

The Kemmy Business School empowers, enlightens and enriches through education, research and public engagement in order to sustainably transform the lives of individuals, communities and society.

Named after Jim Kemmy, former parliamentarian and Mayor of the City of Limerick, the School draws inspiration from his lifetime commitment to the common good, to widening education access, and to building a society characterised by fairness and dignity.

Today, as a triple accredited research led business school with a global mandate, we champion action-oriented interdisciplinary research which gives expression to our mission and values. We place a premium on tackling the challenges of our time and addressing key UN Sustainable Development Goals through conducting excellent research that has impact within and beyond academia.



Kuwait's oil wealth and water scarcity – geo-economic and geo-political insights

Abrar Alzankawi, Lucía Morales, Bernadette Andreosso-O'Callaghan, Daniel Rajmil

Synopsis

This research paper explores the geoeconomic and geopolitical dynamics of an oil-rich country in need of addressing water scarcity by connecting economic and political aspects of water security - and conflict - through oil revenue. The case of an oil-rich but freshwater poorly-endowed country such as Kuwait, shows that the country's attempt to meet the UN sustainable development goals (SDGs), as enshrined in its 2030 Agenda, is fraught with a contradiction; the desalination process of sea-water, to obtain freshwater, is highly dependent on fossil fuels use (oil), given the current available technology. This dilemma needs to be tackled in the context of Kuwait's sensitive geographical location in a region rife with conflict.

Introduction and Background

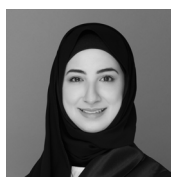
A number of factors explain the geo-economic and geo-political dimensions of water scarcity, namely: rising demand for freshwater; shifting supply; uneven and irregular distribution; and unsustainable management practices. All these potentially lead to conflict among countries and communities (Gleick, 1993; Michel, 2020). In the Middle-East, water has emerged as a strategic resource that fuels disagreement and that can easily translate into armed conflict. Since water is a vital resource that drives

ecosystems, prosperity and growth, it has been captured by global institutions through their discourse on sustainable development by becoming a key element in their "agenda" (UN, 2022; Garlock et al. 2022). Disorderly rising urbanisation rates and environmental pollution pose a threat to the management of this critical resource (Salem et al., 2022; Yuan & Lo, 2022). Surprisingly, the academic literature examining the geopolitical and geoeconomic dynamics of water scarcity is quite limited. In particular, there is a significant research gap in understanding the relevancy of both geoeconomics & geopolitics to freshwater availability in the gulf region. The specific case of Kuwait shows that water scarcity needs to be addressed in tandem with oil revenue dependency and production/trade diversification. This study questions the geoeconomic and geopolitical implications of water scarcity for Kuwait, and it briefly explores the significance of an energy sustainable economic model for Kuwait.

Issues and Questions Considered

A thorough review of the literature reveals that the Gulf countries are top consumers of both water and energy. In 2018, average water consumption per capita reached 560 litres/day (against 180 L/ day for the world on average), and average energy consumption per capita was reported to

Authors



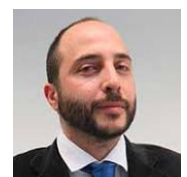
Corresponding Author:
Abrar Alzankawi,
School of Accounting,
Economics and Finance,
Technological University
Dublin, Ireland



Lucía Morales: School of
Accounting, Economics
and Finance, Technological
University Dublin, Republic
of Ireland



Bernadette Andreosso-
O'Callaghan, Chair of
Economics, Department of
Economics and Euro-Asia
Centre, Kemmy Business
School, University of
Limerick, Ireland



Daniel Rajmil: Law &
Political Sciences Faculty,
Universitat Oberta de
Catalunya, Spain

be 18,000 kWh (against 3,000 kWh for the world) (Al Bannay & Takizawa, 2022; Almasri & Alshitawi, 2022; Qureshi, 2020; Salameh et al., 2022). Relatedly, some 30 to 50% of these countries' oil production is used for co-generating energy so as to support the desalination plants' energy needs (Aleisa & Zubari, 2017; Qureshi, 2020); consequently, the production of clean freshwater is energy-intensive and it greatly contributes to environmental degradation. Also, the population is expected to continue to grow in these countries, to the extent that, by 2050, only 23% of the population's required needs will be met (Ben Hassen & El Bilali, 2022).

