



RESEARCH PAPER

**Middle Eastern Energy Security: A Study of Threats and Countermeasures**

<sup>1</sup>Huma Bilal and <sup>2</sup>Dr. Ali Shan Shah\*

1. PhD Scholar Department of Political Science Government College University Faisalabad , Punjab, Pakistan
2. Assistant Professor Department of Political Science Government College University Faisalabad, Punjab, Pakistan

\*Corresponding Author: alishanshah@gcuf.edu.pk

**ABSTRACT**

The objective of this research is to analyze the impact of terrorism and regional conflicts on energy security and propose countermeasures to protect critical infrastructure. Energy security is important to world stability especially the Middle Eastern region that hosts some of the world's key oil resources. The region has been vulnerable to conflicts, wars and terrorism, which are factors that endanger the infrastructure that supports global supply of energy. The study examine energy security, terrorism and regional conflicts are essential topics, which have been discussed in the literature. It also examines various case studies of previous tragedies and crisis that have targeted energy systems, including oil refineries. There have been a number of supply disruptions which include; acts of terrorism for example the 2006 terrorist attack on an oil processing facility in Saudi Arabia's Abqaiq, regional instabilities like the Yemen civil war. Such occurrences reveal the weakness in key infrastructure thus acts as a pointer to world economy. It also recommends heightened cooperation among the neighbors; tough security measures; exploitation of resources outside the conventional power generation; and sound structures to be put in place in future to reduce the vulnerabilities.

**KEYWORDS** Energy, Gulf, Oil, Terrorism, Security, War

**Introduction**

The Middle East's sedimentary basins, including the Gulf States, contain mostly world's oil reserves 67.2%, OPEC 2024 figures, and 70%, USGS (USGS, 2023). About 26% of the world's oil output comes from the Middle East, home to 5 of the top 10 oil-producing nations. It's also crucial to remember that, by 2030, Gulf manufacturers should account for 51.8% of global production (Carpenter, 2024). Thus, in terms of energy supply policies, the US, the EU, and the Asia-Pacific region heavily rely on oil from the Persian Gulf States.

According to forecasts over the next thirty years, the world's oil demand is expected to rise from 84.2 million barrels of oil in a day (mbd) in 2018 to 121 million mbd in 2030 (IEA, 2004). Technology, science, engineering, and a stable political and economic environment are needed for investment to extract oil from the Gulf region's sedimentary basins and transport it to international markets. Secure transportation lines and petroleum basins; apply this principle to all of them. The conventional definition of energy security is a consistent, sufficient energy supply at fair pricing (Bielecki, 2002).

An uninterrupted supply of oil is essential to global economic development and peacekeeping, but it can only occur in a secure energy environment. This study aims to identify security concerns associated with the Gulf region's oil supply and provide remedies.

**Literature Review**

Effects of terrorism on Middle Eastern energy is also evident showing how terror acts on oil refinery, pipelines, and power plants thwart energy delivery and economic uplift.

The current extant literature does not provide an assessment of the ultimate capability of such critical energy infrastructures against multiple terrorism attempts let alone capture how they are designed to evolve on a progressive basis against these threats(Fattouh, 2007).

This literature reviews the effects of international interventions on Middle Eastern security emphasizing on the military, political and economic interventions. Nonetheless, there is a dearth of literature on the effectiveness of these interventions more so their effectiveness in the development of long-term peace and stability in the region. Practice development in response to such gaps is still insufficient and the development of innovative, culturally specific intervention is required(Liu, 2018).

Energy security in the Middle East has been covered a lot in literature especially in regard to the natural resources that are available in the region with more emphasis on oil resources and the significance of stable energy exports. Nonetheless, there is lack of extensive research done on the issue regarding the longevity of energy infrastructure where political instabilities and economic fluctuations persist. Future studies are required to evaluate how these issues can potential enemas energy security in the future within the region(Cordesman, 2006).

