



Water Scarcity and Political Stability: Analyzing the Role of Water Resource Management in the Arab World

Ismail Adaramola Abdul Azeez^{1*}, Musab Yousufi², Murad Bibi Tariq Ali³
Riphah Institute of Public Policy, Riphah International University

Corresponding Author: Ismail Adaramola Abdul Azeez

imamdarams@yahoo.co.uk

ARTICLE INFO

Keywords: Water Scarcity, Political Stability, Water Resource Management, Arab World

Received: 21, May

Revised: 20, June

Accepted: 30, July

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ABSTRACT

This thesis is a critical examination of the dynamic and complicated liaison between water shortages and political stability in the Arab world, but mainly on the representative case of Egypt. This country was chosen because of its political system disparities, a fully centralized authoritarian state, and its different levels of hydrological vulnerability and institutional capacity. The study is based on a multi-disciplinary theory which argues that the assessment of water-related trials goes hand in hand with the governance systems, boundary politics between water resources, social inequality, and citizens' perceptions towards water resources' legitimacy. It examines how political tensions associated with water insecurity in Egypt are either enhanced or countered by the government, through either securitizing it, institutional reform, repressive measures, and approaches to international reputation and relation management. Evidence-based research findings indicate that water scarcity is a more dire ecological problem than a technical issue; it is indeed a political tool that can be used to enhance the control or allow institutional corruption, depending on the manner in which it is handled and reported. Although Egypt depends on securitized narratives and mega-infrastructure to hold itself together, institutions are fragile. The thesis makes contributions to the academic conversation of resource politics, how environmental governance is done, and the resilience of authoritarianism, by providing novel understandings of how the politics of scarcity is negotiated in Arab states. It is summarized with the policy proposals on institutional resilience, improved regional water diplomacy, and the transparent and inclusive governance of water to ensure destabilization can be avoided in a water-stressed and geopolitically over-stressed region.

INTRODUCTION

The Arab world, encompassing 22 self-governing countries within the realm of the Arab League, stretches across a vast geographical outlay from the Atlantic Ocean in the west, through the Sahara Desert, across the Fertile Crescent, and into the Arabian Peninsula, touching the Arabian Gulf in the east. Encompassing regions of both Asia and North Africa, this area encompasses over 13 million square kilometres, making it one of the most geopolitically important territories in the world. It acts as a land bridge between three continents-Africa, Asia, and Europe-and incorporates some of the crucial oceanic chokepoints like the Suez Canal, Bab el-Mandeb Strait, and the Strait of Hormuz through which a considerable region of world trade and energy supply flows. The Arab world accommodates a population surpassing 450 million people, and simultaneously Arabic is the predominant and official language, and Islam is the commanding religion; the area is distant from culturally and politically analogous. Rather, it is an assemblage of ethnicities, sects, dialects, and socio-political doctrines. Besides the Arab majority, significant ethnic minorities like Berbers (Amazigh) in North Africa, Kurds in Iraq and Syria, and Nubians in Egypt and Sudan contribute to the region's sumptuous cultural multiplicity. Religious minorities-encompassing Christians, Jews, Druze, Yazidis, and Shia communities-have traditionally lived alongside in fluctuating degrees of peace and conflict with Muslim majorities, based on the state and period. Moreover, the political framework across the Arab realm differs extensively, stretching from absolute monarchies (such as Saudi Arabia and Oman), constitutional monarchies (such as Jordan and Morocco), and republics (like Egypt, Algeria, and Syria) to frail or collapsed countries (such as Yemen, Libya, and Somalia). The territory also includes severe inequalities in wealth and development. Gulf Cooperation Council (GCC) states like Qatar, UAE, and Saudi Arabia vaunt high GDP per capita and progressed infrastructure, while states such as Sudan, Mauritania, and Yemen continue to struggle with poverty, backwardness, and tension. These socioeconomic asymmetries are further convoluted by juvenile bulges, high joblessness rates, and lagging educational systems across many portions of the Arab world.

A Deepening Crisis: Scope and Severity of Water Scarcity

The Arab world is approaching a turning point where water shortage has ceased to remain a distant danger but has become a bitter reality today. The water availability per capita in the region is one of the lowest in the world, with the average falling under 500 cubic meters per capita in a year, which is far below the current world water poverty line of 1,000 cubic meters. Others, such as Jordan, Kuwait, and Qatar, have a figure below 100 cubic meters per capita per annum, which means absolute water shortage. By 2030, international agencies and climate scientists estimate that the water supply in the Arab region will go down by another 20-25 percent because of the increasing temperatures, changing rainfall patterns, and increasing droughts.

In that sense, water is no longer solely an issue of domestic well-being, food production, and economic viability; it is quickly emerging as an identity determinant in national capacity, security, as well as regime survival. The implication extends to all ends of governance, including food security, city

planning, international relations, as well as international peace. Inadequate management of water resources, inequalities in access to water, and destruction of the environment are adding up to the underlying governance failures and increasing the risk of state fragility.

