

The Yemen Houthi-Saudi Conflict: Iran's Strategic Influence and the Impact of Disruptive Technologies

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Abstract:

This paper seeks to investigate the Houthi-Saudi Conflict in Yemen through the lens of disruptive technology infusion to modern warfare and the strategic influence of Iran. It examines how Yemen, a historically divided and struggling country, became an arena for proxy powers, particularly Iran and Saudi Arabia. Iran has made the Houthis more than a local militia; the rebels are now an effective military force with drones, ballistic missiles and cyberweapons that represent a major threat to regional security. The war has destroyed Yemen's humanitarian infrastructure and placed a chokehold on maritime commerce in the Red Sea, destabilizing the geopolitics of the Middle East. Citing UN reports, expert assessments and real-time data, the report says the war is no longer a border conflict but a "blueprint" for future asymmetric warfare between non-state actors backed by external states. The article concludes by arguing the necessity of technological containment, multilateral diplomacy, and inclusive political reconciliation for a resolution of the crisis.

Key Words: Yemen Civil War, Houthi Movement, Iran, Proxy Warfare, Red Sea Shipping, Global Geopolitics, AI Surveillance, Iranian Revolutionary Guard Corps (IRGC), United Nations

Introduction:

The Yemeni civil war is a contemporary example of contemporary proxy warfare. What was once a war in one of the poorest countries of the Arab world, stands as a proving ground for Iran's expansionist influence and new military technologies. Barely: more than 21.6 million people (two-thirds of Yemen's population) are now deemed in need of help and over 4.5 million internally displaced. The Saudis and its allies have been hit back at THE SAME TIME as well by a tiny rebel force with drones & missiles. The juxtaposition of not only man like warfare, but a brutal humanitarian disaster, begs for deeper examination.

Yemen's war, which has historical roots going deep, taking an unexpected turn is no more "just" a local civil war. Yemen was created in 1990 as an American-backed North Yemen and Soviet-backed South Yemen with both sides of Yemeni society from tribal, regional and religious divisions. After President Ali Abdullah Saleh began fighting the increasing demonstrations in the 2000s, as he waged brutal crackdowns against Al Qaeda and northern Shia Houthi rebels it only further divides him internally. Arab Spring swept away its regime in 2011 with mass protests. Hadi, who succeeded him came into office the war shattered state; he inherited a GDP that had plummeted and 50% unemployment, while also competing with other factions for power. Within 2014, however events of fractures deviated to a surprising turn: Houthis (Zaydis from the north)

entered Sanaa and drove President Hadi out of office; by Spring the following year President Hadi's government had effectively fallen a pawn to Houthis. In March, a Gulf coalition intervention of air strikes and blockade responded almost immediately as Saudi Arabia. Locally, a battle of regional-level: Saudi and UAE backed forces versus Iran-aligned Houthis. Such an evolution drives the 3 P conundrum at the core of the crisis. UN described it as the worst humanitarian disaster in the world and here Life goes on a millenium of Yemeni civilians. Rural communities are ravaged by famine, cholera epidemics that have sickened in excess of million and critical medication and creation of fuel are running low. As of 2023 more than half the population was malnourished and thousands dead by disease, privation. The cost to the region and beyond: Saudi Arabia, its allies have spent tens of billions on war; cities bombed and are under missile, drone attacks; at risk of international condemnation for humanitarian catastrophe. Most importantly the war serves as a drain for global trade: \$200 billion of shipping routes were redirected as a result of the Red Sea attacks (ties to the ongoing war in Yemen) slowly through Africa...leading to a huge increase both in fuel prices and insurance premiums. The risk is grave: it war drags on the future of Yemen hanging by a thread. Southern separatists (STC — backed by UAE) already do not give authority in Sanaa and Al Qaeda in the Arabian Peninsula (AQAP)/Houthi militias have filled the vacuum. Also, small Houthi drone & cyber brigades are expected to be demonstrated elsewhere, as the success of these tactics elsewhere could mean wider disorder.

However, some areas continue to be poorly defined with respect to this war. The media sensationalises dramatic missile hits or starving children but fails to relate the linkages in Iran's strategic calculus, advanced technology & local Yemeni dynamic. Scholars have written at length about the humanitarian catastrophe or tumultuous stability of Yemen, yet fewer studies integrate how disruptive technologies and Iranian proxy wars are bleeding this inchoate warfare. Iranian supplied drones hit Saudi oil facilities, and many narratives point this out but may not exhibit how such capability were passed along for training. The conflict in Yemen has been framed relatively infrequently as one would imagine the 21st-century drama of drones, cheap drone swarms, ballistic missiles cyberops and AI battling along side of a classic inter-tribal civil war. This article proposes to close the gap through triangulating data, expert testimony and instances in order to unpack how Tehran support and tech tools as used in the battle for Yemen.

