

**Security Council**

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**Letter dated 27 January 2017 from the Panel of Experts on Yemen
addressed to the President of the Security Council**

The members of the Panel of Experts on Yemen have the honour to transmit herewith the final report of the Panel, prepared in accordance with paragraph 6 of resolution [2266 \(2016\)](#).

The report was provided to the Security Council Committee established pursuant to resolution [2140 \(2014\)](#) on 11 January 2017 and considered by the Committee on 27 January 2017.

We would appreciate it if the present letter and the report were brought to the attention of the members of the Security Council and issued as a document of the Council.

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Final report of the Panel of Experts on Yemen

Summary

The Panel of Experts on Yemen considers that, after nearly two years of conflict in Yemen, an outright military victory by any one side is no longer a realistic possibility in the near term. The country has fractured into competing power centres, with the Houthi-Saleh alliance controlling much of the northern highlands and the legitimate Government, backed by forces from Saudi Arabia and the United Arab Emirates, seeking to build capacity to administer parts of the south and the east. To date, the parties have not demonstrated sustained interest in or commitment to a political settlement or peace talks.

The Panel assesses that the Houthi and Saleh forces continue to operate as part of a military alliance, while maintaining separate lines of command and control at the operational level. The Panel has identified the increased use by the Houthis of battle-winning weapons, such as anti-tank guided missiles that were not in the pre-conflict Yemeni stockpile. These missiles are covertly shipped to the Houthi-Saleh alliance over land, along a new main supply route from the border with Oman. The Houthis have also continued to use short-range ballistic missiles and free-flight rockets against Saudi Arabian towns within 300 km of the border, to some political and propaganda effect.

The air campaign waged by the coalition led by Saudi Arabia, while devastating to Yemeni infrastructure and civilians, has failed to dent the political will of the Houthi-Saleh alliance to continue the conflict. Maritime attacks in the Red Sea in late 2016 have increased the risk of the conflict spreading regionally. The Houthi-Saleh alliance has demonstrated that it has an effective anti-ship capability, with one successful attack against a United Arab Emirates naval ship, and other attacks eliciting a cruise missile response by the United States Navy against Houthi land radar stations. There has also been a failed improvised explosive device attack by an as yet unidentified party against a large liquid nitrogen gas tanker heading north through the Bab al-Mandab strait.

Although the military front lines have remained largely the same, the near-constant clashes and casualties notwithstanding, the political landscape has shifted. The Panel has identified a tightening of the Houthi-Saleh political alliance, culminating in the establishment of a Sana'a-based supreme political council. On 28 November, this body announced a new 42-person government. The Panel believes this to be an attempt by the alliance to create "facts on the ground" by establishing a functioning, de facto government that will be difficult to uproot. It is, in effect, a new "bureaucratic" front to the conflict. Throughout 2016, the alliance has constantly undertaken acts that are exclusively within the authority of the legitimate Government.

The transfer of the Central Bank to Aden by the Government has effectively opened an "economic" front to the conflict, aimed at denying the Houthi-Saleh alliance the resources necessary to support continued hostilities or to administer the territory under its control. It has also significantly reduced the provision of material and services that are indispensable to the survival of civilians. The move may result in accelerating the impending humanitarian catastrophe in areas under the control of the alliance.

Terrorist groups such as Al-Qaida in the Arabian Peninsula (AQAP) and the Islamic State in Iraq and the Levant (ISIL) affiliate in Yemen are now actively exploiting the changing political environment and governance vacuums to recruit new members and stage new attacks and are laying the foundation for terrorist networks that may last for years. The Panel assesses that AQAP is pursuing a two-track strategy of seeking to control and administer territory in Yemen to serve as a base, while simultaneously looking to plot and execute attacks against the West. ISIL experienced a leadership restructuring early in 2016 and is looking to attract new recruits after a wave of defections in the first half of the year. The improvised explosive device threat from terrorist groups has also increased significantly, with the introduction of new technology and tactics into Yemen in 2016. It cannot be assumed that the use of this technology is now the preserve of a single group in the light of the movement of fighters and thus the exchange of technical knowledge between AQAP, ISIL, Houthi or Saleh forces and “resistance” forces affiliated to the President. Improvised explosive devices are also acting as a force multiplier for armed groups operating outside the control of the Government, reducing their current and future dependence on conventional weapons. This has all significantly increased the overall risk to civilians from explosive remnants of war.

The conflict has seen widespread violations of international humanitarian law by all parties to the conflict. The Panel has undertaken detailed investigations into some of these incidents and has sufficient grounds to believe that the coalition led by Saudi Arabia did not comply with international humanitarian law in at least 10 air strikes that targeted houses, markets, factories and a hospital. It is also highly likely that the Houthi and Saleh forces did not comply with international humanitarian law in at least three incidents when they fired explosive ordnance at a market, a house and a hospital.

There have also been widespread and systematic violations of international humanitarian law, international human rights law and human rights norms by officials and security forces affiliated to the Government and to the Houthis. The Panel has investigated cases of forced displacement of civilians and concludes that there are indications of a governorate-level policy, with clear violations by the Government in Aden and Lahij. The Panel has concluded that the Houthis, as well as Hadrami Elite Forces aligned with the Government and the United Arab Emirates, have violated international humanitarian law and human rights law and norms on at least 12 and 6 occasions, respectively, by forcibly disappearing individuals. The Houthi security forces in particular routinely use torture and commit international humanitarian law violations and human rights abuses relating to deprivation of liberty. The Panel also documented many cases of violations against hospitals, medical staff, children and religious minorities. It concludes that the violations by the Houthi-Saleh alliance are sufficiently routine, widespread and systematic to implicate its top leadership.

All parties to the conflict have obstructed the distribution of humanitarian assistance within Yemen. The methods of obstruction vary, including the denial of movement, threats to humanitarian staff and the placing of conditions that seek to influence where and how aid is distributed.

The Panel continued its investigations into the financial networks of designated individuals and has identified that Khaled Ali Abdullah Saleh has a significant role in the management of financial assets on behalf of listed individuals Ali Abdullah Saleh (YEi.003) and Ahmed Ali Abdullah Saleh (YEi.005). The Panel has identified suspicious transfers of significant funds during the period 2014-2016, involving six companies and five banks in five countries, that certainly fall well outside the normal fund management practices of high-wealth individuals. The Panel has also identified a company named Raydan Investments and accounts used by Khaled Ali Abdullah Saleh to launder \$83,953,782 within a three-week period in December 2014.

The financial activities, in terms of regional black market arms trafficking, of Fares Mohammed Mana'a (SOi.008) have also come to the attention of the Panel, in particular since he was appointed as minister of state in the new Sana'a-based government of 28 November and has known connections to both Ali Abdullah Saleh (YEi.003) and the Houthis. He is freely travelling on a Yemeni diplomatic passport, including within the Schengen area. This case is just one illustration of how opportunistic businesspeople and criminal entities are benefiting from the conflict using governmental privileges and immunities. It is in their vested interest to use their influence to undermine any prospect for peaceful settlement.

Only the continuation and effective implementation of the targeted sanctions regime will deter such individuals and their supporters from participating in acts that threaten the peace and security of Yemen. If well implemented, delisting within the sanctions regime could offer incentives for those who are willing to engage constructively for a better Yemen.

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* The annexes are being circulated in the language of submission only and without formal editing.

I. Introduction and background

A. Mandate and appointment

1. By its resolution [2266 \(2016\)](#), the Security Council renewed the sanctions measures in relation to Yemen and extended the mandate of the Panel on Experts on Yemen until 27 March 2017.¹ The Panel has the following mandate:

(a) To assist the Security Council Committee established pursuant to resolution [2140 \(2014\)](#) in carrying out its mandate as specified in resolutions [2140 \(2014\)](#) and [2216 \(2015\)](#), including by providing it at any time with information relevant to the potential designation at a later stage of individuals and entities who may be engaging in acts that threaten the peace, security or stability of Yemen, as defined in paragraph 18 of resolution [2140 \(2014\)](#) and paragraph 19 of resolution [2216 \(2015\)](#);

(b) To gather, examine and analyse information from States, relevant United Nations bodies, regional organizations and other interested parties regarding the implementation of the sanctions measures and targeted arms embargo, in particular incidents of undermining the political transition;

(c) To provide a midterm update to the Committee no later than 27 July 2016, and a final report no later than 27 January 2017 to the Security Council, after discussion with the Committee;

(d) To assist the Committee in refining and updating information on the list of individuals subject to sanctions measures, including through the provision of identifying information and additional information for the publicly available narrative summary of reasons for listing;

(e) To cooperate with other relevant expert groups established by the Security Council, in particular the Analytical Support and Sanctions Monitoring Team.

2. On 5 August, the Panel presented a midterm update to the Committee, in accordance with paragraph 6 of resolution [2266 \(2016\)](#). An additional update, containing a preliminary analysis of the attack against the Salah al-Kubra community hall in Sana'a on 8 October, was provided to the Committee on 17 October.

3. The present report covers 2016. The Panel has also continued to investigate outstanding issues covered in its previous final report ([S/2016/73](#)).

B. Methodology

4. In its investigations, the Panel complied with paragraph 11 of resolution [2266 \(2016\)](#), which pertains to the best practices and methods recommended by the Informal Working Group of the Security Council on General Issues of Sanctions (see [S/2006/997](#)), and has maintained the highest achievable standard of proof, even

¹ The finance expert, Farhan Hyder Sahito, resigned on 7 December 2016 to pursue an alternative professional opportunity; his work is included herein.

though it was unable to travel to Yemen. Emphasis has been placed on adherence to standards regarding transparency and sources, documentary evidence, corroboration of independent verifiable sources and providing the opportunity to reply.² The Panel has maintained transparency, objectivity, impartiality and independence in its investigations and based its findings on a balance of verifiable evidence.

5. The Panel used satellite imagery of Yemen procured by the United Nations from private providers to support investigations. It also used commercial databases recording maritime and aviation data and mobile phone records. Public statements by officials through their official media channels were accepted as factual unless contrary facts were established. While it has been as transparent as possible, in situations in which identifying sources would have exposed them or others to unacceptable safety risks, the Panel decided not to include identifying information in the present report and instead placed the relevant evidence in United Nations archives.