The literature review reveals that energy cooperation between Israel and the Persian Gulf states has been considered as a potent strategic imperative that can unlock great economic values and opportunities especially in oil and natural gas industries. The studies underscore the benefits that accrue from such cooperation especially due to energy demand of Israel and surpluses in the gulf. Nevertheless, there is a noticeable lack of the study of the political and security factors threatening the achievement of these partnerships. Surprisingly, the literature is somewhat scarce in extended discussion as to how these geopolitical realities might be overcome to support sustainable partnership(Bahgat, 2005).

### **Material and Methods**

Perform a comprehensive examination of the current body of literature pertaining to terrorism, energy security and regional conflicts in the Middle East.

Examine past case studies and publications regarding the influence of regional instability on energy infrastructure.

Collect data on terrorism, conflict areas, energy generation, and disruptions in supply from official government and international sources.

Examine and evaluate particular occurrences in which acts of terrorism and regional conflicts have directly affected the stability and reliability of energy resources, such as the targeted assaults on oil installations in Saudi Arabia and the interruptions in Yemen.

### **Geopolitical Conflicts**

The Suez Canal battle occurred in 1956, followed by Arab-Israeli Wars in 1967 and 1973. The battle between Iran and Iraq took place in the 1980s, while the invasion of Iraq in Kuwait happened in 1990. Lastly, USA and British invasion of Iraq occurred in 2003, and numerous other horrific wars and conflicts to date have all occurred in the Middle East (Fattouh, 2007).

### **Yemeni Civil War**

Yemen war refers to the conflict in Yemen that involves a military intervention led by Saudi Arabia. "In 2014, the Houthi insurgents affiliated with Iran and known for their history of rising against the Sunni and took over Sanaa, the capital of Yemen". They

requested a reduction in petrol prices and the establishment of a new administration. This event signified the commencement of the nation's internal armed conflict. In January 2015, the rebels took control of the presidential palace, and President 'Abd Rabbu Mansour Hadi' and his cabinet to step down after unsuccessful talks. In 2015, a coalition of Gulf states led by KSA, initiated an airstrike and implemented sanctions against the Houthi rebels with the assistance of logistic and intelligence support from the United States (Action, 2024). Yemen became involved in a regional proxy war due to the involvement of regional powers, including KSA, Iran, and Gulf nations, in the country's struggle. This war is rooted in the broader Sunni-Shia division.

### **Israel and Arab**

Israel Arab world includes West Bank Israel, Egypt, Gaza Strip, Lebanon, Syria, Jordan, Iraq. There have been multiple wars between Arab world and Israel since creation of Israeli state following World War II. Israeli troops have engaged in military combat with a number of Arab forces, most notably in 1948-1949, 1956, 1967, 1973, 1982, 2006, and 2023 to present. The region's oil supply was severely hampered by these battles. First, the 1948 closure of the Mosul-Haifa oil pipeline in northern Iraq was a result of the formation of Israel. Following the Israel- Arab War in 1957, Gamal Abdel Nasser, the Egyptian president at the time, blocked the Suez Canal. During the Israel-Arab War in 1973, Arab oil producers placed an oil embargo on Europe and USA, causing first oil shock. The Israeli-Arab conflict did not yield additional oil for global markets or allow US soldiers to occupy its country (Sen, 2007).

### **Israel and Hamas**

Israel, West Bank, Gaza Strip Amid Internal Palestinian turmoil, Hamas assumed sovereignty over Gaza, while Fatah governed the West Bank. Wars broke out between Hamas and Israel in 2008, 2012, 2014, 2018, 2021, 2022, and 2023. Hamas carried out cross-border incursions on October 7, 2023, in the bloodiest attack against Jews since the Holocaust. In an attack against Israel in 2023, Hamas took the lead, murdering almost 1,200 people and kidnapping about 240 more (Haddad, 2023). The following day, Israel declared war and launched airstrikes and a ground assault into the Gaza Strip. Much of Gaza Strip was destroyed during conflict, and this led to a humanitarian disaster. Over half of Gaza's structures were destroyed and hundreds of Palestinians were murdered in Israel's military response (BBC, 2024).

