

PEACE AND SECURITY

ZOOMING IN ON THE YEMEN WAR

The Future of Warfare and
Human Rights in the Middle East

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The Gulf States and the Houthis have medium- to long-range precision-strike weapons at their disposal and have repeatedly deployed them in attacks that evidently violate International Humanitarian Law (IHL) standards.



Governments of major arms exporting states should reassess their arms exports to Saudi Arabia and the United Arab Emirates in light of such IHL violations and call on Tehran to invest its share in stemming the flow of components and complete weapon systems and any support for the use of these technologies.



Accountability in its various forms emerges as a central mechanism for preventing future international human rights violations and thus requires far more international support and attention.

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BICC (Bonn International Centre for Conflict Studies) is an independent, non-profit organization that deals with a wide range of global topics in the field of peace and conflict research. Our vision is a more peaceful world. Our mission is to conduct critical, problem-oriented, policy relevant research in response to the problems posed by organized violence.

CARPO – Center for Applied Research in Partnership with the Orient is a Germany-based think tank with a focus on the Orient that works at the nexus of research, consultancy and exchange. Our work is based on the principles of partnership, inclusivity and sustainability. We believe that a prosperous and peaceful future for the region can best be achieved by engaging the creative and resourceful potential of all relevant stakeholders. Therefore, CARPO opens enduring channels for trustful dialogue and interactive knowledge transfer.

INTRODUCTION

Missiles, drones, precision-guided munition, and other military technologies that enable belligerents to attack their enemies from a distance are changing the concepts and practices of warfare. While long-distance, precision-strike warfare was for a long time considered to be a predominantly Western/democratic way of war¹, in which democratically elected governments seek to minimize criticism of their interventions by reducing ground forces and containing conflict regions from the air to reduce war costs and casualties among their own soldiers and civilians in the war zone, the proliferation of respective technologies (primarily by Western states) and the rapid development of local arms industries now enable autocratic states and even some non-state actors to practice remote warfare, too.

This can best be observed in the conflict-ridden region of the Middle East, particularly in the Yemen war, which has witnessed the most extensive use of missiles and other aerial weapons of any conflict in recent history.² In the course of this conflict, Saudi Arabia, the United Arab Emirates (UAE) and other members of the Arab coalition have largely transferred fighting on the ground to surrogate forces such as local armed groups, tribes, and mercenaries, whom they finance, train and equip. Airstrikes with precision-strike technologies have become their primary military intervention so as to avoid responsibilities and costs associated with the control of territory.³ Large-scale damage to civilian infrastructure caused by the air campaign have given rise to severe challenges for Yemeni livelihoods with respect to food security, health care and the education sector.

The Houthis (a Zaydi movement from Sa'da turned de facto state authority with a strong paramilitary centre, who prefer to be known as Ansar Allah) are practicing a form of remote warfare as well, with technical and strategic support from Iran and its proxy Hizbollah in Lebanon. Since the beginning of the war in 2014/15, the Houthis have used ballistic and cruise missiles to attack civilian and military targets in Yemen, Saudi Arabia, and the UAE. In 2018, they also started using armed drones on a regular basis. In particular, their aerial attacks on cities (e. g., Marib) and crit-

ical infrastructure such as oil terminals and ports are having significant economic repercussions and are worsening the humanitarian situation in Yemen. FES, CARPO and BICC convened a two-day workshop with international and regional experts in Berlin from 31 May to 1 June 2022 to discuss this changing nature of warfare in the region, the humanitarian consequences of the new remote warfare by Gulf States and non-state actors, as well as its implications for arms control.⁴ This paper is a summary of the workshop discussions in which we take a closer look at the Yemen war to answer the following question: How has the proliferation of precision-strike technology changed the practices of state and non-state warfare in Yemen and what are the humanitarian consequences and lessons learned for arms export control?

WARFARE OF GULF STATES

The warfare of Gulf States, especially those with a claim for regional hegemony, has changed over the last decade. In the past, countries like Saudi Arabia and the UAE mostly fought in Western-led military coalitions by sending ground forces. Yet the United States (U.S.), as the most important ally in the region, reduced its military engagement in the Middle East during Barack Obama's presidency and opted for a policy of détente vis-à-vis Iran.⁵ The shift in U.S. foreign and security policy has changed the balance of power in the region and resulted in the Gulf monarchies' realization that they are now increasingly responsible for asserting their own security interests. These developments have led to military changes within their armed forces, extensive procurement of modern remote warfare technologies – although these systems are often procured rather for status and prestige – and a reorientation of their intervention strategy.⁶

In Yemen, the Gulf States largely avoid the deployment of their own forces on the ground. Special forces are mainly sent in for targeted killings, the conquest of strategically

1 Shaw, Martin (2005): *The New Western Way of War. Risk-Transfer War and its Crisis in Iraq*. Polity Press. Cambridge; Sauer, Frank/Schörnig, Niklas (2012): *Killer drones: The 'silver bullet' of democratic warfare?* In: *Security Dialogue*, 43 (4), 363–380.