6. The Panel reviewed social media, but no information gathered was used as evidence unless it could be corroborated using multiple independent or technical sources, including eyewitnesses, to appropriately meet the highest achievable standard of proof.

7. The spelling of toponyms within Yemen often depends on the ethnicity of the source or the quality of transliteration. The Panel has adopted a consistent approach in the present report.

C. Programme of work

8. During its investigations, Panel members travelled to Bahrain, Colombia, Djibouti, France, Jordan, Lebanon, Saudi Arabia, Switzerland, the United Arab Emirates, the United Kingdom of Great Britain and Northern Ireland and the United States of America. Saudi Arabia facilitated visits along the border with Yemen at Khamis Mushayt, at Khubah in Jazan and at Najran, allowing the Panel to inspect remnants of munitions fired by the Houthis to assist in identifying potential violations of the arms embargo. The Panel requested official visits to Oman and areas of Yemen under the control of the legitimate Government, in Ma'rib, and of the Houthis, in Sana'a, but the requests have not yet been approved. For more than 70 per cent of the time at least one expert was travelling for investigative purposes.

D. Cooperation with stakeholders and organizations

1. United Nations system

9. The Panel highlights the excellent level of cooperation with the Office of the Special Envoy of the Secretary-General for Yemen and the United Nations resident coordinators/humanitarian coordinators in Yemen and neighbouring States visited by the Panel. The United Nations country team and United Nations agencies with a regional mandate remain supportive of the Panel's work. The Panel has consistently

² See annex 1 for details of the opportunity to reply methodology and annex 2 for details of the international humanitarian law investigative methodology.

had direct access to country team officials in Sana'a and the wider region to exchange information and expertise.

10. The Panel has maintained close cooperation with the Analytical Support and Sanctions Monitoring Team and the Monitoring Group on Somalia and Eritrea.

2. Communications with Member States and organizations

11. The Panel has sent 166 letters to Member States and entities requesting information on specific issues relevant to its mandate. Such requests do not necessarily imply that these Governments, or individuals or entities in those States, have been violating the sanctions regime. The Panel notes, however, that only 57 per cent of requests to Member States for information have thus far resulted in a response. At the time of submission of the present report, replies were awaited from Australia, the Bahamas, Bahrain, the Democratic People's Republic of Korea, Djibouti, France, Hungary, Iran (Islamic Republic of), Jordan, Kuwait, the Netherlands, Oman, Qatar, Romania, Saudi Arabia, the Sudan, Switzerland, the United Arab Emirates, the United Kingdom, the United States and Yemen. The Sana'a-based ministry of foreign affairs under the control of the Houthis³ and several other entities also have yet to reply. A summary of correspondence is provided in annex 4.

3. Government of Yemen

12. The Panel met the President of Yemen, Abdrabuh Mansour Hadi Mansour, the Vice-President, Ali Muhsin al-Ahmar, and other officials of the legitimate Government in Riyadh in October. Although they expressed their full support for the Panel, the information that they provided regarding arms and finance in relation to the Houthis did not meet the required evidentiary standards nor contain sufficient detail to allow the Panel to verify the information using other means and sources.

4. Houthi-Saleh alliance

13. The Panel regrets to report that, its four requests dated 1 March, 3 June, 19 September and 12 October notwithstanding, the Houthis, who have effective control of the airport in Sana'a, have continued to deny entry to the Panel. The Panel has maintained telephone contact with Ansar Allah and General People's Congress (GPC) political leaders and met some of them during visits to countries neighbouring Yemen.

³ To avoid confusion between the legitimate Government and Houthi-Saleh alliance authorities and appointments and to easily distinguish between the two, in the present report, for ministries and officials of the legitimate Government the Panel will use capitalization. For example, Minister of Defence and Ministry of Defence. The Houthi duplicate administration would then be referred to as the "Sana'a-based minister of defence" and the "Sana'a-based ministry of defence".

II. Acts that threaten peace, security and stability

A. Challenges to the authority of the legitimate Government

14. In paragraph 18 (a) of its resolution [2140 \(2014\)](#), the Security Council determined that obstructing or undermining the successful completion of the political transition, as outlined in the Gulf Cooperation Council initiative and implementation mechanism agreement, posed a threat to the peace, security or stability of Yemen and that those undertaking such acts might fall within the designation criterion. In paragraph 1 of its resolution [2216 \(2015\)](#), the Council demanded that all Yemeni parties, in particular the Houthis, fully implement resolution [2201 \(2015\)](#) and refrain from further unilateral actions that could undermine the political transition and also demanded that the Houthis immediately and unconditionally cease all actions that were exclusively within the authority of the legitimate Government.

15. The initial control exerted by the Houthis over the State apparatus was further consolidated in 2016, in particular with the formalization of the Houthi-Saleh political alliance in August. Together, they continue to undertake acts that are exclusively within the authority of the legitimate Government.

16. The Houthis have continued to control the capital and municipality of Sana'a and 13 of the 21 governorates. This represents 27 per cent of the surface area of Yemen and comprised more than 80 per cent of the total population before the conflict. The Houthis control all or most of the governorates of Amran, Dhamar, Hajjah, Hudaydah, Ibb, Mahwit, Raymah and Sa'dah, in addition to the municipality of Sana'a. In addition, they control significant portions of Bayda' and Jawf and remain active in Ta'izz.

1. Control of the State by the Houthis (January-August)

17. Until August, the Houthis exercised de facto control over central government institutions in Sana'a and local government in other areas under their control through the supreme revolutionary committee, headed by Muhammad Ali al-Houthi, a relative of Abdulmalik al-Houthi (YEi.004).

18. During that period, the Houthis maintained the administrative structure of a functioning authority with public offices and services. This was supervised under the close control of Houthi delegates, and their committees, within an executive structure, comprising an acting 33-member government council headed by the acting prime minister, Talal Aqlan (see annex 5). The Houthis also controlled the Central Bank until September, when the President appointed a new governor and ordered the transfer of the Bank to Aden.

19. The Houthis also maintained a solid grip over the intelligence and security agencies, effectively preventing any attempts to challenge their authority through a supreme security committee (see annex 6). The Panel has identified that Abdulrabb Saleh Ahmed Jarfan, also known as Abu Taha (see figure I), has emerged as the highest Houthi authority in charge of the intelligence services. Since early 2015, he has acted as the head of the national security bureau and has significant influence over all other Yemeni intelligence and investigation services under the control of the

Houthis involved in allegations of violations of international humanitarian law (see annex 7).⁴

Figure I

Abdurrabb Saleh Ahmed Jarfan, head of Houthi intelligence services



Source: Euronews, 20 August 2016.

Note: left to right: Abdulrabb Saleh Ahmed Jarfan, Talal Aqlan and Saleh Ali Muhammad al-Samad.

2. Control of the State by the Houthi-Saleh political alliance (August-December)

20. On 28 July, Ali Abdullah Saleh (YEi.003) agreed to a power-sharing agreement with Abdulmalik al-Houthi (YEi.004). A Sana'a-based 10-member supreme political council,⁵ with five members each nominated by Saleh and the Houthis, was established on the same day (see annex 8), and issued its first “governmental” decree. It has since acted as a de facto government, appointing governors and officials.⁶ Headed by Saleh Ali Muhammad al-Samad, it replaced the Supreme Revolutionary Council, which has yet to be disbanded.⁷

⁴ The Yemeni intelligence and security services also include the Political Security Organization and the Central Security Forces (also known as the Special Security Force). See www.globalsecurity.org/intell/world/yemen/index.html. All hyperlinks in the present report were checked on 1 January 2017, unless otherwise stated.

⁵ The agreement was signed by Sadiq Amin Abu Ras on behalf of Ali Abdullah Saleh (YEi.003) and by Saleh Ali Muhammad al-Samad on behalf of Abdulmalik al-Houthi (YEi.004).

⁶ Parliament, which is now seven years past its next scheduled elections, later ratified the supreme political council. Of the 301-seat Parliament, 26 members have since died, leaving 275 members, of whom 142 attended the session and ratified the council. For membership of the financial advisory committee, the media advisory committee and the political advisory committee, see annex 6.

⁷ The Supreme Revolutionary Council still exists, although it is unclear what power it continues to hold and many of its members have taken on other positions, either in the Sana'a-based supreme political council and/or as members of the Sana'a-based government of 28 November. Its head, Mohamed Ali al-Houthi, continues to keep his title and to remain active in official activities. See the statement attributed to the Council on 5 December, available from www.almasirah.net/details.php?es_id=833&cat_id=3.

21. On 28 November, the supreme political council announced a 42-person government under Abdel-Aziz bin Habtour,⁸ an active GPC member affiliated to Ali Abdullah Saleh (YEi.003) (see annex 9). The Panel considers this to be an attempt by the Houthi-Saleh alliance to create “facts on the ground”, establishing a de facto government that will be difficult to uproot in order to resume a peaceful political transition. The Panel noted that the Sana’a-based cabinet does not include the most influential members of the Houthis and GPC and believes that the alliance is likely to use this cabinet to ensure a stronger bargaining position in any future peace negotiations.

3. Interaction by the Houthi-Saleh alliance with the international community

22. With regard to international relations, the Houthis have established or continued diplomatic contact with those Member States that have maintained their diplomatic representations in Sana’a, including Iran (Islamic Republic of), the Russian Federation and the Syrian Arab Republic. In the absence of other diplomatic representations,⁹ both the Houthis and Ali Abdullah Saleh (YEi.003) have used the presence of their delegations in Oman to interact with representatives of other countries. Mohamed Abdusalam Salah Fletah, as the lead negotiator, has gradually become the public face of the Houthis within the international community.¹⁰ Nevertheless, the Panel assesses that an individual close to Abdulmalik al-Houthi (YEi.004), Mahdi Mohammed Hussein al-Mashaat,¹¹ makes the decisions during the negotiations (see annex 10).

23. Most Yemeni diplomatic representations abroad remain affiliated with the legitimate Government, apart from those in the Islamic Republic of Iran¹² and the Syrian Arab Republic. In the latter, the Houthis made their first diplomatic appointment on 7 March, naming Naif Ahmed Hamid al-Qanes as ambassador.¹³

B. Impediments to the cessation of hostilities and to the resumption of the political process

24. No real progress towards a peaceful settlement was made during the reporting period.

⁸ He had previously served as Governor of Aden, appointed by the current President.