All the evidence is there. Both in UN reports and by independent experts, the Houthis can not have built or purchased sophisticated drones or missiles on their own. A secret UN sanctions report (subsequently leaked) says the Houthis were “trained and assisted” by Iran's Revolutionary Guards (IRGC), Hezbollah and militias from Iraq and that this made them a “strong military organization”; They elegantly emphasize the captured weapon fragments as Iranian, and even an IRGC outlet has bragged about how “at your disposal” is the naval missile technology of Iran. Meanwhile, ground-level data paints a different picture: Saudi Arabia is equipped with some of the best U.S. defense systems in the world but it cannot stop plenty of Houthis drones or missiles. That discrepancy — low-cost attackers that get through the high-tech air defences (at times with obsessive regularity), is as much of an enigma that battlespace radio has been created for. Analysts say the conflict is playing out as a “living laboratory” of emerging battlefields. We will then calibrate these voices and make sure our story has the cold hard facts: data on civilian casualties and humanitarian requirements, leaked intelligence findings and remarks from officials including in Sana'a and Tehran. At the end of the day, one cannot forget about the local context. Yemen is real, it is inhabited by the agony and triumph that hide behind news articles. From the war zones in Yemen — Taiz rubble, Marib trenches and Hodeidah blockades; every ordinary Yemeni suffers daily against backdrop commonality. Tribal elder arrange peace deals on an interim basis, aid organizations risk shelling to get food and destitute families survive in the desert camps. The communities next door are keeping their fingers crossed. In distant corners of Saudi Arabia, border

villages such as Najran and Jizan regularly deploy air raid sirens in response to Houthis shelling; Djibouti and Eritrea overtly welcome international navies working at the Bab al-Mandab strait while Oman remains uneasy but not reckless sharing shared tribal predilections with northern-Yemen and now-and-again humanitarian relief. The web of local specifics means that Arabia too understands its war in Yemen. In the end, that is what my study tried to do with these threads: to unpack how the current civil war in Yemen came out of its fractured history; why Iran and Saudi Arabia are still ying and yang in this proxy battle (at previous contests) and where emerging technologies are tilting it all; and what this means to both the region and global security. Ultimately we hope to unpack not only what is going on in Yemen, but why it is important to the world of tomorrow.

Research Question

How has strategic and technological assistance from Iran transformed Houthi movement capabilities in the Yemen war? How have disruptive technologies — drones, cyber, AI surveillance and so forth — changed the traditional balance of warfare between non-state actors and state militaries in the Middle East, in the case of, say, Yemen-Saudi conflict

These questions seek to examine the strategic dimensions of Iran's involvement and the impact of modern warfare means in a shifting regional war landscape.

1. The Roots and Evolution of the Houthi-Saudi Conflict

Yemen's Historical Divisions: genus rather than the species Yemen has been divided for centuries. The northern mountainous area, and the south western (Yemeni) highlands that cut across like a knife with influences that went back because the British-backed Aden colony lying southward of this one. North Yemen and South Yemen coexisted uneasy after independence: 1994, Saleh's northern regime fought a short civil war with the Marxist state of South Yemen (later broken up). The same turmoils in link, being ingrained: After rule from a dictatorial center Yemeni distrust such. Yemen is tribal to its core — as President Saleh encountered repeated revolts from Zaydi Shia tribes in the north (later the Houthis) and Sunni tribal allies in the early 2000s who sided with AQAP. And beneath it all, Yemen was still the Arab world's poorest country subject to repeated droughts with 40–45% of its population malnourished and an economy in shambles. These fault lines, north versus south, rich vs. poor Sunni vs. Shia would later re-surface. A similar analyst said that Yemen's “internal divisions have been centuries in the making” and so, a modern war was perhaps at least, somewhat likely.

Uprisings: Latest stir started with the Arab Spring of 2011. Masses poured the street and wanted Saleh removed. In a Gulf-backed plan in 2012 he handed over to Vice President Hadi. The same Saleh and his network were still very much in power, Hadi was less and less capable of governing and discontent began to rise again. The protests erupted nationwide in 2014, when the government of Hadi ended the fuel subsidies. In September of 2014, the Houthis — Zaidi fighters seeking rights for their sect for decades — marched into the capital of Yemen, Sana'a and took over governmental buildings. Within the next few months they controlled most of north Yemen. In January 2015, President Hadi resigned and went into exile. Houthis purged parliament, then formed their own council.