2 Williams, Ian/Shaiikh, Shaan (2020): *The Missile War in Yemen*. Center for Strategic and International Studies. Washington.

3 Manpower constraints are another reason. Riyadh and Abu Dhabi currently have to counter Iran's asymmetric warfare in various proxy wars but lack the personnel and material capacity to do so. This lack of quantity is now being offset by high-quality weapons systems and a new remote intervention strategy that allows the Gulf monarchies to defend their geopolitical and economic interests in various regional conflicts simultaneously, while their armies can focus on protecting their own national territory.

4 In addition to BICC, CARPO and FES representatives, who acted as moderators, participants included five German and ten national, regional and international academics, think tank scholars, NGO representatives and members of the policy community. The workshop was designed and implemented in collaboration with the BICC research project *On the road to liquid warfare? The consequences of the proliferation of modern military technology on the warfare of autocratic states and non-state armed groups funded by the German Research Foundation – Project-ID 441237472*.

5 Even under Donald Trump, the U.S. withdrawal from the region continued, despite his clearly pro-Emirati and pro-Saudi line. Consequently, Riyadh and Abu Dhabi continue to harbor strong doubts about U.S. reliability, which have in fact intensified following Biden's election.

6 Stockholm International Peace Research Institute (2022): *Arms Transfer Database*. Available at <https://www.sipri.org/databases/armstransfers> (08.12.2022); Juneau, Thomas (2020): *The UAE and the War in Yemen: From Surge to Recalibration*. In: *Survival*, 62(4), 183-208; Shihabi, Ali (2017): *Saudi Arabia's new foreign policy doctrine*. Available at <https://english.alarabiya.net/views/news/middle-east/2017/12/15/Saudi-Arabia-s-new-foreign-policy-doctrine> (08.12.2022); Barany, Zoltan (2021): *Armies of Arabia: Military Politics and Effectiveness in the Gulf*. Oxford University Press. Oxford.

important cities, and infrastructure and training.⁷ Due to the risk-aversion of Gulf regimes, most of their own military is now concentrated far from the war zone; precision-strikes from a distance, conducted with combat aircraft, drones, precision-guided bombs, cruise and ballistic missiles – many of which originated in Germany and other European countries – have become the main practice of military intervention.⁸ Ground operations are largely transferred to surrogate forces (local militaries, tribes, mercenaries, militias), whom they train, finance, and equip. In this way, they retain a certain distance from the conflict and reduce casualties among their own soldiers. Having said that, the doctrine of fighting »by, with, and through local forces«⁹ created problems for the coalition.¹⁰

However, it seems that the Gulf States, particularly Saudi Arabia, have repeated the Western mistake by believing that with the help of modern weapons, particularly precision-strike technology, wars can be fought in a clean manner and victory will be fast and cheap. As the reality of the war in Yemen (once again) demonstrates, this is a myth. After more than eight years of war, billions of dollars in war costs, hundreds of dead soldiers in Yemen, and some dead among their own civilians as a result of Houthis cross-border attacks, the Gulf states, especially Saudi Arabia, are looking for a face-saving way out.¹¹

BACKGROUND: THE CURRENT MILITARY COALITION IN YEMEN

Saudi Arabia has been leading and coordinating the Sunni-Arab military coalition in Yemen since March 2015. Riyadh participates in the air campaign with around 100 combat aircraft, drones, cruise missiles, and helicopters and executes most airstrikes. Despite these having decreased since 2018, especially following the assassination of Jamal Khashoggi and international pressure on Saudi Arabia, there were 779 coalition airstrikes between January and March 2022; these took place immediately after the UN Human Rights Council vote to end conflict monitor-