State Fragility and the Water-Security Nexus

The water scarcity in already fragile and conflict-prone states has a multiplying impact on instability. In Yemen, a state that suffers from water stress as one of the driest nations of the Arab world, the lack of water has become a crisis. The process of groundwater extraction is much faster than the recharge rate, and in certain regions, people need to walk a distance of several kilometers or to afford the unrealistic prices of a couple of Liters of clean water. Years of misplanning coupled with near failure of water infrastructure in the wake of war and cultivation of qat, which consumes up to 40 percent of Yemen's agricultural water, compound the situation. The problem of scarcity of water has worsened tribal conflicts, rural-urban migration, and inter-communal conflict, which makes the situation prone to radicalization and social fractiousness. Nile waters have continued posing a problem in Sudan, not only in the domestic setting, but also on an international scale. At the internal level, localized violence has been facilitated by the conflicts between pastoral and agricultural societies over access to water and land, and externally, Sudan is not in a good situation regarding the negotiation process on the Grand Ethiopian Renaissance Dam (GERD). The poor, transitional nature of the politics of the country also does not make it easy to handle this resource strategically and equitably.

Transboundary Tensions: Water as a Diplomatic Fault Line

This has made the political geography of water in the Arab world quite sensitive, as the majority of the major water bodies are transboundary. More than two-thirds of the surface water in the Arab world is sourced outside its borders, such that downstream Arab nations are bound to remain in a perennially weak position. The Nile River is the most conspicuous example, shared by 11 countries. The GERD built in Ethiopia is a matter of concern to downstream countries Egypt and Sudan, because of the concern that less river flow will ruin agriculture and less power will be produced in the Aswan High Dam, and the water security of the nations will be threatened.

Egypt has long been positioning its access to the Nile in terms of national survival and has spent much of its resources in global politics and alliances to prevent the Ethiopian desires. However, the inability to achieve the legally binding protocol on the filling and operating schedule of the dam has increased the tension in the region and triggered water wars. The scenario highlights the importance of water diplomacy or lack of it on security implications.

In most of the Arab states, the water resource mismanagement has become not only a metaphor of the greater political malfunction. In Iraq in general, due to shortages of water, which then pollutes the drinking water and has damaged agriculture, frustration of the population has become violent protests, especially in the city of Basra, where people are blaming the state government due to their neglect and corruption. The Egyptian tensions towards

Ethiopia due to the construction of the Grand Ethiopian Renaissance Dam (GERD) in the Blue Nile have aggravated nationalistic speeches, created diplomatic weaknesses, and triggered paranoia around water shortages that may cause states to ripen under the pressure of existential threats. Scarcity of water is a resource challenge taking Jordan toward the edge of a government experiencing one of the highest-pressure rates on resources anywhere in the world; the arrival of refugees, ineffective resource utilisation, and the age of infrastructure are undermining not basic sustainability of this internationalized resource-challenged government but also internal security and social stability.

These are not the solitary instances. In Yemen, Sudan, Algeria, and Palestine, the Arab region is struggling to prepare a future where water is more and more politicized and securitized. Along with the unstable and authoritarian states with already low levels of public trust and minimal capacity to govern them, the issue of water insecurity does not stay as an environmental issue, and transcends into political spheres, increasing the dissatisfaction among the people, undermining the legitimacy of the regime, and leaving the door open to conflict. Nevertheless, these pressures notwithstanding, the relationship between water scarcity and political stability in the Arab world has been extremely understudied both in scholarly writings and policy making.

The available works on water scarcity problems are mostly focused on defining technical solutions to that phenomenon, like desalination, wastewater treatment, or inefficiency in irrigation, without examining the political and institutional environments through which this technical solution is executed. The others highlight hydrological statistics, implications in agriculture, or water-sharing arrangements in a particular region, yet they do not explore the effect of the failure of governance, the influence of authoritarianism, and social inequality in determining access to water and subsequent political outcomes of such a situation.

This study suggests a paradigm shift in our understanding of water in the Middle East region: water not as a resource (physical or even as an economic resource), but as a political variable: one that, on the one hand, is affecting and, on the other, it is being affected by power relations, state capacity, regime legitimacy and citizen engagement. It states that water shortage needs to be regarded as a cause of political instability, especially in those countries where governments are either unable or unwilling to deal with environmental strains inclusively, transparently, and in an accountable manner.

In an attempt to understand this important dynamic, the paper will conduct a comparative study of three major countries, namely, Egypt, Iraq, and Jordan. These are geographically and politically diverse states, and yet all are dealing with acute water stress that has implications that are far-reaching in respect to political governance. Historically, Egypt was the hydrological hegemon of the Nile, and it is struggling with the upstream water security threats, as well as mismanagement of the country. Secured by a combination of mistreatment, war, and decades of neglect, Iraq now finds itself under further stress caused by climate-induced water scarcity and upstream damming. Jordan, which is more stable politically, is a resilience case with pressure such

as demography and limited resources, as well as geopolitical weakness. Based on the case studies, the research attempts to raise generalized details of the ways and inabilities of Arab governments to handle environmental stress as an approach to political survival.

Statement of the Problem

Water shortage in the Arab world is not a problem of technical or environmental complexity, but rather a political and, even more, a survival problem. Failure to develop integrated and transparent water policies, politicization of water access rights, and failure to establish effective mechanisms in water cooperation among states in the region have rendered many states in the region vulnerable. At this point, water becomes an allergen-not an allergen that only creates conflict- but one that forces a meltdown in society. Violent protests and internal displacement in Iraq have been triggered by the scarcity of water. Fear in Egypt due to GERD and the dependence of Egypt on the Nile has threatened the trust the people have in the state. Nevertheless, the political aspects of these water crises are poorly theorized and poorly studied. In this particular endeavour, this project attempts to fill this gap by clearly implicating water scarcity with political (in)stability and the potentially mediating factor: governance.