⁹ Most international representations closed between January 2015, when the Houthis took control of Sana’a, and 26 March 2015, when Operation Decisive Storm began.

¹⁰ He is assisted in this by Hamza al-Houthi, who has some links to Abdulmalik al-Houthi (YEi.004).

¹¹ According to confidential well-informed sources, he has headed the Houthi negotiating team for more than two years. He has direct access to Abdulmalik al-Houthi (YEi.004), who operates behind the scenes. He has been described by many confidential sources as an impulsive hardliner.

¹² Yemeni diplomats informed the Panel that in September 2015 the legitimate Government recalled its ambassador. Thereafter, other diplomats in the embassy aligned themselves with the Houthis.

¹³ Supreme Revolutionary Council decree No. 89. See “SRC appoints ambassador to Syria”, Yemen News Agency, 7 March 2016, available from <http://sabanews.net/en/news421619.htm>. A Yemeni diplomat informed the Panel that, because of non-conformity with his credentials process, which required presidential authority, the Syrian Arab Republic had accepted the nominee only as chargé d’affaires.

25. The peace talks in Kuwait that opened on 21 April offered an initial opportunity to reach arrangements for the cessation of hostilities, which would have created an environment more conducive to a potential political transition. Throughout the talks, which ended on 6 August, there were regular breaches of the cessation of hostilities agreed to among the Yemeni parties and between the Houthis and Saudi Arabia bilaterally. They included four Houthi launches of free-flight rockets against Saudi Arabian territory; continued military operations by Houthi and Saleh forces and forces affiliated with the Government in Ta'izz and on the front line in Nihm; and air strikes by the coalition led by Saudi Arabia. Occasionally, the breaches were used as a pretext by one of the parties to suspend its participation in, or threaten to withdraw from, the talks.¹⁴

26. There was some progress in improving coordination mechanisms for the cessation of hostilities through an agreement to establish a de-escalation and coordination cell in Dhahran al-Janub, Saudi Arabia, comprising officers from the Government and the Houthi-Saleh alliance. As the talks stalled, however, the lack of trust prevented progress.¹⁵ The support of the United Nations and the international community notwithstanding, the cell could not operate owing to the Houthis' refusal to deploy their officers. The Houthis subsequently shelled the cell's location.¹⁶

C. Security and regional dynamics

1. Areas under the control of forces allied to the legitimate Government

27. The legitimate Government continues to face significant challenges in developing a safe and secure environment and ensuring the delivery of public services in the areas that it controls. The President spent much of the reporting period in Riyadh, returning to Aden on 26 November.¹⁷ The Vice-President, Ali Mohsen, limited his travel inside Yemen to Ma'rib. The Prime Minister, Ahmed Obaid Mubarek Bin-Dagher, was deployed earlier to Aden on 6 June and then made short visits to Ma'rib, Mukalla and Socotra. The presence of officials of northern origin in Aden and the movement of all members of the Government in Aden remain restricted for security reasons.

28. The Panel has investigated some of these local officials and military commanders for their potential involvement in acts that threaten the peace, security or stability of Yemen. These acts range from attempts to jeopardize the country's

¹⁴ On 1 May, the delegation of the legitimate Government suspended its participation in the direct talks, claiming that Houthi and Saleh forces had plundered the 29th Mechanized Infantry Brigade in Harf Sufyan, Amran. Similarly, the head of the Houthi delegation to the talks complained that the air strikes by the coalition were jeopardizing the talks. See <https://twitter.com/abdusalamsalah>.

¹⁵ On 26 May, the Panel visited Khubah, near Jazan, Saudi Arabia, less than 5 km from the Yemeni border, and observed the fragility of the cessation of hostilities, given that sporadic firing could be heard. The village has been evacuated owing to previous fighting.

¹⁶ The Houthis committed themselves to reactivating the cell and to deploying members to Dhahran al-Janub after meeting the United States Secretary of State, John Kerry, in Oman on 17 November. The cessation of hostilities has not yet materialized. See <https://twitter.com/OSESGY/status/800051770022051840?lang=en>.

¹⁷ He left Aden for Riyadh on 13 February. He returned to Ma'rib for a one-day visit on 19 July. He next visited Aden on 26 August. He returned to Aden on 26 November where he has since remained, except for a visit to the United Arab Emirates on 3 and 4 December.

unity and territorial integrity, through violations of international humanitarian law and international human rights law, to allegations of support for terrorist organizations.

2. Involvement of the coalition forces

29. There was no change to the political composition of the coalition led by Saudi Arabia in 2016.¹⁸ The military composition, however, did change. In a letter dated 13 July, Morocco informed the Committee and the Panel that, as from 22 January, it had ceased operating air assets in support of the Government. In a letter dated 18 July, Egypt informed the Panel that it was contributing naval forces to secure navigation through the Bab al-Mandab strait. On 22 August, the President of Egypt, Abdel Fattah Al Sisi, confirmed, during a press conference, the presence of air force elements in Saudi Arabia but denied the presence of ground troops in that region other than for peacekeeping missions.¹⁹

30. At the operational level, the Panel considers that coalition military activities are conducted under the control of Saudi Arabia and the United Arab Emirates (see map in annex 11), as follows:

(a) Air operations in Yemen are under the operational control of a joint headquarters led by Saudi Arabia and based in Riyadh, with a targeting and control cell for the targeting and tasking processes. Officers are present from the coalition member States, less Morocco and Senegal;²⁰

(b) Ground operations in Ma'rib are under the operational control of Saudi Arabia;

(c) Ground operations in Aden and in the vicinity of Mukalla are under the operational control of the United Arab Emirates;

(d) Ground operations in the Ta'izz area are under a loose operational control of the Yemeni military;

(e) Naval operations are under national command.

31. The coalition significantly reduced the rate of its air operations in Yemen during the period of cessation of hostilities from 10 March to 6 August.²¹

32. After the collapse of the talks in Kuwait on 6 August, the coalition increased the scope and tempo of its air operations, which also resulted in the air strike on a funeral hall in Sana'a on 8 October (see para. 121). The coalition has imposed additional restrictions on commercial flights to Sana'a, with the cancellation in August of Yemenia Airways flights, which used to land at the international airport after inspection in Bishah, Saudi Arabia. The coalition refused to allow Omani

¹⁸ The Panel assesses that Saudi Arabia is leading the coalition comprising four States members of the Gulf Cooperation Council (Bahrain, Kuwait, Qatar and the United Arab Emirates) and four States members of the League of Arab States (Egypt, Jordan, Morocco and the Sudan).

¹⁹ See <http://www.ahram.org.eg/News/192000/25/News/192000/25/547049-ولا-أحد-يملى-علينا-الأولى/القرار-المصري-«مستقل»-ولا-أحد-يملى-علينا-الأولى/القرار-المصري-«مستقل»-ولا-أحد-يملى-علينا-الأولى.aspx>.

²⁰ United States officers are present to support logistical and intelligence activities. The Chief of Joint Operations of Operation Restoring Hope, led by Saudi Arabia, told the Panel that officers from France, Malaysia and the United Kingdom were also present at the joint headquarters.

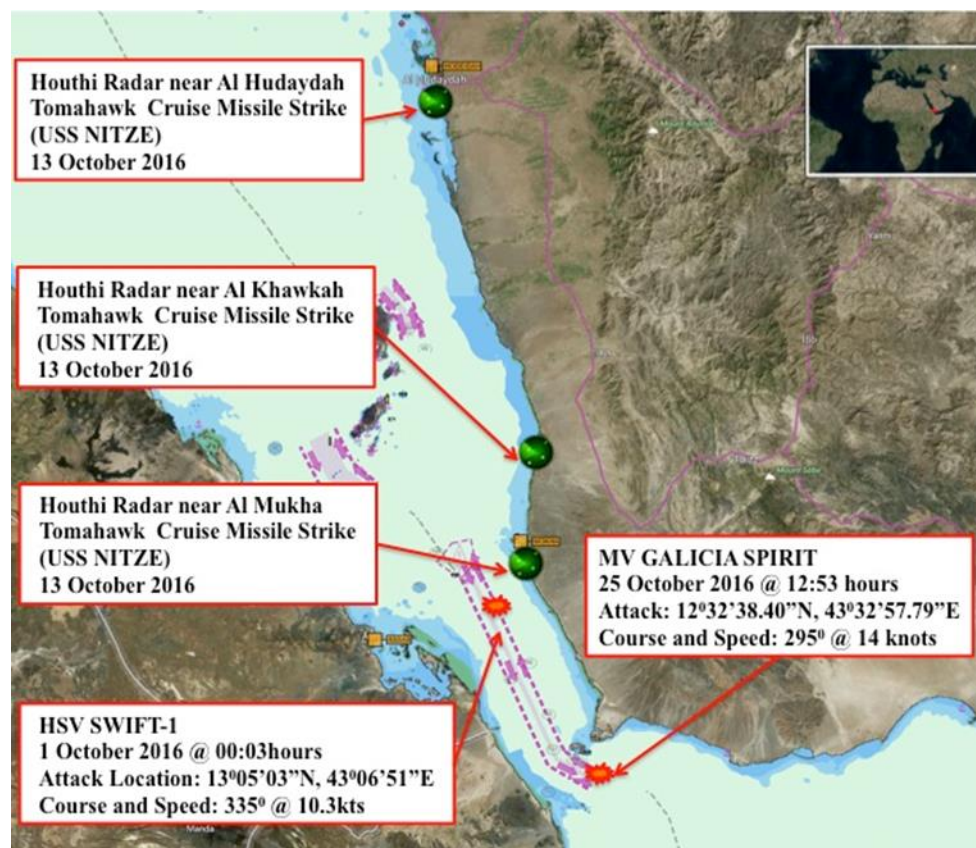
²¹ The cessation of border hostilities between the Houthis and Saudi Arabia began on 10 March. The United Nations-sponsored cessation of hostilities began on 10 April.

and a maritime attack by unidentified forces against the Spanish-flagged MV *Galicia Spirit* on 25 October marked a significant escalation in the conflict at sea (see map 2).