### **Israel and Iran**

This conflict included Iran, Israel, Jordan, Syria, Iraq, Yemen, Lebanon. The nuclear project of Iran has been the main source of contention as it has developed over the years. Israeli officials have pledged to halt or destroy it for decades. From 2010 to 2012, 4 nuclear physicists died while engaged in secret activities. In 2020, the founder of Iran's nuclear program also died. Iran alleged that Israeli operatives were responsible. Moreover, there have been suggestions that Israel played a role in the Stuxnet virus incident, which impeded Iran's progress in developing centrifuges in 2010. Prominent Israeli officials celebrated when President Trump withdrew from the 2015 Iran nuclear deal, which had been facilitated by six nations. In his 2023 speech to the General Assembly of UN, Israeli Prime Minister Benjamin Netanyahu made a firm commitment, stating, "As long as I hold the position of Prime Minister of Israel, I will exert all possible efforts to prevent Iran from acquiring nuclear weapons" (Wright, 2024).

### **Terrorist acts**

Oil production was temporarily halted in 1979 by the radical Islamist Ayatollah Khomeini's Iranian revolution. Iran currently has a semi-democratic and authoritarian

political structure. Although it is formally a theocracy, the fact that religious and secular officials share power ensures that opponents are always in competition with one another. The power is distributed between a paramount religious leader who leads factions and the Muslim Brotherhood supporters situated in Egypt, who might enhance their effectiveness and escalate pressure and terrorist operations within KSA to overthrow existing administrations. Iran, Afghanistan and Palestine also face similar concerns, albeit to a lesser extent. Given that these regimes are comparatively moderate and consistent in safeguarding the oil supply, in contrast to radical regimes that may endorse implementing greater measures that align with the principles of Nasserist Arab nationalism, this scenario could be the most adverse result for the safety of the supply of petroleum from the Persian Gulf region.

Terrorist attacks present a significant and tangible danger to the security of energy supply in the Persian Gulf States, notwithstanding their relatively small consequences. The 2002 detonation of a French oil supertanker near the coast of Yemen and the subsequent terrorist assaults in Saudi Arabia, were specifically aimed at oil fields after and foreign oil workers the Second Gulf War, had no impacts on the oil supply, other than causing an increase in prices.

The terrorist attacks of 9/11 showcased the potential of terrorist organizations such as Al-Qaeda to greatly compromise the security of the energy supply by specifically targeting oil tankers, especially those in Bab el Mandeb and Strait of Hormuz, as well as oil pipelines. (Klare, 2001). However, because of quick remediation efforts and security precautions, such attacks are certain to have only transient impacts.

Oil installations, pipelines, and tankers have been the deliberate focus of terrorist attacks multiple times. The assault on the Very Large Petroleum Carrier (VLCC) Limburg, which was carrying around 400,000 barrels of petroleum, by a boat loaded with explosives, off the coast of Aden, was undeniably the most remarkable. Following the attack, Al-Qaeda issued a warning stating that it was not a random strike on a passing tanker, but rather deliberate attack on international oil transportation route. The 2006 assault on Saudi Arabia's Abqaiq oil processing station provided material for speculative narratives in which Al-Qaeda successfully annihilated Saudi Arabia's oil infrastructure, resulting in severe social and economic consequences (Fattouh, 2007).

### **Countermeasures**

The influence of global rivalry, wars, crises, security lapses, and radicalism leading to terrorist attacks in Middle-East on the oil supply is evident. Instead of interim solutions, long-term measures are required to address this issue. Greater consideration should be given to the following potential solutions:

#### **Enhancing Peace and Cooperation**

Since the finding of oil in the Persian Gulf, rival states have been involved in disputes with one another. International support and the promotion of the common good and religious tolerance are crucial for advancing the peace process between Israel and Palestinians.