Research Questions

1. How does water scarcity contribute to political instability in selected Arab states?
2. What strategies have Arab governments adopted to manage water resources, and how have these shaped political outcomes?
3. How do transboundary water politics, climate pressures, and governance capacity intersect to influence water-related political stability?
4. What are the prospects for regional cooperation and domestic reforms in addressing water-based political risks?

Research Objectives

1. To map both the nature and scope of water scarcity in the Arab world and provide a case study of Egypt in detail.
2. To investigate the relationship between water insecurity and political outcomes- like protests, state legitimacy, migration and regime survival.
3. To determine the influence of the international actors (e.g., World Bank, UN agencies, donor states) on the development of water policy.
4. To provide evidence-based policy suggestions and recommendations or sustainable, equitable, and politically stabilizing water management strategies.

Significance of the Study

This study bears a vital academic, policy, and societal importance:

1. It creates the contact point between the field of environmental studies and political science in the idea of water as a source of political power and legitimacy, and even risk. It is also an illustration of improving the knowledge of authoritarian resilience, the frailty of the regime, and the failure of governance under ecological strain.

2. The management of water is an issue often considered technocratic. This paper redefines it as a geostrategic governance issue that in fact flies into the national and regional security. It will give suggestions to the actors in the policy arena in fragile political environments.
3. Millions of people already in the Arab world are experiencing the impact of the poorly managed water systems, in the form of crop failures, drinking water contamination, or lack of jobs. This study puts their realities on the policy front and contributes to human- and justice-based water governance.
4. The future of Arab water security is based on regional organization, as rivers and aquifers can cross borders. Through the analysis of shared basins, such as the Nile and the Euphrates, the case study can focus on what must be avoided, the flashpoints, and what must be taken advantage of in the form of diplomatic interaction.

LITERATURE REVIEW

The correlation between the ecological pressure (specifically water scarcity) and political consequences has been a point of discussion and center of academic and intellectual attention over the past few decades. The Arab World, one of the world's most insecure water regions, showcases an exceptionally time-sensitive pressing assessment for this evolving field. However, in spite of the wide body of literature on hydro-politics, environmental security and climate resilience, and resources governance, the wide-ranging holistic benchmarking comparisons and studies that explicitly correlate water scarcity to political stability in the Arab World remain below the threshold levels.

Environmental Scarcity and Political Instability: Global Theories

The scientific foundation and theoretical basis for the comprehension of the security implications of environmental degradation can perhaps be traced to Thomas Homer-Dixon's (1994, 1999) seminal work, which pioneered and put forward the notion of environmental scarcity and civil conflict. He brought out the argument that the exertion of renewable resources, especially water, may result in social strife, institutional disintegration, and violent conflict between poor or fragile states. Based on these theories, Peter Gleick (1993) came up with further theories on water and conflict, whereby he classified water disputes into three levels: strategic targeting, military tool, and cause of conflict. His recent publications concentrated on how water insecurity, particularly in arid regions, becomes more and more linked with the dynamics of conflict.

These claims were popular in the literature of environmental security studies, which associates natural resource strain with national and international security. Although this so-called deterministic theory of the coming of water wars is now criticized by other scholars (e.g., Wolf, 1998), the pendulum has swung slightly to acknowledging the idea that water is a kind of a "threat multiplier" that accentuates pre-existing tensions, be that ethnic, economic, or political, in particular in the verge of weak governance.

Hydro politics and Hydro-Hegemony in the Middle East

Water in the Arab world has mainly been the round and focus of much literature that has revolved around transboundary hydro politics, especially in shared river basins such as the Nile, the Euphrates-Tigris, and the Jordan River.

Such analyses tend to represent water as a weapon of geopolitical strength and negotiations. The Hydro-Hegemony Framework devised by Zeitoun and Warner (2006) aims at describing how the dominant riparian states rely on economic, military, and institutional strengths to solidify their mandate to water shares. The historical domination of Egypt over the Nile, Turkish dominion over the Tigris-Euphrates, and Israeli dominion over the Jordan River have been discussed in this perspective.

This concept allows understanding the structural injustices that have been taking place in access to water and the geopolitical tensions that drive water politics in the area. As an example, the construction of the Grand Ethiopian Renaissance Dam (GERD) is the source of the current diplomatic crisis between Egypt, Sudan and Ethiopia, which gave rise to nationalist discourse and shifted regional powers of interest. The critical threat of GERD to long-held hydro political dominance of Egypt (Swain, 2011; Tawfik, 2016) and the potential it has in causing institutional change as well as political discord is examined by scholars.

Domestic Water Governance and State Capacity

Although very little of the academic literature on transboundary problems addresses the domestic management, an extensive body of literature studies domestic water governance in terms of institutional capacity, corruption, public faith, and policy consistency. What becomes critical in authoritarian or fragile states, where the legitimacy of the state is routinely determined by the receipt of services to the clientele as opposed to democratic approval, is that water management has become a test of government performance.

As one of these cases, Haddadin (2006) and Al-Zubari (2014) are referring to how Jordan and Gulf states have implemented technocratic techniques, such as desalination and reuse of wastewater, at least without solving the underlying governance issues of equitable access, citizen participation in projects, or in long-term positioning. According to Kremer (2012) inadequate maintenance of infrastructure, insufficient investment in rural regions, as well as a lack of transparency with regard to data, further weaken water governance and threaten to cause trouble at a local scale.