34. The Panel considers attacks using anti-ship missiles to be a threat to the peace and security of Yemen, given that such attacks in the Bab al-Mandab strait and the Red Sea area may affect the security of maritime navigation and commercial shipping, thereby jeopardizing the delivery of humanitarian assistance to Yemen by sea, in violation of paragraph 19 of resolution 2216 (2015). More than 8 per cent of all global maritime trade uses this route to the Suez Canal.²³

Map 2

Maritime attacks



Attack on the SWIFT-1

35. The *SWIFT-1* was operating in direct support of military operations by the United Arab Emirates in Yemen, making regular deliveries of supplies, troops and equipment from Assab, Eritrea, to Aden.²⁴ It was not engaged in the routine delivery of humanitarian aid. The vessel was a legitimate military objective under

²³ “Q&A: Suez Canal”, *Guardian*, 1 February 2011. Available from www.theguardian.com/business/2011/feb/01/suez-canal-egypt-q-and-a.

²⁴ For details of United Arab Emirates military operations based in Assab, see [S/2016/920](#), paras. 31-35.

international humanitarian law. Fires caused by the burning propellant from the rocket motor of an anti-ship missile seriously damaged the vessel. The warhead failed to detonate on impact and passed through the vessel. Further information is provided in annex 13.

36. Neutral civilian vessels remain at risk of attack in the event of targeting errors stemming from system failures or misidentification during the hours of darkness. The Houthi-Saleh alliance has demonstrated a technological capability to attack a large vessel in the Red Sea. That will, however, last only as long as the alliance has access to old Yemeni naval stocks of missiles supplied before the arms embargo, and as long as the arms embargo is effective in ensuring that there is no resupply of anti-ship missiles to the alliance.

Improvised explosive device attack against the MV Galicia Spirit

37. The maritime attack against the liquid natural gas tanker, MV *Galicia Spirit*, on 25 October demonstrates the vulnerability of commercial shipping to small vessel attacks while close to the coast of Yemen. A determined attempt was made to board the vessel using an improvised explosive device of approximately 20-70 kg of high explosive. The attempt failed only because of the premature and accidental initiation of the device. That the assaulting group possessed a device of significant size and was determined to close with and board the vessel demonstrates a new tactic.

38. The location of the attack, the tactics and equipment and the type of improvised explosive device all provide indicators as to the perpetrators. The Panel continues to investigate and has also passed all relevant information to the Analytical Support and Sanctions Monitoring Team for its information. The Panel considers that the attack was designed more for an “international spectacular” than as part of the Yemeni conflict. The Panel also considers that this attack was not specifically targeted against the MV *Galicia Spirit* and that the vessel was simply a target of opportunity; any similar vessel in the area heading north at that time would have been just as likely to have been attacked. Further information is provided in annex 14.

III. Armed groups and military units

39. Pursuant to paragraph 17 of resolution [2140 \(2014\)](#) and as reiterated in resolutions [2216 \(2015\)](#) and [2266 \(2016\)](#), the Panel continues to investigate individuals and entities associated with armed groups who may be engaging in or providing support for acts that threaten the peace, security or stability of Yemen.

A. Yemeni military

40. The Yemeni military remains deeply divided. Allegiance to the central State, historically weak, has virtually disappeared. Allegiance is now to various groups, many of which purport to be either the State or an alternative governing authority. The Panel assesses Yemen to be in danger of fracturing beyond the point of no return. Since the beginning of Operation Decisive Storm, led by Saudi Arabia, on 26 March 2015, several military units have defected to either the Houthis or to join

the former President, Ali Abdullah Saleh (YEi.003). Those units that remain loyal to the current President are often operating at less than full strength. No entity in Yemen has a monopoly on power or the use of force. This has resulted in a messy and chaotic conflict between broken brigades and battalions in which no one side has been able to impose its will on the other.

41. In practice, this means that, just as on the political front in which both sides make appointments to the same position, there are “duplicate” military units operating in Yemen: legitimate units loyal to the current President and “shadow” units loyal to the Houthis or the former President. For example, in Ta‘izz there are two 35th Armoured Brigades, one loyal to the legitimate Government and one operating under the control of the former President. Both claim to be the “true” unit and both continue to use the name;²⁵ such duplicate units are common throughout Yemen.²⁶ There has also been the creation of new military bodies, such as the Security Belt Forces early in 2016,²⁷ which are active throughout southern Yemen, the Hadrami Elite Forces based in Hadramawt and various militia groups, which, while affiliated with the legitimate Government, operate largely outside its control. Instead of one large war, in which various military units work towards a common, overarching goal, the conflict in Yemen comprises several smaller wars with local commanders pursuing their own agendas.

B. Saleh network

42. The former President, Ali Abdullah Saleh (YEi.003), continues to exert effective command and control over an extensive network of allies that he built up during more than three decades as Head of State (1978-2012). There are three distinct components to this network: tribal, political and military. The tribal element is centred on his Sanhan tribe.²⁸ The political aspect revolves around GPC, of which he remains the head. Militarily, he retains the personal loyalty and allegiance of several high-ranking officers whom he appointed during his presidency. It is this last component that is the most important for his continued influence and power, and where he has placed his most trusted deputies. For example, one of his tribespeople, Brigadier General Abdullah Daba’an, is the Ta‘izz axis commander.

43. The Saleh (YEi.003) network functions along highly personal lines of loyalty and is best envisaged as three concentric circles radiating out from family to clan to tribe.²⁹ He has also used the politics of marriage, by marrying sons and daughters into prominent families, as a secondary means of creating durable alliances.³⁰

²⁵ This not only makes the establishment of an accurate order of battle challenging, but also complicates the determining of responsibility for acts and violations.

²⁶ This is also true, for example, of the 17th Mechanized Infantry Brigade in Ta‘izz.

²⁷ First identified by the Panel in May. Nevertheless, the Panel believes that the body was established as early as March/April.

²⁸ See annex 15 for background on the families, clans and tribes of Bayt al-Ahmar.

²⁹ The Saleh inner circle is the immediate family, in particular the sons (see annex 16) and the nephews (see annex 17). Members of his Afaash clan fall into the second circle, while fellow members of his Sanhan tribe largely comprise the outer circle. See also Sarah Phillips, *Yemen and the Politics of Permanent Crisis* (Abingdon, United Kingdom, Routledge, 2011).

³⁰ See annex 18 for a list of Saleh’s wives and annex 19 for a list of his daughters and sons-in-law.

Although this network has suffered defections, most notably during the popular uprisings of 2011 and 2012, it has survived largely intact.³¹

44. Ali Abdullah Saleh (YEi.003) came to power in 1978 on the heels of two brutal assassinations of both his immediate predecessors. Concerned for his own personal safety,³² he drastically revamped and restructured the Yemeni military command structure until it resembled a Sanhan tribal tree.³³ This allowed him to surround himself with people whom he trusted and also ensured that many within the senior officer corps owed him their position and their loyalty.³⁴

45. Post-2012 efforts by the current President to restructure the Yemeni military were often met with resistance by many of these officers who were more loyal to Ali Abdullah Saleh (YEi.003) than to the State itself. In the wake of the Houthi takeover of Sana'a in late 2014, and the beginning of Operation Decisive Storm on 26 March 2015, many of these officers broke with the current President and continued to operate on behalf of Saleh. Although Saleh has periodically claimed that he no longer controls or directs military units in Yemen, the Panel assesses this to be a fig leaf designed to afford him deniability and shield him from further international repercussions and responsibility for violations of international humanitarian law committed by forces under his command and control.³⁵

46. In late July, the Panel documented, for the first time, military units loyal to Ali Abdullah Saleh (YEi.003) fighting alongside Houthi units on the border with Saudi Arabia.³⁶ The first known casualty of a Saleh loyalist soldier, a member of the republican guards,³⁷ Sharif Ahmed Ali Ghashim Maqawlah, on the border occurred on 31 July. Several other casualties followed over the following few weeks,³⁸

³¹ One notable example is that of the current Vice-President, Ali Muhsin al-Ahmar, who for years was a Saleh loyalist, only to break with him in 2011. He is from the same village (Bayt al-Ahmar) and tribe (Sanhan) as Saleh, but from a different clan.

³² Throughout his career Ali Abdullah Saleh (YEi.003) has survived assassination attempts, many of which came early in his rule, during the 1970s and 1980s. He most recently survived an attempt in June 2011.

³³ Sanhan has not traditionally been a strong tribe in Yemen. It was only with Saleh's rise to the presidency that it became powerful, largely by supplying officers to the military.

³⁴ Many of these Sanhan officers fear that if Ali Abdullah Saleh (YEi.003) were removed from Yemen they would also be purged.

³⁵ See Saleh's speeches in October 2015 (see [S/2016/73](#) for more detail) and, more recently, on 25 June, available from www.almotamar.net/pda/130743.htm.

³⁶ These units appeared to be largely from the republican guards under the control of the Houthis, which was technically disbanded by the current President yet remains operational under Saleh's instructions.

³⁷ The republican guards under the control of the Houthis were then headed by Ali bin Ali al-Ja'ifi, who was injured in the coalition strike on a community hall in Sana'a on 8 October and died of his wounds on 10 October. He was replaced by Major General Murad al-Awbali, who had formerly commanded the 62nd Mechanized Brigade within the republican guards, which is stationed at the Farijah military base in Amran. Al-Awbali and the brigade were active in fighting in Nihm in 2016.

³⁸ For a list of soldiers loyal to the Saleh network killed on the border with Saudi Arabia in July-August, see annex 20.

including Brigadier General Hasan Abdullah Muhammad al-Mulusi, who died on 22 September (see figure II).³⁹

Figure II

Hasan Abdullah Muhammad al-Mulusi in Houthi “martyrdom” poster (left) and in the company of Ahmed Ali Abdullah Saleh (YEi.005) (right)



47. Although the Houthi-Saleh alliance has tightened politically, military units loyal to Ali Abdullah Saleh (YEi.003) and those operating under the umbrella of the Houthi leadership continue to remain largely distinct.⁴⁰ The Panel assesses that the relationship between Saleh and Abdulmalik al-Houthi (YEi.004) is an alliance of convenience, which is unlikely to survive the end of the current conflict. Saleh has historically ruled by playing groups off against one another, a process that he likes to call “dancing on the heads of snakes”. His alliance with the Houthis, after fighting six wars against the group from 2004 to 2010, is the latest version of this strategy. While the Saleh network and the Houthis are currently allied by a common enemy, several long-term issues continue to divide the two, in particular the shape and ideology of any future State. Nevertheless, for the time being, Houthi and Saleh commanders continue to coordinate and cooperate in military strikes.⁴¹

48. The Panel has found that the Houthi and Saleh forces operate in three distinct ways. In population centres, such as Ta‘izz, they operate along traditional military lines with a military district commander, axis commanders and brigade

³⁹ He was the former head of the Counter-Terrorism Unit within the Yemeni Special Forces, which was headed by Saleh’s eldest son, Ahmed Ali Abdullah Saleh (YEi.005). Following Ali Abdullah Saleh’s (YEi.003) resignation in 2012 and the subsequent military reshuffling, he acted as the head of Ahmed Ali Abdullah Saleh’s (YEi.005) close protection team in the United Arab Emirates.