A hypothesis posits that by obtaining control of Iraq and promoting economic cooperation between Iran and other Arab through transfer energy, the region might potentially achieve complete peace. In addition to the peace process, it is important to implement measures that encourage and progressively create gas and oil trading among the Gulf countries and Israel (Bahgat, 2005).

After the signing of a peace treaty between Egypt & Israel, a series of consequential events occurred that had a profound impact on Israeli-Arab relations. The dissolution of the Soviet Union and incursion of Kuwait by Saddam Hussein were notably impactful. The end of the Cold War undermined regimes in the region that were in opposition to US and Israel. The initial Gulf War heightened the interrelations between Kuwait, and Israel, Qatar, Bahrain, and the UAE. Israel subsequently achieved a peace agreement with Jordan. Furthermore, a conflict erupted in Northern Iraq involving Syria, Iran, and Turkey, all of which own substantial Kurdish communities. Granting an elevated federal or semi-autonomous status to Kurdish organizations in the northern region will unavoidably weaken the rights and adequate representation of Turcomans and other ethnic populations living in Iraq. Arabs finally refuse to accept such a situation. Hence, the protracted ethnic (Arab, Iranian, Turcomans and Kurdish), religious and regional (Sunni and Shi'ite) confrontations have the potential to persist and escalate beyond the immediate geographical boundaries of the region (Malkasian, 2021).

Amidst the civil war in Iraq, there were occurrences of suicide bombs and targeted assassinations that specifically targeted Iraqi civilians rather than the coalition military. As a result, there was a significant disruption in the supply of oil, resulting in an unprecedented increase in oil prices and a significant oil crisis. To re-establish regular diplomatic relations between the United States and Iran, Iran must halt its long-range missiles program and uranium enrichment, as well as its support for terrorist organizations. In addition, Iran should aim to achieve the utmost transparency in its dealings with the IAEA. Iran's pursuit of nuclear weapons can be attributed to different motivations. These factors encompass nationalistic sentiment, the aspiration to secure a dominant position in the area, apprehensions regarding instability in Gulf and neighboring regions, the necessity to offset conventional military disadvantages, the objective of dissuading the United States from engaging in military intervention or attempting to change the regime, the intention to deter Israel, and the perceived threat posed by the nuclear capabilities of India, Pakistan, the USA, Russia, and Israel in the Gulf area.

The dispute between Israel and Palestine has led to the casualties of approximately ten thousand individuals and forced migration of millions. Origins of this can be attributed to colonial legislation that occurred over a century ago. Israel has initiated a war against the Gaza Strip in response to a highly unusual strike by the armed Palestinian group Hamas. As a result, the global community is closely observing the potential developments that may follow (Alsaafin, 2023).

### **Strong Security Plan**

The security factor is crucial for maintaining peace in the Gulf areas and ensuring the uninterrupted oil supply to global markets. An intelligently designed and implemented security system could play a critical role in deterring hostile competitiveness, conflicts, religious radicalism, and terrorist acts. Both internal and foreign factors influence the Gulf security system. The Substitute Strategy is ineffective in guaranteeing oil supply security as it ultimately leads to increased instability by generating an imbalance of power. The Regional Defence Force or US Central Command approach fails to adequately meet the security requirements of the Gulf region due to the increasing complexity and integration of security issues (Roy, 2017).

Moreover, following the invasion of Iraq, it has become evident to all parties concerned that the strategy of pre-emptive strikes is ineffective in resolving stability and security problems in the oil-rich region. The reason for this is that combat and conflict sustain a detrimental cycle, intensifying disorder, extremism, and terrorism in the Gulf region. (Byman, 2005). Hence, it is imperative to embrace novel methodologies and tactics specific to this particular area. A potential solution might involve implementing a proactive

approach that establishes a feasible, deterrent, and effective equilibrium of strength between Arab States, Israel, and Iran.