In addition, the studies of authoritarianism in service delivery (e.g., Cammett & Malesky, 2012) offer the hypothesis that once people cannot be sure in supply, which is essential in acquisition of the basic needs, like water, citizens start to distrust the regime which can result in protests or the alternative way of governing people (e.g., establishing local militias or tribal networks). At some point, insecurity due to there being no fresh and reliable water within countries such as Iraq and Egypt has always found itself to fuel anti-government feelings and actions.

Water Insecurity as a Catalyst for Social Unrest

Latest studies have initially empirically examined the correlation between water stress and social turmoil in the MENA region. According to De Ch Chatel (2014), when drought hit the northeastern part of Syria severely, along with detrimental agricultural policy and mismanagement of water

resources, they contributed to the displacement of the population, as well as fanning the flames of unrest preceding the revolt in 2011. In the same way, Damania et al. (2017) indicate that climate shocks, mainly drought and reduced water availability, are statistically linked with civil conflict and social unrest in fragile states.

Poor infrastructure and untreated contaminated water made the region of Basra in Iraq one of the most criticized regions in 2018 because of the mass protests in which thousands of people were hospitalized and security organs violently suppressed their actions. Other scholars have attributed these happenings to the overall failure of governance, poor accountability, and diluted terms of the social contract between the state and citizens (Haddad, 2019). In these scenarios, water insecurity not only appears as a symptom of the state's weakness, but also is the catalyst that reveals and speeds up political crises.

Gaps in the Existing Literature

Besides the contributions made regarding hydro politics, environmental security, and governance studies, there exist some gaps:

Misalignment between Technical and Political Studies: A gap between hydrological studies and political science studies is likely to reduce the potential of interdisciplinary solutions to policy problems.

In this proposed study, the researcher plans to fill these gaps by providing a comparative interdisciplinary and politically sensitive study of the impacts of water shortages on political stability in three Arab countries, namely, Egypt, Iraq, and Jordan. It will be based on the lessons of hydro political structures mediated by the theories of authoritative regime, accountability of the state, and social action. Through the same, it helps to provide a more detailed and action-oriented overview of how environmental stress is reshaping power and politics in the Arab world.

Theoretical Framework

Comprehending the correlation between water paucity and political stability in the Arab world demands a comprehensive interdisciplinary theoretical framework that integrates the ecological, geopolitical, institutional, and socio-political dimensions. This research tends to utilize five intersecting bodies of theory: Hydro-Hegemony, Environmental Security, State Capacity and Public Goods Theory, Political Ecology, and Climate-Security Nexus so as to unpack how environmental pressures disrupt governance dynamics and socio-political cohesion in a politically vulnerable setting marked by fragility and authoritarianism.

Environmental Security and Resource Scarcity Theory

Central to this framework is the Environmental Security Paradigm, particularly the seminal contribution of Thomas Homer-Dixon (1994,1999) in which he articulated how environmental scarcity, driven by population growth, inequitable resource allocation, and environmental degradation, can trigger violent conflicts, especially in weak and underdeveloped states like the majority in the Arab region. He further delineates the types of scarcity into three categories:

1. Demand-induced scarcity (population expansion and load)

2. Supply-induced scarcity (over-extraction, excessive use, and natural degradation of resources)
3. Structural scarcity (institutional disparity in allocation of resources)

These shortages tend to work in unison, especially in the Arab world, which is seen with the combination of arid conditions, explosive urbanization, and unjust rule. Environmental stress by itself, however, does not bring conflict; it brings conflict when combined with socio-political grievances, which include poverty, exclusion, and bad governance.

Hydro-Hegemony and Transboundary Water Politics

Zeitoun and Warner (2006) have developed the Hydro-Hegemony Framework, essential in the comprehension of the political economy of water at the regional level. It contradicts the belief that the occurrence of water conflicts is brought forth by scarcity, but rather the sharing of the power among riparian states sharing river basins. Hydro-hegemony supposes that leading states have the power to influence the conditions of interaction and means of engagement using:

- a. Power of coercion (the threat of armed conflicts and economic breakdown).
- b. Material power (control of infrastructures such as upstream dams)
- c. Normative power (discursive framing of water rights, legal narratives),
- d. Institutional influence (dominance over global talks or systems).

Indeed, Egypt, Turkey, and Israel have all employed these forms of power in combinations to gain hegemonic status over the Nile, the Tigris-Euphrates, and the Jordan River basins, respectively, in the Arab region. This framework offers the tools to study how water becomes a means of sub-regional hegemony and why the cooperative frameworks are fragile or lacking. It also indicates how weaker downstream states (e.g., Iraq, Palestine, Sudan) are usually compelled to acquiesce or hold their tongues owing to the deviation of bargaining power. The Hydro-hegemony also includes the element of Hegemonic compliance, in which weaker states readily accept asymmetric arrangements through political coercion, lack of options, or normalization of inequality abroad. This prism is a key to comprehending water-related regional diplomacy as well as structural constraints to fair governance in Arab cross-border basins.

Political Ecology and Critical Hydro Politics

In addition to conventional models of security, the political ecology approach assists in the conceptualization of water scarcity not in its apolitical environmental reality but as a social and political construction. Researchers such as Erik Swyngedouw (2004) and Karen Bakker (2010) remind that the right to access to water is framed by:

- a. Power relations (who has hold on the pipes, permits, and policies),
- b. Social inequality (who will get priority in terms of providing water),
- c. Historical legacies (ethnic marginalization, colonial laws on water),
- d. Neoliberal policies (Privatization, commodification).