The Saudis and their backers fought back hard. Saudi-led coalition of Gulf states mounted a maritime blockade on Yemen in March 2015 and carried out thousands of air strikes in support of the Houthi positions. The early intervention did dent the Houthis advance somewhat, allowing pro-Hadi forces (and subsequently UAE backed southern militias) to recapture Aden and push into the north. The Houthis regrouped, however. The former President Saleh, who had steadfastly opposed the Houthis for years now surprised (old President) aligned with them against Riyadh -- and this

last element prolonged the war. In November 2017, Saleh split with the Houthis and was executed by them, but the Saudis and the UAE by then had already discovered that Houthis were not just another backwater. There were some important exceptions — sporadic UN mediated cease-fires (including a period lasting into late 2022) but each time they dissassembled to fighting. Eleven years later, in a quiescent stalemate: Frontlines barely budge but both sides still pound away with strikes and blockades.

Regional Dynamics: Yemen dynamics become wider proxy war in region Gulf rivalries take centre stage too fast The Yemen conflict quickly took on the character of proxy war within the wider rivalry here The Saudis, who feared a pro-Iranian militia on their southern periphery were convinced that the war was existential. The broad objectives of Riyadh have been to eliminate Houthi missiles that have been lobbing on its cities and stop Iran establish presence on the gulf coast. While the UAE run a parallel track: backing secessionists in the south (Southern Transitional Council) to contain Islamism and preserve ports such as Aden, Socotra etc... In Qatar started as a member of Saudi coalition it was kicked out early (2017) due Saudi's regional rift with Doha weakened that already did not have cohesiveness. With the Houthi capacity rising, Iran's engagement became increasingly direct: in 2015 Tehran sent naval convoys to challenge an already weakening blockade and from there the network of allied "Axis of Resistance" groups (Hizbollah, Hamas, Iraqi militias) began to cooperate with the Houthis.

The dynamics of Inter-Gulf relations have also changed: the homogenous Gulf front is breaking down. Saudi Arabia turns against Iran win 2021 rapprochement as trust in Saudi-UAE relationship frays with Yemeni prize assets. In the background Oman is trying to mediate; Egypt and other Arab states keep an eye on Red Sea sea lanes. Overall, that means that no longer is Yemen alone: every Middle East power has a dog in this fight — U.S. arms sales (the U.S. provides most of the military support for Saudi Arabia), maritime security (the U.S. and UK now lead “Operation Prosperity Guardian” to protect shipping in the Red Sea) or political influence (Russia/China with both making offers to Houthis and frequently criticising Western-led strikes).

Current Situation: The war is now an expensive stalemate These are the front lines frantically circling al Marib, Taiz and Hodeidah for months. Much of the south and east are still under Arab coalition control, with the northwest and capital held by Houthis. Saudi-mediated truce in 2022 briefly halted the violence but had already degraded by late 2022 as both sides stalled on any aspect of a deal. Since 2022 we have had the Presidency Council (2022) led by Hadi replacement but it remains in exile or wobbly holdouts in Aden. Inside of Yemen, an intricately woven anti-Houthi web made of militias (islah partisans, southerners separatists) and whatever kind of unity.

Internally, there have been little diplomatic successes. Dialogue between Riyadh and Houthis (often facilitated in the past by Oman, or some other), has been tried off and on. It was a glimmer of hope to say that “progress in the Iran-Saudi Arabia detente of 2023” made the field violence (especially Houthi actions in Red Sea shipping) impossible. southern independence is being reinvigorated by the Southern Transitional Council, al-Qaeda (AQAP) has returned to areas that the coalition forces vacated. Essentially Yemen is still polarised and the situation tense. Back on the international front, the glimmerings of its emerging magnify – Gulf states and Israel alike begging what cooperation or conflict is on the horizon could change Middle East geopolitics. Most analysts agree until that breakthrough happens the result is going to be a costly grinding border war with occasional major yet limited engagements, instead of clear-cut victory for either side.