To achieve this objective, it is necessary to assist the less robust Arabian security system through the implementation of measures that enhance security, and to a certain extent, offer international guarantees against potential aggressors.

The oil importing countries from Gulf region should employ same procedures to control both the stronger Iranian and Israeli security systems. Furthermore, the matter of progressive demilitarization in Gulf region should also be included in the plan to ensure the security of oil supplies. This ambitious yet concise preventative procedure, as previously stated, should commence with disarming of Strait of Hormuz, which serves as the world's most crucial oil transit point.

### **Counter Terrorism**

A primary factor contributing to terrorism and extremism is the Palestine-Israel conflict and its ramifications.

Organizations such as Hamas, PLO, Hezbollah, Islamic Jihad, and during the Israeli-Palestinian conflict, associated Martyrs of Al-Aqsa have all experienced development and greater efficacy.

To be more precise, it may be argued that there are identifiable underlying causes that contribute to extremism and terrorism in the Gulf Region. These include Shiite and Arabic Islamist groups such as Muslim Brotherhood, Ensar-ul Islam, El-Camaat-el Islam, Hamas, Islamic Jihad, and Hezbollah. The series of terrorist assaults commenced with the bombings in Tanzania and Kenya in 1998 and reached its peak with the events of 9/11. Following the Afghanistan battle against the Taliban and Al-Qaeda terrorism has become focused in Iraq, Spain, Turkey, Saudi Arabia, and the UK, resulting in numerous lethal suicide attacks (Ahmed, 2000).

The battle against radicalization and terrorist activity can only be achieved through the implementation of increased political, social, economic, and religious liberties, as well as the establishment of a long-lasting and equitable resolution to the Israeli-Palestinian conflict (Ahmed, 2000).

Resolving the crisis and establishing a feasible peace between Arabs, Iranians, and Americans.

In addition, to avoid the negative consequences of having large oil funds, it is crucial to implement transparency measures such as the "publish what you pay" initiative and establish effective methods to monitor oil earnings in the region (Burke, 2003).

### **Conclusion**

The availability of oil from the Gulf region is crucial for maintaining a strong global economy and promoting its expansion. The uninterrupted and unrestricted availability of this oil, ensuring its smooth distribution to global markets, is a crucial concern for maintaining stability. Comprising the countries in the Gulf region as well as nations that import oil globally. A narrative centered around markets and Institutions is better appropriate for ensuring a reliable oil supply. The existence of Empire order and Trans-Atlantic fracture will inevitably result in a fragmented gap in the oil supply value chain in Gulf region. To bridge the disconnected divide, a strong link with a functional nucleus is essential. Employing a proactive approach, as opposed to a preemptive attack, is more suitable for assuring energy supply security. Ensuring the security of the oil supply is crucial,

and it is imperative to combat radicalism and terrorism to achieve this goal. Exclusively relying on United Nations agencies and methods is insufficient to effectively tackle all the issues in the Gulf region concerning the security of the oil supply. It is necessary to develop an internal power equilibrium as a precautionary step among Persians, Arabs, and Israelis, with the support of EU, NATO, USA, and Asia-Pacific-based organisations, both pre-existing and newly incorporated.

### **Recommendations**

- Implement a strategy to broaden the range of energy sources and establish partnerships for importing energy.
- Allocate funds towards the development of sustainable energy infrastructure.
- Strengthen regional collaboration and establish agreements for the exchange of energy resources.
- Enhance energy storage technologies.
- Create and implement strong cybersecurity protocols for energy infrastructure.
- Enhance energy efficiency standards and implement effective methods.
- Increase the capacity of strategic petroleum reserves.
- Encourage the advancement of alternative energy technologies through research and development.
- Enhance efforts to bolster regional security and promote political stability measures.

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