In the Arab world, the water paucity is usually dealt with through top-down technocratic-oriented solutions to water scarcity, are taken acting to

conceal political institutional shortcomings like the political elite capture, the marginalization of rural populations, and forms of patronage-enabled distributional regimes. The desalination factories and mega-dams are marketed as part of the solution, whereas the community-oriented governance, gender access, and sustainable environment are overlooked. Political ecology makes us wonder: Scarcity for whom? What are the interests of water governance? Through this approach, we can see that the water crisis is not only natural, but it is a political matter of choice.

Synthesis

By taking all these views, the theoretical framework holds that:

1. Water scarcity is a structural stressor that serves as a threat multiplier.
2. Hydro-hegemony constructs regional water injustices and geopolitical tension;
3. The fragile national water governance undermines public confidence and legitimacy;
4. Water insecurity happens faster with climate shocks, especially in a weak political environment;
5. The correlation between political and environmental variables, not mere stress, decides the occurrence of social disorder and political anarchy.

This framework offers the conceptual instruments through which to understand the multilevel effect of water insecurity in the Arab world, the internal dynamics of inter-state diplomacy through to regional power politics, as well as the local politics of struggle and survival.

METHODOLOGY

The method of this research is a qualitative, comparative case study that aims to obtain the intricate, geographic, situational association between water scarcity and the political stability of the Arab world. Since water politics is a multidimensional subject, this research cannot be able to use a purely quantitative or single case approach. The chosen countries (Egypt, Iraq, and Jordan) can be viewed as exemplary cases that manifest the dynamics at the regional level and still provide the national experience. Assuming that this methodology is applied, the study will enable the researcher to trace not just what is occurring but how and why the water scarcity influences political stability in varied situations.

Research Design

The researchers provide a comparative case study design in the research (Yin, 2014; George & Bennett, 2005), and the fact is that we can investigate in-depth in different national conditions. The comparative methodology allows the researcher to:

1. Find convergence and divergence patterns among the patterns of management of water-related issues by the governments of the Arab world
2. Differentiate variables (e. g., governance capacity, regime type, foreign aid) that influence political results
3. Derive theory-informed knowledge that could be relevant to MENA and the Global South environment more broadly

All the cases will be examined on the individual level and comparatively, it will be profound and broadly based.

Data Collection Methods

The research study will rely on secondary data sources to guarantee triangulation and richness of the analytical study:

- a. Secondary Data collection
 1. Academic Literature: Theoretical knowledge and country-level insight will be obtained through the peer-reviewed articles, books, theses, and journals of hydro politics
 2. Official documents: Strategies of water development on the national level, frameworks of policy, development plans, and official speeches.
 3. International Reports: World Bank, FAO, UNDP, UNEP, ESCWA, and other regional and international publications.
 4. Media Sources: The national and international news sources will be used as a self-monitoring resource of the protests, the events concerning the water, and the policy shifts.
 5. NGO Reports: Water governance, inequality, and grassroots mobilization views of civil societies.

Timeline and Scope of Case Study

All cases will be studied in a window of usually 10-15 years (i.e., 2010-2025) to capture:

1. Development of long-term changes in the environment
2. Political transition (e.g., Arab Spring, post-conflict periods)
3. Central water events (e.g. GERD negotiations, droughts, protests)

Limitations

Although the rigor and comprehensive design of the research methodology are offered, multiple limitations can be applied:

1. Fieldwork Limits: The inconsistent availability of data and state openness and transparency may impede the provision of quality quantitative comparison.
2. Data Gaps: The gap in the state transparency or data may become an impediment to quantitative comparison.
3. Attribution Challenges: Attribution to water scarcity is just one of many factors in political disorder, and as such, it is hard to pin down causal roles.

Even with these issues, it is anticipated that multiple data sources, triangulation, and comparative logic should increase validity and the robustness of the study.

Ethical Considerations

1. Informed Consent: All the respondents will be informed about the objective and purpose of the study and about the right to anonymity and the withdrawal.
2. Confidentiality: Sensitive information will be kept securely, and names of interviewees will be anonymized unless otherwise agreed.

3. **Research Neutrality:** The research is apolitical and maintains a non-partisan stance; it places the primary emphasis on objective and ethical research of politically acute issues.
4. **Risk Mitigation:** The study excludes politically sensitive field locations in cases where the safety and confidentiality are ensured.

RESULT AND DISCUSSION

Case Studies: Egypt

1. Egypt-Water Scarcity and the Authoritarian State

Egypt is a particularly important and representative case in illustrating the connection between water scarcity and political stability in the Arab world. The largest Arab state, with more than 110 million inhabitants, Egypt relies on the Nile River for more than 95 percent; therefore, Egypt is one of the most water-reliant countries on a single external source. Centralization of power, the authoritarian form of political organization, and dependence on mega-infrastructure projects, which are characteristic of the country, make it an ideal example of studying the subject of the governance, politicization, and securitization of water.

Over the past few years, the waters of Egypt have become insecure because of several reasons in addition to the recently developed demand in the country due to its rapid population growth and the reasons relating to its climatic conditions, the ineffective irrigation under the conditions, and the demand of its cities. This chapter documents the process through which water scarcity and security have been constructed, instrumentalized, and questioned in Egypt in terms of its governance policies, relation to its securitization discourse, its repercussions on regime authority, and political rhetoric.