ing and directly before the onset of the truce on April 2. Here, not only Houthi positions were attacked, but also residential areas, football fields, markets, farms, and a prison.¹² Despite the truce's expiry on 2 October 2022, no Saudi airstrikes have been recorded since then. Riyadh maintains two military bases in Abyan and al-Mahra governorates for training and strategic advice, and continues to be involved in providing material support, probably also drones, to anti-Houthi factions.¹³ The anti-Houthi forces consist of various military factions that are only nominally united by the joint military goal of defeating the Houthis, while all have different political and economic interests. Their alliances are fragile and fluid, occasionally leading to fierce in-fighting. The UAE participates in the military coalition with drones and 30 to 35 combat aircraft and executed the second-largest number of airstrikes after Saudi Arabia, which significantly increased after the Houthis' missile and drone attacks on Dubai and Abu Dhabi in January 2022. Strategically, the UAE focused its airstrikes on the frontlines and Houthi positions in the South to support the Southern Transitional Council (STC) and the Joint Forces, among others, which the UAE funds, trains, and equips.¹⁴ Estimates put the number of irregular troops controlled by the UAE in Yemen at more than 90,000.¹⁵ They are currently engaged in fighting on several frontlines and were so even during the truce between April and October 2022. To support STC forces involved in fighting at the Shabwa front, the UAE flew drone strikes in early August.¹⁶ Notwithstanding the large-scale withdrawal in 2019, some military advisers and elite forces remain in the country; for example, in Hadhramawt governorate, where the Emiratis maintain a military base. Until recently, the UAE – like Saudi Arabia – was involved in the control of naval access to Houthi-controlled al-Hudayda, and UAE-supported Yemeni forces also control ports along the southern coastline of Yemen, i. e. in Hadhramawt, Shabwa, Aden and Ta'iz, as well as on the archipelago of Soqatra and Perim in the Bab al-Mandab strait.¹⁷ Egypt previously participated in manag-

7 Binnie, Jeremy (2015): Saudi, UAE forces deployed to Yemen. IHS Markit (Jane's Defence Weekly). Available at <https://customer.janes.com/Janes/Display/jdw59287-jdw-2015> (30.09.2022); Defense News (2015): Saudi Special Forces 'Involved in Yemen Ops'. Available at <https://www.defensenews.com/home/2015/04/04/saudi-special-forces-involved-in-yemen-ops/> (30.09.2022).

8 Bales, Marius/Mutschler, Max (2019): German Arms in the Yemen War. Bonn International Centre for Conflict Studies (BICC Policy Brief, 2). Available at https://www.bicc.de/uploads/tx_bicctools/pb2_19_yemen_e_web.pdf (08.12.2022).

9 Yates, Athol (2020): The Evolution of the Armed Forces of the United Arab Emirates. Helion & Company. Warwick.

10 The objectives of their Yemeni proxies do not fully align with those of the Gulf states. Some have been unreliable, command and control are limited, friction between them is strong and their agendas are now exacerbating efforts to end the conflict.

11 Mutschler, Max/Bales, Marius (2023): Liquid or Solid Warfare? Autocratic States, Non-State Armed Groups and the Socio-Spatial Dimension of Warfare in Yemen. In: Geopolitics. Available at <https://www.tandfonline.com/doi/full/10.1080/14650045.2023.2165915> (02.05.2023).

12 Yemen Data Project (2022): Airraids Timeline per Month. Available at <https://yemendataproject.org/> (30.09.2022).

13 Transfeld, Mareike (2022): Three Scenarios for the Yemen War. Ceasefire Negotiations, North-South Confrontation or Division. German Institute for International and Security Affairs (SWP Comments, 6). Available at https://www.swp-berlin.org/publications/products/comments/2022C06_YemenWar.pdf (30.09.2022).

14 Al-Iriani, Mohamed and Mareike Transfeld (April 2021): »The Security Committees in al-Hudayda«, in: Transfeld, Mareike et al.: Local Security Governance in Yemen in Times of War. The Cases of al-Hudayda, Ta'iz and Aden, 16. Available at <https://carpo-bonn.org/wp-content/uploads/2022/05/YPC-CARPO-Local-Security-Governance-in-Yemen-in-Times-of-War-final.pdf> (30.09.2022).

15 Stoddard, Ed/Toltica, Sorina: »Practising remote warfare. Analysing the remote character of the Saudi/UAE intervention in Yemen«. In: Defence Studies 21(4), 447-467.

16 Armed Conflict Location & Event Data Project (2022): Regional Overview: Middle East 6-12 August 2022. Available at <https://acleddata.com/2022/08/18/regional-overview-middle-east-6-12-august-2022/> (30.09.2022).

17 Baabood, Abdullah (16.03.2023): Seas, Checks, and Guns. Emirati and Saudi Maritime Interests in the Yemen Conflict, Carnegie Middle East Center. Available at <https://carnegie-mec.org/2023/03/16/seas-checks-and-guns-emirati-and-saudi-maritime-interests-in-yemen-conflict-pub-89288> (02.05.2023).

