water stress, and migration interact [5].

What is Water Stress?
When there is a shortage of safe, usable water in a particular area, this is known as water stress or scarcity. On the demand side, around 70% of the worlds' freshwater is utilized for agriculture, with the remaining 31% going to industrial purposes and 11% going to home usage, which includes drinking. On the supply side, sources include groundwater that can be obtained through aquifers as well as surface waters like rivers, lakes, and reservoirs. UN researchers predict a 20% decline in renewable water resources for every 1° C (1.8° F) rise in the world average temperature [1]. The number of water-stressed locations is predicted to rise, and water stress in already impacted areas is predicted to get worse. Australia, the southern United States, and the nations of North Africa are subtropical regions that are predicted to warm and experience longer and more frequent droughts; however, when rainfall does occur in these areas, it is anticipated to be more intense. Climate scientists predict that the weather will also become more unpredictable in tropical areas [2].

Access to renewable water

Geographically 71% of the earth's surface is covered by water, but among that very little amount is accessible to living beings. Almost 97% of the earth's water is found in the oceans rest of the 3% is only accessible to us. Only 0.5% is available to us for the survival of every living being. This water can be renewable and is the key to life. Because of the uneven distribution of usable water life, is harsh in many areas of the world [6].

Causes of Water Scarcity

Physical scarcity, which occurs when there is a lack of water due to regional ecological circumstances, and economic scarcity, which occurs when there is insufficient water infrastructure, are the two main types of water scarcity. Water stress is frequently brought on by the two working together. For instance, a strained area can experience a deficiency in rainfall as well as inadequate water storage and sanitary infrastructure. According to experts, human factors are frequently at the root of a region's water stress even when there are strong environmental causes, especially when it comes to access to clean water and proper sanitation. For instance, most recently, the war in Ukraine destroyed crucial infrastructure, leaving six million people in 2022 without access to safe water or restricted access [2].

Rainwater Harvesting and Water Crises

One solution for solving the problem is rainwater harvesting (RWH). This entails either replenishing subsurface water supplies or collecting, purifying, storing, and reusing rainwater. This is feasible on a household level as well as a regional and urban scale. It involves either collecting water from storm drains or roofs in either scenario. Various technologies are offered depending on the size, cost, performance, and water quality requirements. Most of the time, collected water is non-potable (Unfit for consumption), as treating it to make it drinkable would be more expensive. RWH can be used for a variety of purposes, including groundwater rejuvenation, storm water management, and flood management, by integrating with other infrastructures, such as drainage and flood control systems. RWH is taking place all over the world, from the Dutch city of Rotterdam to Indonesia's Semarang to Tamil Nadu in India [7].

Desalination and Water Crises

Desalination is the process of removing salts or other minerals and contaminants from seawater, brackish water, and wastewater effluent and it is an increasingly common solution to obtain fresh water for consumption, domestic and everyday purposes, and industrial utilization. Many countries in the world started their desalination plants. By using reverse osmosis desalinated water is filtered up to 95%-99% of dissolved salts and inorganic materials. Ecofriendly plants are designed to save our planet. The desalination process is a promising sector to start a business [8].

Discussion

Almost every study that was part of this literature analysis concluded that migration occurs frequently throughout particular life stages and that, to a considerable extent, migration patterns may be explained by current social and demographic changes as well as global economic development. However, these studies demonstrate that there are cases where new water stress conditions influence livelihood expectations, devastate assets, and shift the rate at which individuals move into new homes on a temporary, seasonal, cyclical, or permanent basis. Notably movement patterns that had been established earlier and independently of drought were found to be followed by migrants. In other words, migrants who made decisions in response to the drought did so in a similar manner to earlier migrants.

Conclusion

Several articles have demonstrated how poorly thought-out or inattentive policies to migrant needs can escalate the conflict between underprivileged migrants and the community that welcomes them. Increasing heat and water stress could make certain livelihoods unviable. The difficulties faced by environmental migrants seeking employment in rapid urbanization, labor markets that are oversaturated, high living costs, and hotter land Markets and opportunities have not yet been given considerable consideration. As the issues with the "future of work" brought on by labor automation and additionally, the actual migration of economic sectors has not been given much thought in environmental and migration discussions.

References

1. Adams H. Why populations persist: Mobility, place attachment and climate change. Population and Environment. 2016;37(4):429-448.
2. Bettini G. Climate migration as an adaption strategy: de-securitizing climate induced migration or making the unruly governable? Critical Studies on Security. 2014;2(2):0-195.
3. Henry S, Schoumaker B, Beauchemin C. The impact of rainfall on the first out-migration: A multi-level event-history analysis in Burkina Faso. Population & Environment. 2004;25(5):423-460.
4. IOM- International Organization for Migration. West and Central Africa- Within and Beyond Borders: Tracking Displacement and Human Mobility in the Lake Chad Basin. Retrieved from https://displacement.iom.int/reports/lake-chad-basin-crisis-%E2%80%94-within-and-beyond-borders-tracking-displacement-and-human-mobility
5. Laczko F, Aghazarm C, eds. Migration, environment and climate change: Assessing the evidence. Geneva, International Organization for Migration; c2009. p. 7-40.
6. Mach E. Water and Migration: How Far Would You Go For Water? Retrieved from http://www.fciv.org/downloads/WP8- Book. 2017. p. 08-31.pdf
7. Sustainable Systems Support About rainwater harvesting, Arizona, USA, www.bisbeenet.com/buildnatural/ rain.html, March; c2001.
8. US. Department of the Interior, Bureau of Reclamation, Desalting Handbook for Planners, 3rd Edition; c2003.