Overview of Egypt's Water Crisis

1. Physical Scarcity and Demand Pressures

Egypt is experiencing so severe water crisis, with renewable water supply declining to below 560 cubic meters per capita, and it is significantly below the lowest threshold of the absolute scarcity of 500 m³ per capita. It is said that the country depends on the Nile River to get more than 90 percent of its fresh water and thus is highly exposed to upstream developments as well as climate change. The Egyptian population has experienced more than 30 million people in the last 20 years, to the point where the per capita water supply has been reduced by almost 50 percent. The problem was also intensified by agriculture, which makes up about 80 percent of water sources in the country and is therefore wasting water, especially by adopting obsolete flood irrigation methods that lead to massive losses of water

2. Key Stressors

1. **Climate Change:** The thawing of the glaciers is causing increased sea-water levels that are likely to flood the Nile Delta, posing a danger to freshwater aquifers as well as agricultural lands.
2. **Urban Sprawl:** The water infrastructure in Cairo, Alexandria, and Upper Egypt has become overextended and dilapidated.
3. **Transboundary Conflict:** GERD is a strategic threat to the Egyptian historical control of flows in the Nile.

Governance Response: Hydraulic Nationalism and Technocratic Centralization

1. Historical Legacy of Hydraulic Control

The hydraulic hegemon of the Nile is a self-projection exhibited in Egypt and dates back to colonial treaties (1929, 1959), granting the latter majority privileges of the Nile water. The regimes that followed Nasser to Mubarak invested in the water infrastructure, including the construction of the Aswan High Dam, supporting the discourse of the state and control, as well as national identity associated with the Nile.

2. Centralized Water Management Institutions

The water management regime in Egypt is heavily centralized, with most of the administration delegated to the Ministry of Water Resources and Irrigation (MWRI), which controls every single segment of both planning and allocation of water. In spite of such centralized power, the sector is experiencing several challenges, such as overlapping of institutional mandates, weak coordination among the agencies, and poor implementation of participatory or decentralized forms of approaches. Some of the national water strategies, like the Egyptian Vision 2030 and the National Water Resources Plan 2037 (NWSS 2037), mainly focus on infrastructure-based solutions to combat water scarcity. These incorporate massive infrastructures such as desalination plants, wastewater reuse activities, and huge canal projects such as the New Delta Projects, and all these indicate a top-down management of the ever-rising water crisis in the country.

3. Securitization of Water Policy

The issue of water security in Egypt has been characterized by militarization and politicization, especially towards the construction of the Grand Ethiopian Renaissance Dam (GERD) by Ethiopia. President Abdel Fattah El-Sisi has also often referred to the Nile as a red line, implying that military force is an ultimate option to safeguard the water interests of Egypt. This language-secritized discourse is replicated in the media nationally, which tends to highlight GERD as a form of existential threat to the existence of the country. It is a kind of framing that not only leads to nationalist feelings but also distracts people from a national problem that has existed for a long-time mismanagement of water within the country. Meanwhile, civil society's contribution to water governance is causing major nightmares in the country due to the overall political climate as well as due to the state crackdown on independent activism and dissent.

The GERD Crisis and the Securitization of Water

1. GERD as a Strategic and Symbolic Challenge

The unilateral filling up process of the Grand Ethiopian Renaissance Dam (GERD) without a legally binding agreement has been largely regarded by the Egyptian leadership as a direct threat to its national survival and sovereignty. This has been a major blow to the Egyptian hydro-hegemonic position in the Nile Basin, a change to power dispensation in the region. Tensions are escalating after diplomatic attempts to solve the conflict using mediation by the African Union and the United Nations still bear little fruit.

Egypt has been upholding the supposed historic right to Nile River waters, which can be traced back to the agreements signed during the colonial period, whereas Ethiopia presents the dam as a right that reaffirms its national sovereignty and self-determination as well as its desire to evolve economically.

2. Domestic Political Use of the Crisis

The Grand Ethiopian Renaissance Dam (GERD) issue has become one of the main targets of the Egyptian regime as a way to garner nationwide sentiment on behalf of the regime as watchdogs of the national interests of the whole country. In such an excessive securitization of water in this context, a wave of criticisms against the water policy in Egypt has been described and treated as an agent of disunity in the nation, where a free and unbiased evaluation and discussion are most time discouraged or limited. Although the dangers that GERD poses to the Egyptian water security are not false, the governmental concern about external threats is only a way to distract people from the national problems deeply rooted in their homeland, such as inefficient use of agricultural activities, ineffective urban water supply, and the violation of environmental pollution control that so far hinders the Egyptian resilience to water.

Citizen Perceptions and Protest Dynamics

1. Public Awareness and Mobilization

In Egypt, water scarcity is a trigger of mass protests, the authoritarian rule of the government, and the efficient governmental machinery of storytelling, or rather, positioning the water-related problematic through the prism of national security, play a significant role. However, there have been localized movements in protest of a certain issue to do with water supply and delivery. Lack of proper clean drinking water has been an area of complaint in communities in Upper Egypt, and poor maintenance and breakdown of canals and irrigation systems that are essential in the agriculture sector have also been a source of dissatisfaction especially in the countryside. The increasing water charges recorded in the urban centers have also provoked anger among the citizens, indicating the increased sensitivity towards matters relating to water as well as the prevailing political oppression.

2. Social Media and Resistance

Social media like Facebook and Twitter have also become the platform where activists in Egypt express their concern over the quality of water, especially in underprivileged areas such as Aswan and Beheira. Such online representations tend to relate water challenges to broader failures of governance, pointing out structural issues of corruption, inequality, and a continuous social isolation of the countryside. As long as water makes a powerful symbol in the public arena, explicit mobilizations directed against water are often suppressed, bought off by the state, or channelled into more general protestations over social and economic conditions. It is an indicator of how little room there is in Egypt nowadays for civic activism, where any dissent is closely policed and refocused.