ing access to the Houthi-controlled port city of al-Hudayda in the Red Sea. However, similar to Bahrain, Jordan, Kuwait, and Sudan, there is no evidence that the fighter jets provided by them early in the campaign are still deployed in Yemen. Qatar's military involvement ended in June 2017 following allegations of support for terrorist organizations and the related diplomatic crisis in the GCC. In April 2018, Morocco withdrew its fighter jets owing to rising tensions with the Polisario movement in Western Sahara. Currently, Sudan still has around 5,000 active ground troops in Yemen. The number of these, previously estimated at around 40,000, was significantly reduced in 2019. These infantrymen and mercenaries are deployed to secure the Saudi border, protect coalition bases, and fight alongside pro-UAE militias in the South. They are financed by Saudi Arabia and the UAE, which have also recruited mercenaries from the U.S. and other (mainly Latin American) countries.¹⁸

WARFARE OF THE HOUTHIS

During the series of Yemeni civil wars with Houthi involvement, the military strategy and tactics of the Houthis have undergone fundamental changes. Since 2004, the government and the Houthis have been almost constantly at war. From 2004 to 2010, then President Ali Abdullah Salih and the Yemeni military waged six wars against the movement, which had started to mount resistance against the political, economic and cultural-religious marginalization of their home governorate Sa'da and the spread of Saudi-funded Salafism in the Zaydi heartland of Yemen. During this time, which transformed the Houthis into a capable fighting force with an organized structure and ideology, they fought the Yemeni, and later also the Saudi military; the latter entered the conflict in November 2009 and predominantly employed traditional guerrilla hit-and-run attacks such as assassinations, ambushes, sniping and raids, for which Sa'da's mountainous terrain provided excellent conditions.

Since 2014, there has been a shift away from this asymmetric guerrilla warfare toward conventional warfare with heavy weaponry. The Houthis expanded their military actions beyond their northern stronghold of Sa'da and carried out large-scale ground offensives – with which they conquered the capital Sana'a and significant parts of the country's north and west – areas where they continue to be the de facto authority to this day. Three developments were decisive for this strategic transformation: Their coop-

eration with former president Salih, the lack of direct involvement of Saudi Arabia with its own ground forces in 2015, and Yemen's challenging topography. The cooperation with Salih dramatically changed the balance of military capabilities; approximately 60 percent of the Yemeni military (including the missile units) supported the Houthi/Salih alliance. This means around 70 percent of the army's pre-war weaponry was under Houthi control, including tanks, infantry fighting vehicles, artillery and helicopters.¹⁹ But their hidden (against the tribes) and hard expansion (against the internationally recognized government (IRG)) was not only enabled by the new heavy weaponry but above all by their tactics: What has become clear since the start of the war in 2014/15 is that in contrast to their enemy, i.e. the anti-Houthi coalition, the Houthis have a coherent leadership structure; they (generally) have a joint vision with their regional backer (the same does not hold true for the KSA internationally recognized government alliance), and they successfully adopt a dual function as a state and non-state actor.

The Houthis combine conventional with long-distance warfare. With the seizure of large stockpiles of Yemen's conventional weaponry, weapon parts still regularly smuggled in from Iran, foreign expertise, and local manufacturing, the Houthis have built up huge precision-strike capabilities, which include armed drones, ballistic and cruise missiles. Today, Houthis' inventory of ballistic missiles consists of Soviet OTR-21 Tochka missiles, Zelzal-3, Qaher-1/M2 missiles, SCUD-C, Zulfiqar, and Burkan-1/2H/3 missiles. They are also in possession of Quds-1 and Quds-2 land attack cruise missiles, most likely produced and supplied by Iran, C-801 and C-802 anti-ship cruise missiles and a couple of surface-to-air missiles. The most frequently used armed drones are the Qasef-1 and Qasef-2K. Since 2018, they have also commanded the Sammad-2 and Sammad-3, which are loaded with explosives and can reach most neighboring Gulf states.²⁰

The technical support provided by Islamic Revolutionary Guard Corps (IRGC) advisors and engineers were of vital importance. Numerous studies have documented that they significantly extended the range of older Soviet missiles that the Houthis had captured from the Yemeni army, of-

¹⁸ Roston, Aram (2018): A Middle East Monarchy Hired American Ex-Soldiers to Kill Its Political Enemies. This Could Be the Future of War. BuzzFeed News. Available at <https://www.buzzfeed-news.com/article/aramroston/mercenaries-assassination-us-yemen-uae-spear-golan-dahlan> (08.12.22); Steinberg, Guido (2020): Regional Power United Arab Emirates: Abu Dhabi Is No Longer Saudi Arabia's Junior Partner. German Institute for International and Security Affairs (SWP Research Paper, 10). Available at https://www.swp-berlin.org/publications/products/research_papers/2020RP10_UAE_RegionalPower.pdf (08.12.2022); Krieg, Andreas (2022): The UAE's 'dogs of war': boosting a small state's regional power projection. In: *Small Wars & Insurgencies*, 33(1), 152-172.