⁴⁰ One exception to this, which is notable because it is the only exception that the Panel has observed, is the case of Brigadier General Hasan Abdullah Muhammad al-Mulusi, who, although close to the Saleh family and a member of the Sanhan tribe, led a unit of Houthi fighters. Sources interviewed by the Panel ascribe this to the fact that al-Mulusi “became a Houthi”, joining the movement to avenge the death of one of his sons who was allegedly killed in a coalition air strike in Sana’a.

⁴¹ The Panel has drawn a distinction between the Houthi-Saleh political alliance and the alliance of Houthi and Saleh military forces. In the former, the Panel views the establishment of the joint supreme political council as the formalization of a power-sharing agreement between the two groups. Nevertheless, while the Panel finds that the Houthi and Saleh forces are part of a military alliance it has not found significant unit integration. It therefore uses the terms “Houthi-Saleh political alliance” and “Houthi and Saleh forces” to describe the situation on the ground.

commanders.⁴² On the border with Saudi Arabia, there are smaller special operations units, including elements of the republican guards, and mobile missile groups. The missile force was previously part of the republican guards under the command of Ahmed Ali Abdullah Saleh (YEi.005), but now appears to be operating under the control of the Houthi forces.⁴³ Lastly, along the Red Sea coast, Houthi forces have adopted a territorial defensive strategy, which includes the use of land mines to support the defence of key points.

C. Houthi network

49. The Houthis, led by Abdulmalik al-Houthi (YEi.004),⁴⁴ have both a political and a military wing. Although they have established a supreme military council, in alliance with Ali Abdullah Saleh (YEi.003), key decisions for the movement continue to be made by Abdulmalik al-Houthi (YEi.004),⁴⁵ who is believed to be in Sa'dah.⁴⁶

50. Militarily, the Houthis rely on a two-tiered approach: a network of militias, which rotate frequently through areas under Houthi control,⁴⁷ and ex-Yemeni military regular units under the command of officers who have broken with the current President and have "joined", or are now aligned to, the Houthi movement.⁴⁸ Many, although certainly not all of these officers, are Zaydis from *sayyid* families. One such figure is Major General Zakaria Yahya Mohammed al-Shami, who was named deputy chief of staff by the Houthis.⁴⁹ Just as with the Saleh network,

⁴² See annex 21 for an outline of the command and control structure in the military districts in which Houthi and Saleh forces are active.

⁴³ The missile force has its headquarters in Faj Attan in Sana'a and brigades in the Sabra camp, south-west of Sana'a. Major General Mohamed Nasser Ahmed al-A'tifi, an officer from the Hadr subtribe of Khawlan, was appointed as its commander by the current President in 2013. Abdulmalik al-Houthi (YEi.004) has praised the force for its creativity and Major General al-A'tifi was appointed as the Sana'a-based minister of defence in the Sana'a-based government of 28 November.

⁴⁴ See annex 22 for background to the Houthi movement and annex 23 for the Houthi family tree.

⁴⁵ Abdulmalik al-Houthi's (YEi.004) leadership has caused some rifts with early members of the Houthi network. This is most notably the case with Abdullah al-Razzami, a former parliamentarian for Hizb al-Haqq, who was one of Husayn al-Houthi's key deputies in the initial Houthi war in 2004. The Panel does not believe that al-Razzami, who continues to reside in Sa'dah, is still a member of the Houthi movement. Early in September, members of his tribe, the Razzam, clashed with Houthi fighters in Sa'dah, leaving seven dead.

⁴⁶ He rarely appears in public and most frequently communicates with the public via video messages.

⁴⁷ These militias, as is the case with many irregular forces, do not wear uniforms and are not stationed at bases. Their commanders often use a nom de guerre or, in Arabic, a *kunya*, such as Abu Ali (literally: "the father of Ali"), which makes positive identification difficult. See, for example, this article on a Houthi commander in Ibb, who is known only by the *kunya* Abu Hamza: www.almasdaronline.com/article/83398. See also annex 24 for a list of Houthi fighters released in Ma'rib in September, which illustrates the degree to which Houthi fighters from different regions are moved around the country to participate in active battlefronts.

⁴⁸ It is often unclear which senior officers have joined the Houthi movement out of ideological agreement and which have joined because the Houthis are the strongest group in an area.

⁴⁹ In the Sana'a-based government announced on 28 November, he was named the minister of transportation in territories controlled by the Houthis. The Panel has yet to confirm that he will retain his role as the effective head of the former Yemeni military now affiliated to the Houthi armed groups.

identity plays a key,⁵⁰ although not definitive, role. The Houthis have appointed military commanders to five of the seven military districts of Yemen.⁵¹ In addition, the Houthis control an intelligence apparatus, the national security bureau,⁵² which is headed by Abdullrabb Saleh Ahmed Jarfan.⁵³

D. Al-Qaida in the Arabian Peninsula

51. Following the forced withdrawal of Al-Qaida in the Arabian Peninsula (AQAP) from Mukalla in late April, the group has been unable to seize, hold or administer similar portions of territory.⁵⁴ Nevertheless, it remains active in carrying out attacks in Yemen, which generally fall into three main categories: suicide attacks (see annex 28), mortar attacks and roadside bombs. Throughout 2016, AQAP has claimed some 200 attacks,⁵⁵ most of which have been conducted using roadside bombs (see para. 86).

52. AQAP has devoted most of its efforts in Yemen to fighting the Houthis, especially in Bayda',⁵⁶ attacking Security Belt Forces in Abyan and Aden⁵⁷ and striking forces loyal to the President in Hadramawt.⁵⁸ The Panel also assesses that AQAP is actively working towards preparing terrorist attacks to be launched against the West using Yemen as a base.⁵⁹ The group has continued to actively recruit from Yemeni tribes, especially in southern Yemen and Hadramawt, and has emphasized

⁵⁰ For Saleh's network, the identity that mattered was tribal, in particular being from Sanhan. For the Houthis, the identity that matters is religious, being a descendant of the Prophet.

⁵¹ See annex 25 for information on Houthi military district commanders. Annex 26 shows Houthi appointments in one district as an example.

⁵² The national security bureau is the most powerful intelligence service in Yemen under the Houthis. For background, see www.globalsecurity.org/intell/world/yemen/index.html. It was originally formed in 2002, at least partly in response to outside fears that jihadi sympathizers had infiltrated the main intelligence body, the Political Security Organization. Ali Abdullah Saleh (YEi.003) swiftly co-opted the new organization by making his nephew, Ammar Muhammad Abdullah Saleh, principal deputy in the bureau, a position that he held until the current President removed him in 2012.

⁵³ In addition to his post at the national security bureau under the control of the Houthis, Abdullrabb Jarfan was also appointed to the supreme security council for the Houthis in February 2015. See www.almashhad-alyemeni.com/news46910.html. On 20 August, he was similarly appointed to the military and security committee. See www.gulfeyes.net/middle-east/582499.html. For the full list of members, see annex 6.

⁵⁴ Information on prominent AQAP officials of interest to the Panel is provided in annex 27.

⁵⁵ This number is not exact because AQAP lists its attacks per month according to the Islamic calendar, which is based on a lunar cycle, making determining a precise starting point impossible.

⁵⁶ The Panel has documented several clashes between AQAP and militias linked to the Houthis in Bayda', in particular during September and October.

⁵⁷ A recent example of this was a roadside bomb used to assassinate a former Security Belt Commander and current "resistance" leader, Khadr Mualim, in Abyan on 28 November. See www.almasdaronline.com/article/86749.

⁵⁸ For example, on 13 July there was a dual suicide attack claimed by AQAP, which targeted a military base in Hadramawt.

⁵⁹ This has been the stated position of the AQAP leader, Qasim al-Raymi (QDi.282), and the Panel has seen no evidence to suggest that AQAP has changed its focus.

that the West remains its primary target. AQAP members have also taken part in the fight in Ta'izz on the side of the "resistance" against Houthi and Saleh forces.⁶⁰

53. Throughout 2016, AQAP has also been under pressure from bilateral United States air and drone strikes. The United States has carried out more than 30 such strikes, killing at least 139 individuals.⁶¹ Separate from the coalition led by Saudi Arabia, the United States has deployed "small numbers" of military personnel to assist in operations targeting AQAP.⁶² It has also listed six Yemenis, including two members of the Government, as "specially designated global terrorists".⁶³

54. AQAP continues to release high-quality video productions,⁶⁴ which appear to be produced locally, and issues of its English-language magazine, *Inspire*.⁶⁵ There has, however, been a marked decrease in the number of official statements, and those that are released tend to be aimed at either setting the record straight⁶⁶ or clarifying an AQAP position.⁶⁷ The Panel believes that AQAP continues to have two primary goals in Yemen: the control and administration of territory and the use of the country as a launching pad for attacks against the West.

E. Islamic State in Iraq and the Levant

55. Islamic State in Iraq and the Levant (ISIL) also remains active in Yemen,⁶⁸ although it had fewer members and carried out fewer attacks than AQAP during the

⁶⁰ As a terrorist group, AQAP is opposed to nearly every other side in the conflict: the Houthis, Saleh's forces, the legitimate Government and the coalition. This typically means that AQAP opposes whichever group has the most control in a region, while at times making common cause with the enemy of that group. This explains why in some areas AQAP is targeting forces loyal to the current President, while in others it is fighting alongside groups broadly affiliated with the legitimate Government.

⁶¹ These numbers are collated from the United States Central Command and may still increase. For the full table of confirmed United States air and drone strikes, see annex 29.