Political Stability and Regime Legitimacy

1. Strategic Narratives and Regime Survival

Water policy is an instrument that the Sisi regime uses strategically to strengthen its legitimacy and consolidate support in society. The highly publicised brands of major infrastructure projects like the New Delta and the Toshka projects are sold to the people of Egypt as the revolutionary ways of solving the long-standing developmental and water issues in the country, and create the image of the state's competence and development. At the same time, the construction of the Grand Ethiopian Renaissance Dam (GERD) is positioned by the governmental press as a patriotic fight to protect Egyptian historical rights and national heritage that are based on the traditional ideas of nationalism. Criticism of such policies is always demeaned as a factor that can destabilize the nation, where the critics are not allowed to speak out under the pretext of saving the state against both internal and external enemies.

2. Fragile Stability

Though the Sisi regime is presented with an impression of stability, its grip of power is closely infested in securitization, strategic international interests, and development spectacles seen to be large-scale projects. Below this surface, the issue of water scarcity offers a constant and possibly destabilizing point of tension. The risk aggravates further in situations where the flow of the Nile decreases drastically this destroying the crop production and system of the agricultural production fails. On top of this, in case nuclear dialogue around the GERD remains in hiatus or fails altogether, this may destabilize national interests as far as improving public confidence in the ruling regime is concerned. Such a state of affairs may be provoked by increasing discontent related to social and economic situations, which may call into question the face of stability. Egypt is a model case study of how authoritarian governments resolve water crises by securitizing politics around water sectors, centralization of power, and symbolic politics. Although there are genuine risks to physical scarcity and cross-border rivalry, the solution to the problem demonstrated by the government has essentially been comprised of narrative control, instead of dealing with the imperfection of the structure or integrating the citizenry. A potential revival of water scarcity in Egypt has not led to open instability so far, yet it is a background source of weakness, especially in combination with climatic shocks, states of tension, and institutional inertia. Egypt's case study results reveal a dynamic where water scarcity is not only a structural environmental problem but also a politically constructed narrative. As per the Environmental Security Theory. The state, through the lens of GERD, perceives water paucity as a direct challenge a subject to national security. What is more disappointingly revealing is that the state, rather than seeking long-term cooperative solutions, defaults to advertorial posturing.

From the perspective of Political Ecology, the experts of the Egyptian State control over the water resources through a top-down approach, yet are unsuccessful in addressing systemic inequalities in availability and infrastructure maintenance. In addition, water scarcity is unevenly demarcated, as the rural and agricultural societies are pushed to the forefront of the

shortages, yet the urban centers take precedence. Such selective distribution has led to regional imbalance as well as a lack of confidence in government institutions, especially the rural governorates. At the same time, the manipulation of nationalism by the state serves to distract the populace from focusing on these shortcomings within the country, thus making it a rather governance-driven crisis to an external diplomatic standoff. Moreover, the Realist paradigm is evident in the foreign policy approach of Egypt. Through the lens of a zero-sum game, therefore, Egypt is interested in diplomatic and military coercion, as opposed to engaging in basin-wide planning in cooperation. This will compromise long-term water security and complicate the possibility of enhancement with the upstream countries.

Major Findings

1. **External Threat Amplification:** To gain national backing within the country, the GERD has been portrayed as an existential threat to Egypt so that the Egyptian government does not take responsibility in terms of domestic mismanagement.
2. **Institutional Inertia and Inefficiency:** Egypt's system of water governance devoid apt responsiveness systematic decentralization and necessary technological innovation required for the adapt to the rising challenges cause due to climate stress.
3. **Water Scarcity as Political Weapon:** The government tends to view water scarcity as a political tool so as to reinforce state legitimacy and divert from the failures of the government instead of focusing it as a socio-technical problem.
4. **Localized Unrest and Long-Term Instability:** Rural areas are becoming increasingly socially and economically marginalized, and unless they are given a chance to participate in water reforms, minor instabilities may become larger resistance or migration problems.

CONCLUSIONS AND RECOMMENDATIONS

Water crisis is no longer a future doomsday scenario of our global environment: it is an imminent fact that is dilapidating the political and social fabric of the Arab world day by day. This thesis has discussed the complexity of the association of water insecurity with political stability in an intensive case study of Egypt In the analysis of trying to describe the deep extent to which water scarcity has interacted with wider forms of state powers, legitimacies, and governance frameworks through the theories of environmental security, hydro-hegemony and political ecology, the study has been able to shed lights on how the issue of much water scarcity has interfaced with wider powers of the state, legitimacies and governances.

In essence, this study refutes the idea that water shortage is a problem that can be solved purely on a technical level, either with the help of engineering or with foreign money. This is instead revealed by its argument that water is inseparably and ethically political in the Arab world; that is, it is a state legitimacy, a grievance or means of mobilizing protest, a bulwark of an oppressive regime, or a bargaining chip. The actual management of water is a phase of wider water-loo of power, inequality, and resilience.

In its turn, this thesis also contributes to larger scholarly discourses on how natural resource stress shapes the interaction of the other phenomena of authoritarianism, state legitimacy, and regime survival, which are context-specific and yet regionally meaningful. It confirms once again the understanding that environmental problems need not be regarded in a political vacuum; on the contrary, they are enveloped by, and frequently compounded by, the extent of governance, societal stability, and geopolitics.