¹⁹ Cooper, Tom (2017): Hot Skies Over Yemen. Aerial Warfare over Southern Arabian Peninsula 1994-2017. Helion & Company. Warwick; Knights, Michael (2018): The Houthi War Machine: From Guerilla War to State Capture. In: *CTC Sentinel*, 11(8), 15-23.

²⁰ Williams/Shaiikh: The Missile War in Yemen; Hofmann, Fabian/Wright, Timothy (2022): The Houthis present high, low and slow challenges to the UAE's air defence. International Institute for Strategic Studies (Military Balance Blog). Available at <https://www.iiss.org/blogs/military-balance/2022/02/the-houthis-present-high-low-and-slow-challenges-to-the-uaes-air-defence> (08.12.2022); Jones, Seth/Thompson, Jared/Ngo, Danielle/Bermudez, Joseph/McSorley, Brian (2021): The Iranian and Houthi War against Saudi Arabia. Center for Strategic & International Studies (CSIS Brief). Available at <https://www.csis.org/analysis/iranian-and-houthi-war-against-saudi-arabia> (30.09.2022); Watts, Steven et al. (2023): Proxy Warfare in Strategic Competition: Military Implications. RAND Corporation (Research Report). Available at https://www.rand.org/pubs/research_reports/RRA307-3.html (02.05.2023).

ten deploying them beyond their usual purposes, e. g. turning air-to-air missiles into ground-to-air missiles.²¹ However, by February 2016 the Houthis had exhausted most of the army's pre-war missile stockpile.²² Therefore, the proliferation of missile and drone technologies from Iran was crucial for their ability to attack military and civilian targets such as residential areas, civilian (air)ports, and oil refineries in Saudi Arabia and the UAE as well as in Yemen.²³ The first drone attacks on a Saudi Aramco facility in Riyadh and an Abu Dhabi airport were launched in July 2018 using Sammad-3 drones. Since then, and until the truce that began on 2 April 2022 (i. e., even since its non-extension after early October 2022), these attacks on airports and refineries have occurred periodically, and often in combination with ballistic missiles. Houthi cross-border attacks, invariably portrayed as retaliation for coalition airstrikes, are intended to damage the political elite's reputation which is tremendously important for the Saudi and UAE leadership, discourage them from supporting anti-Houthi forces, and increase the cost of military intervention. With the Sammad-3 drones and the Zulfiqar and Burkan-3 missiles, the Houthis already possess technologies with a range of up to 1,500 km in their rapidly growing stockpile. If this technological development, for which the Houthis now no longer depend on Iranian support, continues, other potential targets in the region, such as Israel, may soon be within reach. The agreement by Iran in the context of the Iranian-Saudi rapprochement announced in Beijing on 10 March 2023 to no longer support the Houthis with weapons is therefore unlikely to have a strong impact on their technological capabilities.

Of course, the Houthis' arsenal of drones and missiles not only poses a threat to the group's regional adversaries. Throughout the war, they have indiscriminately fired artillery and missiles into densely populated residential areas in Yemen and their attacks in late 2022 on oil terminals in the South and East of the country illustrate their potential to target the entire country's coastlines as well as the surrounding waters, including international shipping lanes: The stated aim of the drone attacks on al-Dhabba port in Hadhramawt on 21 October and 21 November 2022 as well as the attack on Qana port in Shabwa was to force the internationally recognized government to stop selling locally

produced oil without consent from the authorities in Sana'a. These measures form part of the economic warfare between both sides that is now the central and rapidly escalating contestation since the start of the truce in April 2022 and its non-extension in early October 2022 (which resulted in »a truce without truce« in that there has not (yet) been a significant return to pre-truce levels of physical violence). While the group has not made any direct threats against ships in international waters so far, this shift of violent warfare in the direction of the maritime area as the »truce without a truce« within the country continues to hold is worrying.

HUMANITARIAN CONSEQUENCES

During the ongoing conflict, members of the Saudi/UAE-led coalition and the Houthis (as well as other armed actors such as the IRG and militias linked to the STC and the Joint Forces, for example) have committed serious human rights violations time and again, including the use of indiscriminate and disproportionate airstrikes and attacks on critical non-military infrastructure. Even during the truce from 2 April to 2 October 2022, some 3,000 incidents, including 2,208 »shelling/artillery/missile attack« incidents and 374 »air/drone strikes« were documented by the ACLED Truce Monitor 2022,²⁴ which killed more than 500 people.