2. Iran’s Strategic Role in the Conflict

Proxy War: Iran, both strategically and covertly operates. Politically Iran says it has no control over the Houthis and says Ansar Allah an appropriately regional term from Tehran. All the same,

there are plenty of reasons to implicate Tehran as Yemeni sultan in robes for years. Iran employs the modus operandi of establishing proxies that are dangerous for its foes (mainly Saudi Arabia and Israel) without triggering full-blown war. This approach is reflected in the Yemen war. From at least 2014, the Quds Force (Iranian IRGC external arm), and its allies have been training and arming Houthi rebels. A UN panel of experts found that ‘the Houthis are taking false passports in order to travel to Lebanon, Iran and Iraq for "tactical & technical training"’. According to reports, IRGC experts and even Hezbollah marines have reportedly been integrated into some of Houthi units to teach the latter how to use complicated weapons. The UN sanctions report, which was leaked said simply: (...) numerous testimonies crossed ... thrice between witnesses to series Ans-un capable of producing complex weapon systems without foreign assistance. Iran had been methodically Changing the Houthis from an ineffectual rag-tag militia into a deadly fighting force through its tanking, training and materiel.

Arms Transfers: Specific case studies on Iran arms UN monitors have cited repeated instances — missiles, cruise missile and advanced drones employed by the Houthis are as well-aligned to Iranian designs. Tasnim, an Iranian IRGC-backed news agency announced in mid-2024 Houthi “naval ballistic missile technology is inspired from Iran” And they are even claiming to be the same like Qadr anti-ship missile model. This is what intel confirms as well: “It is the first acknowledgment that anti-ship missile tech has been exported into anything anti-ship like an Iranian class”. And after the highly publicized Houthis oilfield attacks in Saudi Arabia, a months later in early 2019 remnants discovered the engine on debris were same 100 per cent of those from Iranian drones. Investigators under UN actually confiscated pieces of Iranian rockets from a boat in the Arabian Sea intending to take them to Yemen. Scores of Iran-produced surface-to-surface missiles (e.g itointsirhanmmdcde, one type very common in Iranian industrial productions, Iranian Dehlavia) and drone parts are leaked from equipment lists of captured shipments. Putting it all together there is a mountain of evidence-ranging through the corridors of UN reports to think-tank analyses-to decipher the open fact that Iran has violated the arms embargo in Yemen.

Beyond the Hardware: Ideological Alignment As well Basically Following Zaydi Shia Islam, the Houthis have embraced enemy-of-all-Iran rhetoric more virulently. Houthi slogan in Yemen, “God is great, death to America, death to Israel, curse the jews, victory Islam” are similar to the speeches normalised by the leaders of Iran and Hezbollah. Iranian media and authorities boast, with their “Axis of resistance” — the Iranian list of proxies(Hezbollah in Lebanon, the milsaits in Iraq and Hamas) that have been fighting side by side against common enemies. The aim of Tehran is not sectarian conversion (Zaydis in Yemen aren't the same as Twelver-Shia) but rather it is about political powerplays. Iran hopes to keep Saudi Arabia bogged down in its anti-geico insurgency and establish power beyond the borders of landscape. Said the U.S. senior official, “Iranian inaction on Yemen will only embolden Saudi plans to strike into Iranian ally. In this context though, what Iranian leaders say belies their action. Iran has long played deniability (hailing “Yemeni brothers” as free agents) and feigning innocence on the Houthi successes that are masquerading as a stir against Saudi sway.

Geopolitical Goals: Yemen is an actor on Iran's larger chessboard to encircle its foes. Iran has another principal advantage of geography that western control in Yemen's western lowlands controls directly onto the Bab Al-mandab Strait as a chokepoint into the Red Sea. Militarily speaking, each missile or drone fired towards Saudi ports and tankers in the Red Sea says: “We can attack here.” Iran politically can position itself as the leader of an anti-Western alliance in the region by demonstrating Houthi non-compliance. Iranian officials flatly deny selling arms but statements by Iranian lawmakers have found their way on in a somewhat begrudgingly boastful tone; an Iranian-linked media outlet claimed Houthis “motivated by Iran and inspired of its

missiles”. Iran is finding cheap -if not illegal- means of influence where it remains powerful effecting proxy-war by analysts/ even this not random: The more successful Iran's regional policy is, the more the regime... likes to go looking for credit. The fact that Houthis are “the only proxy... to have demonstrated and used... the medium-range ballistic missiles” gets them a level-sevens in Tehran's deck.