⁶² United States, White House, *Report on the Legal and Policy Frameworks Guiding the United States' Use of Military Force and Related National Security Operations*, December 2016. Available from www.justsecurity.org/wp-content/uploads/2016/12/framework_Report_Final.pdf.

⁶³ On 19 May, the United States listed the Governor of Bayda', Nayif Salim Saleh al-Qaysi, and on 7 December a member of the Consultative Council and the leader of a pro-government militia in Jawf, Hasan Ali Abkar. Both individuals have denied the charges. In addition, another listed individual, Muhammad Salih Abd-Rabbuh al-Omgy, has publicly denied the charges. The Panel has been able to confirm only that one of the listed individuals, Ghalib Abdullah al-Zaidi, is a member of AQAP.

⁶⁴ Examples of this include videos such as the fifth instalment in the series "*Harvest of Spies*" and the sixth instalment in the series "*Repelling the Aggressors*".

⁶⁵ The latest issue is No. 16. Prominent figures within the organization, including Qasim al-Raymi, Khaled Ba Tarfi and Ibrahim al-Quso, a former detainee at Guantanamo Bay, have all appeared in propaganda videos. See annex 27 for a list of prominent AQAP figures of interest to the Panel.

⁶⁶ For example, early in September it released a statement to deny that it had played a role in killing 20 Yemeni soldiers in Hadramawt. It has also denied destroying a Sufi shrine in Ta'izz. ISIL similarly distanced itself from destroying the shrine.

⁶⁷ In October, AQAP issued a statement on its attempts to interact and work with tribes in Shabwah.

⁶⁸ For a list of ISIL-affiliated figures of interest to the Panel, see annex 30.

reporting period. The group appears to be weaker than at this point in 2015.⁶⁹ Nevertheless, it remains capable of inflicting significant damage. Most ISIL attacks in Yemen fall into two categories: suicide bombings⁷⁰ and close-quarter assassination of security officials, which are increasingly filmed as they happen.⁷¹ Early gains in the recruiting battle against AQAP in 2015 notwithstanding, ISIL is now struggling to maintain this early momentum.⁷² By the middle of 2016, it had suffered a wave of defections and losses.⁷³ AQAP and ISIL have publicly sparred over which group is doing the most to combat the Houthis.⁷⁴

56. The group, which is much more clandestine about its inner workings than AQAP, appears to have undergone a leadership change early in 2016.⁷⁵ Nevertheless, while it benefits from the continuing fighting in Yemen, it continues to struggle to supplant AQAP as the organization of choice for radicalized individuals.

F. Active “fronts”

57. Although the Houthi and Saleh forces initially reached as far south as Aden in 2015, they have since been pushed back into the northern highlands.⁷⁶ Throughout

⁶⁹ The Panel has received information that in mid-2015 ISIL established a training camp in Hadramawt near the border with Saudi Arabia. The Panel has, however, been unable to confirm whether the camp remains operational.

⁷⁰ One of the deadliest such attacks took place on 29 August in Aden when an ISIL attacker and 28-year-old Koranic teacher later identified as Ahmed Sayf (Abu Sufayn al-Adani) killed at least 54 soldiers, wounding 67 more. See <http://golden.news/articles/361/>.

⁷¹ Two recent attacks, the assassination on 30 September of an officer in the Political Security Organization, Ali Muqbil, in Aden and the assassination on 22 November of a security official at Aden airport, Abd al-Rahman al-Dhala'i, were both publicized with graphic, video-game-style first-person shooter photographs, showing the moment of the assassination from the perspective of the killer.

⁷² Early in September, three young men announced via a crude video an ISIL province in Mahrah, on the eastern border with Oman. Nevertheless, there has been no official acknowledgement by ISIL. Given the low-quality, do-it-yourself feel to the video, the Panel believes that this claim is more aspirational than actual. The Panel has also received information from a confidential source that in 2015 several Saudi Arabian nationals travelled across the border to join ISIL in Yemen. The Panel has identified nationals of Iraq, Saudi Arabia, the Syrian Arabic Republic, Tunisia and Yemen among ISIL members in Yemen.

⁷³ For example, on 8 July, an ISIL defector, Ghassan al-Sadi, was assassinated in Abyan.

⁷⁴ Although there is evidence to suggest that AQAP has fought Houthi forces, especially in Bayda', the Panel has found no credible evidence to suggest that ISIL is carrying out similar attacks against the Houthis.

⁷⁵ The Panel is aware of a report that two ISIL members from outside Yemen led a contingent of fighters who allegedly took part in the fighting in Ta'izz on the side of the Salafist resistance. While the Panel has been unable to independently verify this information, it continues to investigate the incident and the links between ISIL in Yemen and in Iraq and the Syrian Arab Republic.

⁷⁶ The Houthis, as Zaydis, had very little local support in south Yemen, which remains largely Shafi'i, or Sunni. The Houthis may have not actually intended to take Aden, but only to force the current President and troops loyal to him to defend it.

much of 2016, the high numbers of casualties notwithstanding,⁷⁷ the battle lines have gradually hardened. Although there has been increased fighting along the border with Saudi Arabia, little has changed militarily, in terms of territory taken or lost by any side, during the period covered herein.

58. At the time of writing, after 22 months of war the military map looked much the same as it did after 10 months. The Houthis control or are active in much of the northern highlands, including Ibb, Dhamar, Sana'a and Sa'dah.⁷⁸ Ta'izz is still contested, as are other parts of the country. The Government controls large sections of the south, including Aden, although the city is beset by violence and insecurity. AQAP and ISIL continue to recruit and carry out attacks.⁷⁹

IV. Arms and implementation of the targeted arms embargo

59. Pursuant to paragraphs 14 to 17 of resolution [2216 \(2015\)](#), the Panel continues to focus on a range of monitoring and investigative activities in order to identify whether there have been violations of the targeted arms embargo, which was put in place to prevent the direct or indirect supply, sale or transfer to, or for the benefit of, individuals and entities listed by the Committee and the Security Council.

A. Supply chains for weapons and ammunition

60. The Panel has established that the options for supply chains of weapons and ammunition to the individuals and entities listed by the Committee and the Security Council and those acting on their behalf or at their direction are currently limited to those set out in table 1.

Table 1
Supply chains for weapons to Houthi or Saleh forces

<i>Supply chain</i>	<i>Remarks</i>
Illicit external large-scale supply	Classified by the Panel as more than 1,000 weapons or tens of tonnes of ammunition
Small-scale supply (“ant trafficking”)	Less than a few hundred weapons
Large-scale seizures from the Yemeni national stockpile	Owing to military operations, theft or diversion

⁷⁷ These include both foot soldiers and key commanders. Two of those commanders, Mubarak al-Mishn al-Zayadi (third military district, Ma'rib) and Muhammad al-Hawari (sixth military district, Amran), were killed in the strike on the funeral hall in Sana'a on 8 October. For a full list of the Houthi military commanders, see annex 25. Their government equivalents are listed in annex 31.

⁷⁸ There are, however, still clashes in these cities and governorates.

⁷⁹ See annex 32 for a timeline of key security events and annex 33 for an outline of the major battlefronts.

<i>Supply chain</i>	<i>Remarks</i>
Small-scale capture after battles	Battlefield capture from individual combatants or units (see annex 34)
Internal black market	

B. Probability of large-scale supply of weapons from the Islamic Republic of Iran to Yemen

61. In a letter addressed to the President of the Security Council dated 14 September (S/2016/786), Saudi Arabia alleged violations of resolution 2216 (2015) by the Islamic Republic of Iran and demanded that the Council take the appropriate and the necessary measures against those who had violated the relevant resolutions. The Permanent Representative of the Islamic Republic of Iran rejected the allegations as “pure fabrications and unsubstantiated” in a response dated 27 September (S/2016/817). A further response was made by the United Arab Emirates, also on behalf of Bahrain, Egypt, Jordan, Kuwait, Morocco, Oman, Qatar, Saudi Arabia, the Sudan and Yemen, in a note verbale dated 27 October addressed to the Secretary-General (A/71/581), requesting that the annex thereto, containing alleged violations by the Islamic Republic of Iran, be circulated to the General Assembly. The allegations were again firmly rejected as being “baseless” in a response dated 16 November by the Permanent Representative of the Islamic Republic of Iran (A/71/617).

62. The Panel has not seen sufficient evidence to confirm any direct large-scale supply of arms from the Government of the Islamic Republic of Iran, although there are indicators that anti-tank guided weapons being supplied to the Houthi or Saleh forces are of Iranian manufacture. The air supremacy of the coalition led by Saudi Arabia over Yemen and the effectiveness of the maritime inspection system means that there are now only three credible direct supply routes from the Islamic Republic of Iran to Yemen for small-scale trafficking.

C. Maritime trafficking routes

1. Coastal dhows to Houthi-Saleh-controlled ports on the west coast of Yemen

63. Coastal dhows, if en route to Houthi-Saleh-controlled ports on the west coast of Yemen, even if routed via a transit point in Djibouti or Somalia, must pass from the Gulf of Aden into the Red Sea through the busy Bab al-Mandab strait, which is 28 km wide. This is well patrolled by the Combined Maritime Forces,⁸⁰ the United States Navy Fifth Fleet and the Royal Saudi Navy. If sent in very small consignments on coastal dhows, it is probable that some shipments would arrive, but many would inevitably be interdicted by naval patrols. The Panel has seen no evidence of any maritime seizures to date on this route, which strongly suggests that it is not being actively exploited.

⁸⁰ See <https://combinedmaritimeforces.com>.

2. Coastal dhows to Omani transit ports

64. There are only two small Omani ports⁸¹ to the west of Salalah, Dhofar governorate, with road access to the border with Yemen that would be suitable for the offloading of arms. Ship-to-shore transfers across Omani beaches in Dhofar are also possible. The subsequent requirement for vehicles to then transit through the most likely border crossing point at Sarfayt/Hawf⁸² carries a higher risk of interdiction by border guards than if ship-to-shore transfers were made directly across a Yemeni beach. Recent land seizures indicate that this route may be in use for small-scale shipments (see para. 75).