As highlighted by the Yemen Data Project, in the course of the air campaign a total of 30 percent of the more than 25,000 airstrikes of the Saudi/UAE-led coalition were directed against civilian infrastructure, including residential areas, markets, schools, farms, detention facilities and hospitals. This project estimates that until the truce was implemented at the beginning of April 2022, 25,054 coalition airstrikes had resulted in 8,983 civilian deaths and 10,243 civilian injuries in Yemen since the coalition entered into war in March 2015.²⁵ Even if some of these attacks were not intentional and due to a lack of pilot experience, wrong target selection and incorrect air reconnaissance – the coalition often hit the wrong targets in a precise way – numerous studies have shown that these airstrikes are an integral part of Saudi and Emirati intervention strategy.²⁶ Both countries deliberately bombed food production and distribution, water supply installations, and hospitals to bring about a complete collapse of the economy, food, health, and education sectors in areas occupied by the Houthis. More than 2,000 airstrikes alone targeted agriculture, food, and drinking water supplies, making the food sector the third most tar-

21 Knights: The Houthi War Machine; Williams/Shaiikh: The Missile War in Yemen; Knights, Michael (2021): Yemen's »Southern Hezbollah«: Implications of Houthi Missile and Drone Improvements. The Washington Institute for Near East Policy (Policy Watch, 3463). Available at <https://www.washingtoninstitute.org/policy-analysis/yemens-southern-hezbollah-implications-houthi-missile-and-drone-improvements> (30.09.2022); Jones et al.: The Iranian and Houthi War against Saudi Arabia.

22 Cooper: Hot Skies over Yemen.

23 For more information on Iran's support for the Houthis, see: Juneau, Thomas (2021): How War in Yemen Transformed the Iran-Houthi Partnership. In: *Studies in Conflict & Terrorism*, Available at <https://www.tandfonline.com/doi/abs/10.1080/1057610X.2021.1954353> (30.09.2022); Uskowi, Nader (2019): *Temperature Rising. Iran's Revolutionary Guards and Wars in the Middle East*. Lanham: Rowman & Littlefield; Thompson, Henry/Watling, Jack (2022): *Assessing Dynamics of Control Through Iranian Technology Transfer to Yemen's Houthis*. In: *RUSI Journal*, 167(4-5), 64-77.

24 See <https://acleddata.com/middle-east/yemen/yemen-truce-monitor> (11.12.2022).

25 See <https://yemendataproject.org> (09.12.2022).

26 Mundy, Martha (2018): *The Strategies of the Coalition in the Yemen War: Aerial bombardment and food war*. World Peace Foundation. <https://sites.tufts.edu/wpff/files/2018/10/Strategies-of-Coalition-in-Yemen-War-Final-20181005-1.pdf> (30.09.2022); Yemeni Archive: *Attacks on Access: Systematic Targeting of bridges in Yemen*. Available at <https://bridges.yemeniarchive.org/> (08.12.2022); Forensic Architecture (2022): *European Arms in the Bombing of Yemen*. Available at <https://yemen.forensic-architecture.org/> (30.09.2022).

ged by the military coalition, after military installations and residential areas.²⁷ As repeatedly pointed out by human rights organizations, the UN Group of Eminent Experts, the UN Security Council's Panel of Experts and others, the Saudi/UAE-led coalition »failed in specific airstrikes to respect core IHL rules, including the principles of distinction, proportionality, and precaution.«²⁸

The Houthis, too, have indiscriminately fired artillery and missiles, including at densely populated residential areas, and have also caused civilian deaths in their cross-border attacks on Saudi Arabia and the UAE. According to the above-cited report, »Mwatana has documented at least 395 cases of apparent Ansar Allah ground shelling attacks that killed 369 civilians, including 165 children and 54 women, and injured at least 918 civilians, including 432 children and 126 women« in Yemen since 2014.²⁹ In addition to these direct victims of Houthi attacks, the groups' above-mentioned recent attacks on al-Dhabba and Qana ports are likely to indirectly impact the lives of millions of Yemenis. The bombardment of these ports in the South and East of the country led to a halt of oil exports (which are a crucial source of IRG income) and has been met by the internationally recognized government with the designation of the Houthis as »terrorist' group« on 22 October, an unofficial halting of fuel tankers entering the Houthi-controlled al-Hudayda port in mid-November (this restriction was lifted in the framework of more recent Saudi-Houthi rapprochement) and sanctions against 12 companies operating in Houthi-controlled areas as announced on 6 December. This escalation of economic warfare is likely to result in a further devaluation of the Yemeni Rial and further price hikes for essential commodities, which will have a deleterious effect on the population, large swathes of which have not had any purchasing power for a long time now.³⁰

The lack of international attention to the war in Yemen has indirectly contributed to this indiscriminate warfare on all sides, as demonstrated by data accumulated by the Yemen Data Project. An analysis of its Air War Civilian Casualty Average demonstrates that the murder of Jamal Khashoggi in October 2018 and the associated spike in media attention to the role of Saudi Arabia in the Yemen war, engendered a sharp drop in attacks on civilian targets by the Saudi/UAE-led coalition; at the same time, the total number of airstrikes stagnated at a comparatively similar level.