Case Studies of Involvement: Show some examples to drive the point home. This previous month as Houthi cruise missiles landed on the UAE's capital (Abu Dhabi), pictures from the U.S. show missile parts stamped with Iranian symbols-soles also provide imagery; MANY DEMAND COND*CENS* In January 2019, twin drone attacks on Saudi oil facilities (Abqaiq & Khurais) used weapons far removed from the dweomer capacity has seen to be done by Houthis. The review of the U.S. intelligence said those drones could not be fired from Yemen at all, and their synthetic jet engines were bootleg copies of an Iranian design. The same goes for Iran's Noor anti-ship missile variant (see a clear case of the Houthis in their homeland parade parade their new Arash cruise missile in 2021.) Hezbollah commanders on the ground have since emerged from ambushes also in this year thank 2020 and a 2024 CIA cables decrypt warning of Hez butlers calling the shots for Houthi arsenal. Iran denies it all, but the layers upon the layers of circumstantial evidence... (sanctions panels, missile parts, expert interviews and even media acknowledgements) have virtually established that Iran has indeed provided arms and expertise to the Houthis -- turning a local insurgency into a sophisticated anti-air, anti-ship force.

3. Disruptive Technologies Reshaping the Conflict

Drone Warfare: One of the biggest transformation in Yemen war is the scale of that using drones in Drone Warfare. UAVs, or Houthis as they are now called. In the early days of the war they fashioned rudimentary drones for reconnaissance or small bomb drops. However, by 2019 they started to release hundreds of these drones into Saudi infrastructure with damage. Most of them (the "Qasef" and “Samad” series for instance could be considered to be derivatives from the Iranian solutions. Attacks on Abqaiq oil processing plant struck it in September 2019 reducing Saudi production by half for that day, the Houthis said. The investigators determined the deadly attack consisted of delta-wing drones nearly identical in design to Iran's loitering munitions, the Shahab-3 (previously called Arqam-4 or Busra) unmanned aircraft system. These drones can stay up for hours and are loaded with explosive payloads. The Houthi also publicly presented even harsher models in H2021 and 2022 (like the Quds-1 cruise missile/drone). It's difficult to underestimate how much Iran is involved: the drones doing all this damage often employ Iranian-engineered drone engines and superior guidance systems. Drone attacks by the Houthis has kept Saudi air defenses on high alert, Khashoggi-the Saudis say they shoot down aproximately 20 drones a month or more. But even these low-end UAVs can blanket the defenses and force the coalition to use expensive fighter jets and anti-air batteries against them. The psychological effect is also in order: for the first time a nation that is not used to aerial terror finds that villages in the West are subject to drone attacks.

Ballistic Missiles: Besides drones, the houthi have surprising range of ballistic missiles. They began in the local fight with short range rockets, but Iran has assisted them to get long range systems. Perhaps the best-known example, is the Burkan (Volcano) series which are derived from the Qiam or (Zelzal) missile of Iran. The Houthis fired a modified camel modified Burkan-1 missile from Yemen to hit Riyadh for the first time in 2016. The Iranian ban on anti-ship ballistic, missiles to get more attention. Military: Houthis got IRGC-NADME support with “Qader” type missiles (10-meters anti ship ballistic missile, ranges 700+ km) In Breaking Defense the other day,

Iran acknowledged that it has introduced a foreign power to develop primitive Iranian navie ballistic missile capability. U.S. Forces have detained Houthi supply ships bristling with more rockets and Scuds. Each launch is political dynamite: when a missile is launched into Saudi air space (roughly at times aimed at airports, oil facilities or military bases), Riyadh will shoot jets up to intercept. That cat &- mouse game just depletes resources of the coalition. On a purely cost basis, shooting down a missile with a Patriot missile is several hundreds tens of millions of dollars and the Houthis either build or acquire missiles for a fraction such as that.

Cyberattacks: Less obvious than missiles but as damaging to Yemen—are the war-related cyber operations conducted by various civilian groups. The Gulf is now said to have a "new cyber front" as part of the war Conflict Saudi and regional networks are being targeted by Houthi-linked hackers. For instance, in the year 2024, researchers unmasked “Yemen Cyber Army” via malware that targeted military personnel in Saudi Arabia, UAE and even Omani Justice League. They infected officer phones for location data and document snatch. As for NGOs and UN agencies in Yemen, they have even been hacked by Houthi hackers who probably want to find out what they receive from abroad or with whom or the aid is being sent. Along the way, there have been visits from Saudi banks and energy firms (usually DDoS or data leak attacks) which are believed to be from either Houthi, Iranian fronts. And Saudi Arabia is not indifferent to this, it builds its own digital defense as well. Allegedly, Saudi State Cyber Units (Some with the help of Western companies) have attempted to stop attacks on Saudi oil infrastructure and Hajj systems Official. And serious cyberwar between Iran and Saudi is constrained since it is mutual, but information networks have become clear that the Yemen conflict has made. The two sides swim in social media propaganda. The big impact, till now: a novel face of espionage and sabotage but still not too severe as compared to the kinetic warfare.