The future of water is grim if the Arab world does not alter its course of crisis control and reactive governing system, and this alteration must be focused on a proactive change in the water policies based on justice, participation, and cooperation among the regimes. This will demand:

1. A transition in centralized, opaque water control to transparent and involving community engagement governance;
2. Coming to terms with the urban discrimination and infrastructure failure that intensifies social resentments;
3. Improving hydro-diplomacy in the region to reach a fair transboundary water allocation;
4. And the inclusion of climate adaptation, innovation, and institutional reform in the long-term national water strategies.

And finally, water is not the product of the political stability in the Arab world only; it is a determinant. The capacity to treat water as an actual resource, and not a mere asset, will be important to the future of Arab states in general and an era of heightened climate stress and geopolitical contention in particular. Unless addressed properly, water scarcity shall continue to be the silent conflict engine. When sensibly managed, it can be a strong tool of permanence and unity in what could be considered the most water-strained area of the world.

FURTHER RESEARCH

For National Governments

- a) These nations should also consider reforming their institutions, as opposed to the mega-projects in their water management systems, with an emphasis on transparency, accountability, and efficient water management systems over dubious mega-projects that in most cases suit the political ambitions rather than practicality. Expanding institutional capacity, effective regulatory systems and increasing the involvement of the people in the management of water system are the all-needed measures towards being sustainable and equitable towards the use of such a resource. Lacking these reforms, even the most optimistic infrastructure projects stand a risk of becoming non-competent or unviable in terms of their capacity to deal with worrying water crisis in the country.
- b) Participation and decentralization of water governance are significant towards good and participatory water governance in Egypt. Promoting the involvement of communities, particularly in the marginalized and rural areas, makes sure that the local needs and also the knowledge are

put into consideration when doing the planning and decision-making. Empowerment of the municipal water councils and strengthening of water user associations to enhance accountability and create trust as well as enhance the efficiency of water allocation and conservation strategies at the local level.

- c) Proactive and responsive e-water management in Egypt requires enhancement of data transparency and early warning systems. Improvement of decision-making and building of the citizen trust will be achieved by investing in extensive data collection, real-time monitoring, and making its results publicly available. The use of digital tools, mobile pollution and leaks reporting applications allows citizens and authorities to receive immediate feedback and act efficiently and effectively, avoiding creating waste or even triggering a crisis, hence containing it before it can escalate.

For Regional Cooperation

- a) It is important to construct a pan-Arab water diplomacy framework to help in dealing with the transboundary water issues of the region. Barriers to coordination of Arab League efforts over shared rivers and aquifers can be overcome and be strengthened in order to create collective bargaining power and solidarity among member states.
- b) Advocating regional legal mechanisms, as well as negotiations with other countries that are upstream, will help the Arab nations to be better positioned to defend their water rights, as well as even out the distribution of available water resources, and limit the possibility that rarer water would cause conflict.
- c) Water, climate, and security will be vital to the resiliency of the Arab region in the promotion of the integration of the three components. Water is not only a technical problem, and it is thus counterproductive to approach it as such and this should reflect in its treatment, as a central regional climate security issue, with an appreciation of its effects on stability, livelihoods and development. To overcome the interrelated problem of water shortage, climatic changes, and regional security, the Arab states have to work with each other and share the best practices, technologies, and policy innovations in joint research centers, regional forums, and networks of knowledge to face the menace of dearth of water scarcity together.

For International Donors and Organizations

- a) A combination of political and technical reforms also needs to be established in the Arab world in support of sustainable water governance. It is not only water aid and investments providing efficiency increases, but such aid and investments have to foster a sense of accountability, inclusiveness, and full involvement of the population in the decision-making process. It is dangerous to use exclusively technocratic and engineering approaches as solutions, they may only justify the authoritarian authority and conceal the actual nature of the water mismanagement problem, which is primarily technological and political. The effective long-term resilience and fair access to water

resources require a balanced approach that must consider the technical and governance aspects.

- b) Building water resilience at the regional level should be done by investing in regional knowledge sharing. At the international level, multi-country programs and peer learning platforms can help to exchange knowledge on such key issues as desalination, wastewater reuse, drought adaptation, and safeguarding community water rights. Through cooperation and learning, this innovation will, without doubt, become faster, eliminate redundant efforts, and create better, place-based solutions to common water problems.

Limitations of the Study

Although this thesis is a complex study, the following limitations ought to be identified:

1. Due to the conditions of fragility, fieldwork prohibition forced exposure to less primary field data and fewer on-the-ground interviews.
2. Although the study was narrowed down to three Arab countries, it is advisable to make generalizations broadly.
3. The study was concerned with a qualitative study; inclusion of quantitative data on water stress and protest event databases can additionally reinforce the research results.

Directions for Future Research

The following aspects may be investigated in the future:

1. Comparative analysis of water-scarce areas in Arab and non-Arab regions (e.g., Sub-Saharan Africa and South Asia).
2. The participation of women, youth, and indigenous populations in water governance.
3. The increasing influence of migration and the demand for urban water in the cities of MENA due to climate change.

With increasing climate risks and population, the Arab world has to confront the political character of water. Scarcity is not an automatic source of conflict, but when combined with lax governance, exclusionary policies, and regional imbalances, it becomes an exceptionally destabilizing factor. Nevertheless, water is also a regional collaboration, state-building, and inclusive governance instrument. The space between repression, collapse, and resilience is the new marker of not only Arab regimes' water future, but also their political future.

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