²⁷ ARTE Info – Disclose (2019): Jemen: Waffen made in France. Available at <https://www.arte.tv/sites/story/reportage/jemen-waffen-made-in-france/?lang=de> (30.09.2022).

²⁸ Mwatana for Human Rights & Yale Law School – Lowenstein International Human Rights Clinic (2022): »Returned to Zero«. The Case for Reparations to Civilians in Yemen, Report. Available at <https://mwatana.org/wp-content/uploads/2022/06/Returned-To-Zero-Report-2022-En-1.pdf> (30.09.2022).

²⁹ Ibid.: 109.

³⁰ Jalal, Ibrahim (2023): Under pressure: Houthis target Yemeni government with economic warfare. Middle East Institute. Available at <https://www.mei.edu/publications/under-pressure-houthis-target-yemeni-government-economic-warfare> (02.05.2023).

In turn, the end of the UN mandate in October 2021 for monitoring and investigations into IHL violations in Yemen gave rise to a strong increase in air raids.³¹

This shows that a central mechanism for preventing these international human rights violations in the future could be accountability in its various forms; either through criminal justice and the persecution of individuals implicated in war crimes, through reparations, through public reports on international law violations to ensure the necessary international attention (such as the UN Group of Eminent Experts, whose mandate was not extended by the Human Rights Council in October 2021) or through legal risks to individuals and companies in Western countries involved in arms licensing and trade.

CONSEQUENCES FOR ARMS CONTROL

The modernization of the Gulf militaries, a prerequisite for the airstrikes of the military coalition led by Saudi Arabia and the UAE, would not have been possible without Western arms transfers.³² Particularly the US and UK, but also France and Germany, have provided the Saudi and UAE military with modern combat aircraft, drones, missiles, and precision-guided bombs – and continue to do so. A case in point is the Eurofighter Typhoon. Between 2009 and 2017, Riyadh imported 72 of these multi-role combat aircraft from the UK – some 30 percent of the aircraft, however, consist of German components. It could be argued that granting export licenses for such weapon systems and related components and spare parts, at the latest after the start of air strikes in 2015, violated against national and international norms on the arms trade, as codified in Article seven of the international Arms Trade Treaty (ATT) or criterion two of the Common Position on arms exports of the European Union, for example. According to these, if there is a clear risk that certain arms could be used to commit or facilitate serious international humanitarian law violations – such as indiscriminate attacks on civilians – such exports shall not be authorized. While the risk assessment and final decision lie with national governments, it is hard for them to argue that such risks did not exist after 2015. In other words, the risk assessments of governments were, at least in this case, fairly erroneous.

Civil society actors have frequently warned of these risks. As one lesson learned from the Yemen war, governmental discussions and assessments should be much more open to such critical perspectives and factor these insights into the assessment. This is particularly relevant in light of the failed extension of the truce in Yemen at the start of October and the ensuing potential for (further) cross-border attacks by both sides. The current Houthi-Saudi rapprochement has

³¹ See »Airstrikes Timeline Per Month«, Yemen Data Project: <https://yemendataproject.org> (09.12.2022).

³² If the West were to suspend arms deliveries, the Chinese or the Russians could not simply close this capability gap, as, interoperability, among other things, could not be ensured.

many pitfalls and there remains a potential for failure. Future arms export decisions must not repeat past mistakes by ignoring this.

The Houthis, in turn, are supported by Iran with the transfer of missile and drone technologies, and accompanied by the provision of military advisors, trainers, and engineers. With the help of these technologies, the Houthis have attacked several militaries and civilian targets in Saudi Arabia and the UAE as well as numerous targets locally. Above all, oil and gas facilities were targeted in the cross-border attacks, but also civilian airports. Several of the technologies used for the manufacture of drones and missiles are dual-use technologies that can be deployed for civilian and military purposes, for example, servo actuators or pressure flow transmitters for fuel. The Houthis have set up an international supply network enabling them to buy such components, also from companies in Germany, and transfer them, for example, via China (and other countries) to Oman and from there into Yemen. A few of these de facto dual-use technologies are not cited in the list of dual-use goods under the Wassenaar Arrangement, which was established to contribute towards regional and international security and stability by promoting transparency and greater responsibility in the transfer of conventional arms and dual-use goods and technologies, thus preventing destabilizing accumulations. According to the rules of this multilateral export control regime, goods and technologies on this list are subject to national export controls to prevent unauthorized transfers or re-transfers of those items.