3. Coastal dhows to south-eastern ports or beaches in Yemen

65. The only suitable port for the direct offloading of weapons in south-eastern Yemen would be Nishtun,⁸³ but this is under the control of government forces, meaning that its use would imply a level of corruption on the part of officials. The alternative to offloading weapons at Yemeni ports is, however, to operate a covert ship-to-shore transfer from coastal dhows or small boats across the known smugglers' beaches at Ghaydah,⁸⁴ Haswayn⁸⁵ and Qishn.^{86,87} Recent land seizures indicate that this route is also probably in use for small-scale shipments (see para. 75).

4. Maritime seizures in 2015 and 2016

66. There were only four confirmed seizures of weapons in the Arabian Sea and the Gulf of Aden by the Combined Maritime Forces or the United States Navy Fifth Fleet during 2015 and 2016,⁸⁸ together with an alleged seizure by the coalition led by Saudi Arabia in 2016 (see table 2).

Table 2
Regional maritime weapon seizures, 2015-2016

Date	Fishing vessel	Seized by	Weapon type and quantity								
			AK-47 assault rifle variant	PKM medium machine gun	Hoshdar-M sniper rifle ^a	12.7-mm DShK variant heavy machine gun	RPG-7 variant rocket launcher	60-mm mortar	Toophan ^b	9M113 Konkurs or 9M133 Kornet variant anti-tank guided weapon	
24 September 2015	<i>Nasir</i>	HMAS <i>Melbourne</i>								56	19
27 February 2016	<i>Samer</i>	HMAS <i>Darwin</i>	1 989	49				100	20		
20 March 2016	Unknown	FS <i>Provence</i>	1 998	6 ^c	64						9

⁸¹ Raysut, 16°55'30.06"N, 54°00'38.74"E, and Dalqut, 16°42'16.85"N, 53°15'14.37"E.

⁸² 16°40'15.73"N, 53°05'57.32"E

⁸³ 15°49'15.64"N, 52°11'49.01"E.

⁸⁴ 16°10'18.29"N, 52°13'28.69"E.

⁸⁵ 15°35'04.14"N, 52°06'19.69"E.

⁸⁶ 15°23'17.67"N, 51°38'35.64"E.

⁸⁷ Confidential sources.

⁸⁸ Seized under the mandate in resolutions 2182 (2014) and 2244 (2015) relating to Somalia. See also S/2016/919, annex 8.4.

Date	Fishing vessel	Seized by	Weapon type and quantity							
			AK-47 assault rifle variant	PKM medium machine gun	Hoshdar-M sniper rifle ^a	12.7-mm DShK variant heavy machine gun	RPG-7 variant rocket launcher	60-mm mortar	Toophan ^b	9M113 Konkurs or 9M133 Kornet variant anti-tank guided weapon
28 March 2016	<i>Adris</i>	USS <i>Sirocco</i>	1 500				21	200		
16 November 2016	Unknown ^d									
Total			4 487	55	64	21	300	20	56	28

^a Iranian copy of the Chinese type-79 sniper rifle. Confirmed by Armament Research Services.

^b Tube-launched, optically tracked, wire-guided anti-tank guided missile.

^c Democratic People's Republic of Korea type-73 variant.

^d Media reports claimed that two small dhows had been captured by the coalition led by Saudi Arabia off the coast of Salif, with conflicting reports stating that they had been destroyed by air strikes. Saudi Arabia has not responded to the Panel's requests for more details on the reported incident or incidents.

67. Tracing requests were sent to the Member States⁸⁹ that manufactured the eight weapon types that the Panel could positively identify from imagery (see annex 35). The age of the weapons seized was problematic in terms of the effectiveness of the requests. The Member States that responded have a national legal requirement to keep export control records only for 5 or 10 years. Manufacturing records are available, which can be used to confirm the State of manufacture, but they do not have details of the initial end user. Given that some weapon types were also exported to many countries,⁹⁰ further tracing requests were unlikely to elicit any useful information as to the supply chain owing to the time elapsed and the wide distribution of the weapon systems. The Panel could not therefore positively determine the origin of the weapons, given that the supply chains remain opaque.

68. Tracing requests by the Panel to identify the supply chains have been further constrained by some of those Member States that seized the vessels not providing sufficient detail in their notifications to the Committee and their responses to subsequent requests by the Panel and not allowing the Panel to physically inspect the weapons seized.⁹¹ The Panel requires detailed imagery of the weapons to identify the exact type and model, as well as the serial numbers to then enable detailed supply chain investigations.

69. In investigating above-referenced maritime seizures, the Panel has identified 2,064 weapons that could be directly linked to Iranian manufacture or origin (see table 3). The Panel identified the country of manufacture from the imagery supplied by the Member State seizing the weapons. The remaining weapons could not be positively attributed to a specific country of manufacture.

⁸⁹ Bulgaria and the Russian Federation confirmed manufacture, but noted that that manufacture had been more than 10 years ago, rendering it impossible to trace the end-user certificate. China confirmed that a weapon type was not of Chinese manufacture. The Islamic Republic of Iran and Romania have yet to respond.

⁹⁰ For example, the 9M113 Konkurs anti-tank guided weapon system was exported to 26 countries, according to *Jane's* (<https://janes.ihs.com/CustomPages/Janes/Home.aspx>).

⁹¹ Apart from the FS *Provence* seizure, which the Monitoring Group on Somalia and Eritrea was permitted to inspect in Brest, France, in December 2015.

Table 3
Maritime seizures in 2015-2016 traceable to Iranian manufacture or supply

Weapon type	Vessel				Remarks
	Nasir	Samer	Unknown	Adris	
AK-47 assault rifle variant			1 998		One was positively confirmed as being of Iranian manufacture. ^a All were reported to be of the same type.
Hoshdar-M sniper rifle			64		Only the Islamic Republic of Iran manufactures this weapon type.
RPG-7 variant rocket launcher		2			Two were positively confirmed as being of Iranian manufacture. All 100 were reported to be of the same type.

Note: Data also taken from Conflict Armament Research, “Analysis of maritime weapon seizures”, in “Maritime interdictions of weapon supplies to Somalia and Yemen: deciphering a link to Iran” (London, November 2016).

^a Four sets of sequential serial numbers were noted, making it certain that all were from the same manufacturer.

5. Track analysis

70. Track analysis of the vessels’ declared and probable courses (see map 3), compared against the seizure positions, challenges assertions made that Yemen was the destination for the four vessels listed in table 2.⁹² A small dhow captain would probably be conscious of fuel costs and wish to take the most direct route to port. Deviations would probably be made only owing to bad weather or to avoid detection if carrying illicit cargo. It is, however, unlikely that a vessel would deviate from track to avoid detection, instead relying on a policy of “safety in numbers” by transiting in the company of other dhows. The track analysis strongly suggests the following:

(a) The FV *Nasir*, which departed from Chabahar in the Islamic Republic of Iran, was seized at a position on the most direct and economical track to Hurdiyo,⁹³ Somalia. This was the destination plotted recovered as evidence by HMAS *Melbourne*. Mobile and satellite phones were also inspected during the seizure operation and subsequent traffic analysis from data provided by a Member State provided further evidence that the originator was based in the Islamic Republic of Iran and that Somalia was the destination for the shipment.⁹⁴ In the period from 27 August to 23 September 2015, during which the smuggling operation occurred, 60 per cent of outgoing calls from and 72 per cent of incoming calls to the vessel were from a single Iranian subscriber number.⁹⁵ The master of the FV *Nasir* was also in contact with known arms dealers with links to a former pirate, Isse

⁹² For example, see “French navy seizes weapons cache heading from Iran to Yemen”, Al Arabiya, 30 March 2016, available from <http://english.alarabiya.net/en/News/middle-east/2016/03/30/French-navy-seizes-weapons-cache-heading-from-Iran-to-Yemen.html>; and Sam LaGrone, “U.S. navy seizes suspected Iranian arms supply to Yemen”, USNI News, 4 April 2016, available from <https://news.usni.org/2016/04/04/u-s-navy-seizes-suspected-iranian-arms-shipment-bound-for-yemen>.

⁹³ 10°33'41.00"N, 51°08'04.13"E.

⁹⁴ Details have been omitted because the investigation is continuing.

⁹⁵ The Panel has requested details as to the subscriber from the Islamic Republic of Iran. No response has been received to date.

Mohamoud Yusuf (“Yullux”),⁹⁶ and the leader of the ISIL faction in Somalia, Abdulqadir Mumin;

(b) The FV *Samer* was seized at a position 130 nautical miles south-east of the most direct and economical track from Chabahar, Islamic Republic of Iran, to Boosaaso, Somalia,⁹⁷ this being the destination port assessed as likely by HMAS *Darwin*.⁹⁸ This position is further away from the Yemeni coast than the most direct and economical track and suggests that a more likely direct destination was the eastern smuggling ports of Somalia than Boosaaso;

(c) The unknown fishing vessel was seized by the FS *Provence* at a point on the most direct and economical track from Chabahar, Islamic Republic of Iran, to its declared destination of Qandala,⁹⁹ Somalia;

(d) The seizure location of the FV *Adris* has not been communicated to the Panel, notwithstanding requests sent on 10 May and 3 November to the Member State responsible. The declared destination of the vessel was Caluula,¹⁰⁰ Somalia, and the vessel originated in Sirik, Islamic Republic of Iran. Although the media reported¹⁰¹ that Yemen had been the destination for the shipment, the Panel has seen no evidence to confirm this.

⁹⁶ See S/2013/413, annex 3.1, and S/2014/726, annex 4.7, para. 204, for further information on his operations and network in Somalia.

⁹⁷ 11°17'29.42"N, 49°10'46.40"E.