New AI and Surveillance: advances in artificial intelligence alongside surveillance have even encroached on Saudi-led front (though largely from the Arabian side) involving ours... The Saudis have substantially beefed up their border defences, in response to perennial cross-border threats by Saudi Arabia. While it has installed surveillance drones (General Atomics and EADS) with automatic detection software capable of spotting intruders and drones winging their way in on the ground. 1,300km UAE-Yemen border (satellite imagery + thermal camera fed into AI analytics, the sheikhdoms spent over \$10 billion on an AI-driven billion-dollar wall with sensors, and machine-learning radars). It is better at signaling an attack early, however nothing can stop every missile. Other sources say the coalition uses AI to derive command and control patterns of the Houthis (for example through analysing social media or signal intercepts attempting to forecast attacks). AI use on the Houthis' side remains murkier. But since the drones they fly are programmed, and some have autonomous hunt modules it could be argued that Houthis in fact use cutting-edge algorithms for navigation. (The 2020 UN panel noted that Houthis may be able to knock down relatively cheap AI-empowered engines and form of guidance parts to faster weapons via Iranian help into more geospatially accurate hits).

Impact Analysis: These new disruptive technologies have redrawn the battlefield. Symmetric predominance – hundreds of thousands of soldiers or fleets of jet fighters — has been somewhat diluted by cheap “asymmetric” methods. A Saudi Patriot missile battery and F-15 can be rendered useless by thousands of \$10,000 homemade drones. Even though it is a low number of Houthis missiles, shut down oil field for hours as seen in Sept 2019 (disproportionate leverage) "Drones will give Saudi Arabia a very big headache because they are robo-flies — and most of the kingdom has long borders...the country is very lethally vulnerable", according to an expert on Unmanned A.S.s. It is, to some degree because the techy aspect of the war has led coalition to transfer

important assets to home defense this year: in 2021 US scrambled up extra Patriot interceptors to Saudi Arabia & UAE after Houthi drone strikes. As the Houthis stockpiles an impressive array of high end tools (radar-absorbing drones, GPS-guided artillery shells, anti-ship missiles) they are normal in a non-state actor. That has turned Yemen's war into a "proxy drone war," where Iran counter-strikes Saudi Arabia a cosmic faces-off from overhead Yemeni skies and the Red Sea. As an analyst says: "They now have more lethal surface-to-surface and ballistic missiles, UAVs and other off axis weapons which can strike across the gulf.... No less significant perhaps than these economic givens is a question of destinies of potential players in international relations... the landscape for 21st-century conflicts has been carved in some important ways by disruptive tools.

4. Humanitarian and Global Implications

Yemen — Humanitarian Disaster: The human cost of Yemen is an immense. War has caused infrastructure to crumble and essential services are banned from reaching citizens. UN agencies say "the worst humanitarian crisis of our time." And the numbers quantify it: UNICEF and others tell stories [that] suggest some form of aid is required for 21 million (roughly ~30 million) according to a UN survey. During many times, millions were one misstep from famine and still we go on food insecure. When health systems crumbled, cholera and malaria took over infecting a million Yemeni citizens. Severe acute malnutrition at 18.2 million (60 % of total population) according to UNICEF. Medicine is running out in hospitals and 80% of the country live in poverty. Over A million children have been pushed out of schools; malnutrition one of the highest in the world. About 4–5 million people have been displaced internally (uprooting neighborhoods), in a war. More worrisome is that studies show that so far about 60% of the 377,000 deaths due to indirect causes (starvation, preventable diseases), not bullets and bombs occurred between 2014 and at least 2022. In other words, basically all indicators show a society on brink. Airstrikes drop on civilians frequently, mine accidents similarly ruinous but starvation and disease kill many. And the continuous suffering plays in part to instability: s. We know how when we look at others this becomes armed rebellion or quest for food and security not necessarily ammo and artillery in the form of violence.