On the policy front, the UN SDGs 6 and 13 aim at "ensuring access to water for all". For the Middle-East, and for Kuwait, achieving these goals by 2035 is particularly challenging, since clean water production leads to further environmental degradation (given the current available technology). Kuwait is the third last of all countries with the lowest total freshwater flows (AlDousari et al., 2022; Alharbi & Csala, 2021; Hereher, 2022; Salem et al., 2020; Zittis et al., 2022). It is one of the world's most poorly-endowed countries regarding access to freshwater resources (Abdullah et al., 2021; Abdulrahman, 2020). However, home to the world's sixth-largest oil reserves (Naegele et al., 2020), the country is a leading oil-producing economy within the region. Nevertheless, given the current available technology, Kuwait is over-reliant on its oil resources to secure its population's water needs. Adding to Kuwait's fragile water security dimension, the trade structure of the economy (mono-product, Ricardian-type trade specialisation) makes the country prone to instability in a region known for its high level of geo-political uncertainty.

These elements lead to the imperious necessity to explore the issue of water insecurity through the lenses of both geoeconomics and geopolitics. Historically, access to fresh water has been a factor igniting wars between countries (Salameh et al., 2022). It is clear that an important aspect to consider is Kuwait's sensitive geographical location as its neighbours have very different political orientations. For example, with past and current rising political tensions, Iran had threatened to close the Strait of Hormuz, bearing in mind that 80% of Kuwait's wheat imports pass through this Strait as this the only maritime route (Al-Hemoud et al., 2019). Nonetheless, Kuwait's strategic location has allowed

the country to play a mediating role which helped downscale tensions between Qatar, the Kingdom of Saudi Arabia, the United Arab Emirates and Bahrain. Kuwait has thus become a significant player in the security and political stability of the Gulf Region (Altiok, 2023).

Outcomes and Findings

Throughout history, oil and water resources have led to conflict between countries. The Arabian Gulf countries, - and especially Kuwait -, have long suffered from freshwater scarcity; this has always been a significant concern and this could emerge as a future source of armed conflict, leading to social, economic, and political upheavals and posing significant challenges to security worldwide.

This research paper shows that freshwater scarcity can only be dealt with through the lenses of both geopolitics and geoeconomics. The example of Kuwait provides a practical case study that helps to understand the close interconnection between these two disciplines. Of specific note is the ability of Kuwait to play the role of a mediating country in the Gulf region, having helped to quench political tensions in the past.

From a production structure viewpoint, the case of Kuwait highlights the deep connection existing between water and energy resources. Given the current state of Kuwait's available technology, the desalination process of seawater to produce freshwater is highly dependent on oil. This production process adds to environmental degradation ("climate change"), that in turn, intensifies freshwater security problems. Consequently, and in contrast to what is proffered by the UN, water scarcity in Kuwait aggravates the country's ability to pursue an economically sustainable agenda.

Kuwait faces thus a significant dilemma as it needs to balance its population's demand for freshwater by desalination against the UN plan to become a "greener" economy. Diversifying away from oil production is a significant problem for Kuwait since its growth has closely been tied to the fortunes of oil production and of derived petroleum products. An obvious way forward is to address and reduce technical inefficiency by venturing into adequate technologies, such as seawater desalination plants by electromagnetic fields or/and by using hybrid renewable energy sources.

The underlying paper was published in the *Peace Review*, Volume 35 2023 – Issue 4 and a full copy can be obtained at: <https://doi.org/10.1080/10402659.2023.2272615>

Authors:

Abrar Alzankawi, Lucía Morales, Bernadette Andreosso-O'Callaghan, Daniel Rajmil

For further information and comments, please contact:

Prof Michael Morley
Assistant Dean, Research
Kemmy Business School
University of Limerick, Ireland
T: +353 61 212273
E: Michael.Morley@ul.ie

Forthcoming Research Bulletin

Title: Measuring Work Ability: How to capture whether an employee can meet the demands of their work

Authors:

Gemma McCarthy, Prof Donald Truxillo, Prof Deirdre O'Shea, Dr Grant Brady, and Dr David Cadiz.

About the KBS Research Bulletin

The purpose of the KBS Research Bulletin series is to make our research more readily accessible to a wide range of interested stakeholders, and so to allow our work to have a useful impact on the society in which we operate. We regard this as an important part of our stakeholder engagement. The dissemination of these bulletins aligns with both the UL focus on excellence and impact in research, and on the KBS strategic goals of cultivating excellence in research while contributing to our community of stakeholders in a responsible and sustainable manner.



UNIVERSITY OF
LIMERICK
OLLSCOIL LUIMNIGH

**Kemmy
Business
School**