CONCLUSION AND RECOMMENDATIONS

Remote warfare has been and continues to be a significant component of the Yemen war, employed both by the Saudi/UAE-led coalition in support of the anti-Houthi coalition as well as the Houthis as a para-state actor both in the framework of drone, ballistic, and cruise missile attacks within the country as well as on targets in Saudi Arabia and the UAE. There is sufficient data-based evidence to corroborate that these technologies have not only clearly been used with disrespect on both sides for the obligation to safeguard civilian lives, but also as an integral part of the Saudi and Emirati intervention strategy to destroy civilian infrastructure and livelihoods in Houthi-controlled areas. Given this ongoing violation of core IHL rules, such as the principles of distinction, proportionality, and precaution, exporting countries have been repeatedly called upon to review their licensing procedures as well as arms control regulations.

As the final draft of this paper is being written, the Iranian-Saudi rapprochement as announced in Beijing in March 2023 as well as the Houthi-KSA talks suggest that there may soon be an end to the cross-border dimension of the Yemen conflict and the possibility of intra-Yemeni talks on the horizon. However, many pitfalls and challenges line the path towards these goals, and the Houthis, in particular, continue to underscore their willingness to return to open warfare should their demands not be met. The potential of

relapse into open warfare, including cross-border attacks, cannot therefore be ruled out.

Based on the findings of this paper and the input of the workshop participants, we recommend the following in regard to arms exports:

- To clearly tie arms export licenses for Saudi Arabia and the UAE to an adherence to IHL norms;
- To reassess and revoke existing arms export licenses for Saudi Arabia and the UAE if IHL violations continue;
- To incorporate the insights of civil society organizations into future assessments of arms export licenses and to improve their national arms export control laws by establishing a right of NGOs to initiate legal action against the government's arms export licenses;
- To problematize vis-à-vis Iranian policymakers the proliferation of Iran-made missile and drone technology across the region and into Yemen. Tehran needs to be called upon as a regional actor to invest its share in containing the flow of components and complete weapon systems as well as any support to use these technologies. If this does not happen, the EU and the UN should develop further advanced and targeted measures to hold Tehran accountable;
- To assess how the flow of smuggled weapons and components via traditional smuggling routes by land and sea into Houthi-controlled areas can be curbed more effectively and to implement respective measures;
- To update the Wassenaar list with technologies that can be used, for example by non-state armed groups, to manufacture armed drones and missiles. Although it may not halt all proliferation of such technologies, such a step should make it harder for the Houthis and similar actors to acquire them.

AND WITH REGARD TO ACCOUNTABILITY:

In light of state and non-state actors' increasing ability to independently manufacture medium- to long-range precision-strike technologies and the resulting limitations of exporting countries in the West to exercise control over their use against civilians, accountability in its various forms emerges as a central mechanism to prevent future international human rights violations and thus requires far more international support and attention. Immediate steps to be taken with regard to the ongoing war in Yemen should be:

- To advocate for reparations that directly benefit Yemenis across the country as the economic cost of the current war is borne by civilians (see also the above-cited report on reparations for concrete suggestions);

- To work towards the establishment of an international accountability mechanism to address the gap left by the non-continuation of the UN Group of Eminent Experts. This would ensure greater international attention to IHL violations, their continued tracking and registration as well as steps towards accountability and transitional justice measures;
- To support other efforts to ensure accountability and a transitional justice mechanism for Yemen.

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ZOOMING IN ON THE YEMEN WAR

The Future of Warfare and Human Rights in the Middle East



The Gulf States and the Houthis have medium- to long-range precision-strike weapons at their disposal and have repeatedly deployed them in attacks that evidently violate IHL standards. The case of Yemen proves (once again) that the notion that precision-strike technology makes warfare more ›human‹ and would help spare civilians is simply a myth.

Major damage to civilian infrastructure caused by remote warfare has severely impacted the livelihoods of Yemenis in the areas of food and water security, health care, and education.

Governments of major arms exporting states should reassess their arms exports to Saudi Arabia and the United Arab



Emirates in light of such IHL violations and strictly adhere to the restriction policies in place. They should also be much more open to critical perspectives from civil society organizations and incorporate these insights into their risk assessments in the process of arms export licensing. Vis-à-vis Iran, policymakers should problematize the proliferation of Iran-made missile and drone technology throughout the region and into Yemen. Tehran needs to be called upon as a regional actor to invest its share in containing the flow of components and complete weapon systems as well as any support to use these technologies. If this does not happen, the EU and the UN should develop advanced and concrete measures to hold Tehran to account.



Given state and non-state actors' increasing ability to independently manufacture medium- to long-range precision-strike technologies and the resulting limitations of Western exporting countries to exercise control over their use against civilians, accountability in its various forms emerges as a central mechanism to prevent future international human rights violations and thus requires much greater international support and attention.

Further information on the topic can be found here:
www.fes.de/en/shaping-a-just-world/peace-and-security