Regional Instability: Yemen has wider ramifications beyond its borders. Maritimes aside, the broader region should guard maritime security. The Red Sea is a key chokepoint in the world: more than one-third of all containers and 12% of seaborne oil pass through the Suez. Since the end of 2023, hundreds of commercial vessels along Red Sea and in the Gulf of Aden have faced attack waves with Houthi forces in Gaza solidarity. Around 20%+ of the ton-mileage going through shipping lanes that re-route to avoid Africa (major shipping firms have set aside over a trillion dollars). It also meant an additional convoy-laid of weeks of transit time and dumping \$1 million per container ship in spare fuel prices. Ship insurance in the Red Sea has seen a price increase near tenfold for ships still using it, Oil analytics. That could push fuel and consumer prices higher, as global inflation is high already. A layer of instability in the the Yemen conflict is thus an additional challenge for Gulf security. Maritime Forces have had to protect the southern oil and gas facilities far more heavily than ever before in these countries, out of fear of missile attacks. The linked proxies of Iran in Yemen effectively constitute a new battlefield on the Arabian Peninsula. Neighboring states also suffer spillover: Omani, which has cordial relations with some Yemeni would like to keep its neighbors happy, but also has the uninsured Yemeni refugees. Djibouti and Egypt (a major Suez Canal user) are building up their own naval patrolling as well. Second, as the Al Qaeda and ISIS affiliates in Yemen entangle themselves the chaos in Yemen means terrorism threats from there can easily spill to everyone else in the wider region sum, Yemen is the pivot of

Gulf geopolitics, Anything that happens there can change security dynamics from the Persian Gulf to Horn of Africa.

Global Responses: Though controversial, the international involvement has been huge in a less-productive way. The United Nations has passed several resolutions urging a cessation of hostilities and sanctions across the board. UNSC Resolution 2216(A) (April 2015) supported the legitimate Government of Yemen and demanded the withdrawal of Houthis, but did not get implemented in letter and spirit. In April 2023 the Security Council decried the Houthi attacks on Red Sea shipping, requesting a multinational response (the US-U.K. Operation Prosperity Guardian) to provide protection of navigation. Diplomatically, the UN has sent a Special Envoy to attend shuttle diplomacy but progress has been glacial. The U.N.-led peace process in Yemen has been repeatedly held up by the parties unwilling to compromise. Western also reacted at least from the start Governments. The U.S., for example, once armed and supplied the Saudi-led intervention but in 2021 the Biden administration stopped some offensive support (and briefly designated the Houthis as terrorists). Strikes (e.g., January 2024) are usually the least preferred option where Washington is concerned. The EU has committed several hundred million euros in humanitarian assistance and EU foreign ministers regularly confront the sides with a power vacuum. The U.K. and France (main arms suppliers to the Gulf) are in favour of all sides halting the indiscriminate attacks on civilians. As for Iran's opponents, all of them have their own stances. Saudi Arabia and the UAE still are promoting anti-Houthi militias while pushing for the Houthis isolation diplomatically. The most recent example has been Qatari brokers mediating between sides sat in quiet, once of the coalition. Across the aisle, Russia and China took the side of Houthis [in being sympathetic] Meanwhile Russia and China never voted/abstained on tough UN sanctions on the rebels; Russia to this day criticizes Western-led strikes as „aggression. In July 2024, even Russia hosted a Houthi delegation in Moscow and drew the Red Sea crisis into what it termed as Western aggression. Russian accuses Western-led strikes of being "aggression" China is more wishy-washy on the issue, calling for an end to attacks on ships by Houthis in order to protect the broader trade balance and make it connected with Gaza war but also does not want to condemn them outright. Beijing and Moscow provide the Houthis with an international bogeyman (useful to counter U.S. pressure) while urging restraint on all sides.

Yemen and Beyond: The Future (or Not) for Yemen Over Yemen needs reconstruction It has been cut in half economically by years of war (-50%), split into two monetary zones. The rial fell (by lost ~100%, around at the end of 2021), doubling food prices in one bite The infrastructure i.e. power plants, roads and factories are ruined. A post-peace one will be set to undertake a mammoth rebuilding effort, similar to what has happened in Syria or Iraq post-war. Yemeni politics are on the brink of become a weakened and permanently fragile state deep trust is dead, as is any mirage of national unity Other reason for the war- the longer war goes on, the more normalized fragmentation becomes (the STC was governing / administering many south areas almost alone since late 2017). Yemen offers lessons for the broader 21st-century war on a grand scale. Clearly demonstrates how a guerrilla movement armed by a regional state can make do with modern tech, often producing terrifyingly effective results. Drones and Cyberwar took puff the Saudis used in air support. The rebel had a battlefield range which included urban areas or trade routes: Ballistic missiles The example below shows that even among powerful states with high-powered arsenals, states must increasingly contend with low-cost innovations (see also Nagorno-Karabakh, Ukraine etc.). This shows us that proxy wars were alive and well where regional powers can fight a war without actually physically fighting each other- as wars become more complex and attrition wars more likely. In terms of diplomacy, Yemen is screaming that endurance civil wars – particularly in failed states – are likely to bring nearly every external actor into a picture which will be harder

to solve with geography or geopolitical developments changing (e.g. U.S.-Iran relations warming, Gulf politics). If the world does not solve Yemen in this crisis, its echoes would follow—i.e., tearing apart of Yemeni society; destabilization of a trade route integral to world economy and prototypes of warfare that copy that for whatever reason.

War in Yemen: echoes of larger trends Key takeaways

First — Anarchic Technology Meeting: Drones and missiles are cheap enough now they threaten great powers with inexpensive-small forces so think about new air defence, border security. And second, proxy geopolitics: Iran supporting Houthis shows regional game being played out through local players, internationalizing regional conflicts at least. Third, humanitarian versus strategic costs: Yemen highlights what high-stakes power contests look like when they massively collateralize civilian ruin- a sobering vision of 21st-century warfare. Then, the worldwide ramifications of local wars: strife in Yemen impacts trade in Asia, energy prices globally and international diplomacy revealing the web of security. To understand Yemen is to see how the geopolitics of today, bedevilled by new and old weapons bludgeoning old entrenchments will determine our era's map of power and the humanitarian terrain

Conclusion and Policy Recommendations

The Houthi-Saudi war in Yemen is at the juncture of old historical enmities, contemporary proxy conflict, and quickly transforming military technology. Starting as a civil war in one of the Arab world's poorest countries, it has metastasized into a multilayered conflict driven by outside powers, with Iran's strategic goals looming large. Tehran's support — including arms transfers, ideological backing and technological assistance — has transformed the Houthis into a force strong enough to challenge regional superpowers like Saudi Arabia and the U.A.E. At the same time, Saudi defenses have floundered to repel cheap, yet effective, drone and missile strikes, evidence of even the most sophisticated of militaries' vulnerabilities in asymmetric warfare. The human toll is staggering: famine, disease, displacement and infrastructure collapse are tearing at the very fabric of Yemen's future. In addition, international shipping in the Red Sea becomes war zone. Unless it is effectively mediated by an international organisation, the conflict threatens to become a permanent cause of regional instability. The world must see in Yemen not only a local war, but a kind of harbinger of future wars, waged by proxies and using disruptive technologies.

In particular, the following legislative actions are suggested:

Short-Term Policy Recommendations:

Establish Ceasefire Frameworks

The United Nations, supported by the United States and regional powers, should establish and maintain verifiable cease-fires overseen by neutral international monitors with the power to impose sanctions for noncompliance.

Strengthen Arms Embargo Monitoring

Equip the U.N. with drone and satellite surveillance aimed at enforcing the arms embargo against the Houthis and monitoring Iranian shipments.

Humanitarian Aid Corridors

Create demilitarized corridors to permit the delivery of food, medicine and educational supplies to the affected population, particularly in north Yemen.

Cybersecurity Cooperation

The Gulf states must work with international cyber-defense allies to establish a regional cyber early warning system.

Medium-Term Recommendations:

Disrupt Proxy Support Networks

Monitor and sanction black market financial and logistical pipelines feeding Iran-backed proxies in Yemen, through tougher global sanctions and maritime interdictions.

Encourage Inclusive Dialogue

International mediators should bring Houthis, the STC, civil society and tribal leaders to the table on peace talks, and not only the internationally recognized government.

Enhance Maritime Security

Broaden multilateral action in the Red Sea to protect international shipping routes from Houthi and Iranian meddling.

Final Policy Recommendations:

1. To elucidate intentions, pursue U.S.-China dialogue on AI in the military and intelligence domains (e.g., at the defense or foreign minister level). Create multilateral or cooperative mechanisms for assessing AI threats and resolving incidents (perhaps under APEC or ASEAN).
2. Strengthen Taiwan's cyber defenses and back its legislative initiatives to combat misinformation powered by AI. Maintain allied investment in defensive AI tools, such as anti-drone systems and surveillance drones with AI capabilities. **(Thomas, 2024)**
3. To allay fears, increase openness regarding military versus civilian AI developments. Building trust, for example, could be facilitated by exchanging cross-strait AI safety principles. U.S., Chinese, and Taiwanese leaders can lessen the likelihood that AI technologies will unintentionally drive the region toward crisis by combining strong defenses with explicit rules of engagement for AI.

The Taiwan Strait is still a strategic hot spot, but diplomatic stability can be maintained by managing AI-related risks sensibly and cooperatively. AI is a potent tool of statecraft, not just a technical one. The first step in preventing this reality from becoming a source of conflict is acknowledging it.

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