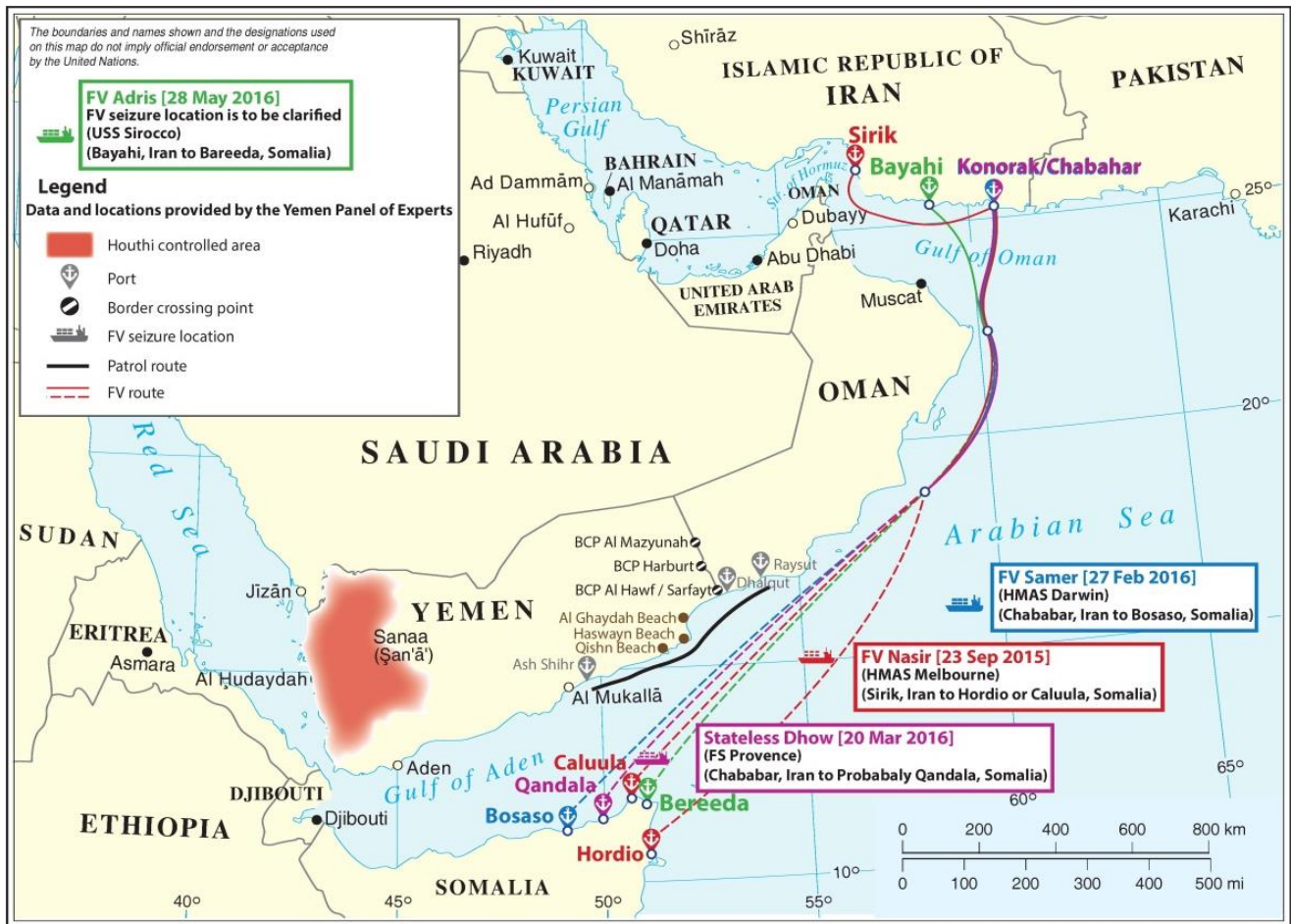
⁹⁸ Letter to the Panel from Australia dated 22 June 2016.

⁹⁹ 11°28'29.46"N, 49°52'19.40"E.

¹⁰⁰ 11°57'58.07"N, 50°45'17.94"E.

¹⁰¹ Sam LaGrone, “US navy seizes suspected Iranian arms shipment bound for Yemen”, USNI News, 4 April 2016, available from <https://news.usni.org/2016/04/04/u-s-navy-seizes-suspected-iranian-arms-shipment-bound-for-yemen>.

Map 3
Probable tracks and seizure positions



71. The evidence that the vessels originated from the Islamic Republic of Iran is irrefutable, but that seen by the Panel for the onward shipment of their cargo of weapons to Yemen from Somalia, or transfer at sea en route to divert from a Somali destination to a Yemeni destination is much less firm.

72. None of the interdicted maritime shipments contained munitions other than anti-tank guided weapons (see para. 76). Ammunition supplies are much bulkier than weapon supplies, by at least a factor of 10, because of their rate of use during combat — they require constant replenishment. This suggests that: naval interdiction has been unlucky and illicit ammunition shipments have been missed, which is considered unlikely by the Panel in the context of three seizures of weapons in such a brief time; ammunition is being shipped by air, which is unlikely with the air blockade in place; ammunition is being shipped by road (see para. 75); and/or that there are sufficient stocks already available in Yemen, which, based on black market prices, is the most likely scenario (see para. 79).

73. The Panel cannot, however, entirely discount the possibility that it was planned that the shipments would be cross-loaded to even smaller vessels in Somalia, or off the Somali coast, for onward transit to Yemen. The seizure of three vessels within a month may have disrupted this as a plan, effectively forcing arms traffickers to explore other options (see para. 75).

D. Small-scale “ant trafficking”

74. In its previous final report (S/2016/73, paras. 75-77), the Panel analysed the potential use of weapon smuggling networks established before the imposition of the arms embargo under resolution 2216 (2015). The current proliferation and widespread distribution of weapons within Yemen means that such networks could profit only by either attempting to smuggle high-profile weapons such as man-portable anti-tank guided weapons into Yemen; or smuggling small arms and light weapons from Yemen to neighbouring States, for which there is no evidence.

75. The land routes from the border crossing points with Dhofar, Oman, to the nearest Houthi-controlled territory, or from south-eastern Yemeni ports, pass through more than 600 km of government-controlled territory (see map 4). The probability of large-scale shipments being able to successively use this route without detection is low, but it is possible. The route is being exploited, as indicated by recent seizures by the Government.¹⁰² These were all from large trucks and either hidden under other cargo, for example chicken boxes, or were in false compartments of the trailer units (see summary and imagery in annex 36).

¹⁰² The Panel has requested detailed information on seizures from Saudi Arabia, the United Arab Emirates and Yemen. Only the United Arab Emirates has responded to date.

Map 4
 Land smuggling routes from Oman and Yemen beaches and ports



76. The Panel has identified that seizures of anti-tank guided weapons on the land route from Oman to Ma'rib began to be reported in mid-2016. Given that the interdiction risks are high on this route, this is an indicator that the route opened for such trafficking around this time. Table 4 provides a summary of the operational use and seizure of anti-tank guided weapons from mid-2015 to 2016, with imagery provided in annex 37.¹⁰³

¹⁰³ For other Iranian weapons observed in individual Houthi use, see annex 38.

Table 4
Operational use and seizures of anti-tank guided weapons, 2015-2016

Date	Location	Type						Remarks	
		9M113 Konkurs	Iranian Tosan	9M115 Metis	Iranian Toophan	9M113 Kornet	Iranian Dehlaviyeh		
1	24 September 2015	FV <i>Nasir</i>	19			56		Konkurs of 1992 manufacture	
2	29 November 2015	Ta'izz					1	1	Kornet lot No. 2 of 2008, same serial number batch as at item 3 Dehlaviyeh lot No. 7 of 2015 (only four months before seizure)
3	20 March 2016	Unknown fishing vessel						9	Lots Nos. 1 and 2 of 2008, either Kornet or Dehlaviyeh
4	28 September 2016	Ma'rib						15	Either Kornet or Dehlaviyeh
5	Unknown date in September 2016	Safir, Ma'rib		1					Lot No. 4 of 2002
6	18 October 2016	Shehn, Ma'rib							18 anti-tank guided weapons, type not yet confirmed
			20			56		26+	

Source: Wide range of open and confidential sources, including Armament Research Services Hoplite reports and *Jane's* analysis (<https://janes.ihs.com/CustomPages/Janes/Home.aspx>).

77. Although anti-tank guided weapons are now being smuggled on the land routes, the Panel assesses it as unlikely that the network using these routes could covertly transfer any significant quantities of larger-calibre weapon systems, such as short-range ballistic missiles, into Yemen at the current time. An anti-tank guided weapon is less than 1 m in length and easily hidden in a large truck, while a short-range ballistic missile of 7 m in length is much more difficult to conceal.

E. Seizure, theft or diversion from the Yemeni national stockpile

78. By analysing the order of battle¹⁰⁴ of the Yemeni Army (see annex 39), the Panel identified those units that either aligned themselves with or supported Houthi or Saleh forces in an effort to assess what part of the national stockpile had ended up outside the control of the army. The data indicate that the legitimate Government has potentially lost control of more than 68 per cent of the national stockpile during the conflict. The Panel has been unable to determine the size of the national stockpile before the current hostilities, and thus it is not yet possible to realistically estimate for how long the weapons and ammunition will sustain Houthi or Saleh forces in combat until they need major external resupply.

¹⁰⁴ See Charles Catis, "Yemen order of battle", American Enterprise Institute Critical Threats, February 2015. Available from www.criticalthreats.org.

F. Small arms ammunition on the black market

79. A significant indicator as to the availability of small arms ammunition within a community is the price on the black market. The Panel has begun to collect and analyse data. Initial findings are that, in Aden, for a typical 7.62 x 39 mm round, after a rapid fall in prices immediately following the beginning of the current conflict (to \$0.23 per round), the black market prices are now at 65 per cent (\$0.84 per round) of pre-war prices (\$1.30 per round) and are remaining stable at that level (see annex 40). There may be a range of local factors to account for this, which have yet to be identified, but it is certain that small arms ammunition is more readily available than it was before the conflict. This is due to the illicit proliferation of the government stockpile.

80. The Panel has identified a case of an attempted post-delivery diversion of Taurus-manufactured pistols and revolvers using dubious end-use certification. The weapon types are designed more for personal protection and not of a type typically used on the modern battlefield. The weapons were very likely destined for the black market in Somalia and the wider region, but were seized by a Member State in transit. The individual brokering the deal, Adeeb Mana'a, is a son of a designated individual and known arms trafficker, Fares Mohammed Mana'a (SOi.008),¹⁰⁵ who is both a past close associate of Ali Abdullah Saleh (YEi.003)¹⁰⁶ and closely linked to the Houthis.¹⁰⁷ His involvement and his known relationship to the Houthis make it possible that the financial aspects of the transfer may have been to the benefit of listed individuals, and the Panel will continue to investigate this aspect of the case. The Panel assesses that the modus operandi of the transfer was designed to circumvent normal customs and security controls. The case remains under investigation and the progress to date is described in annex 41.

G. Houthi-Saleh “missile campaign”

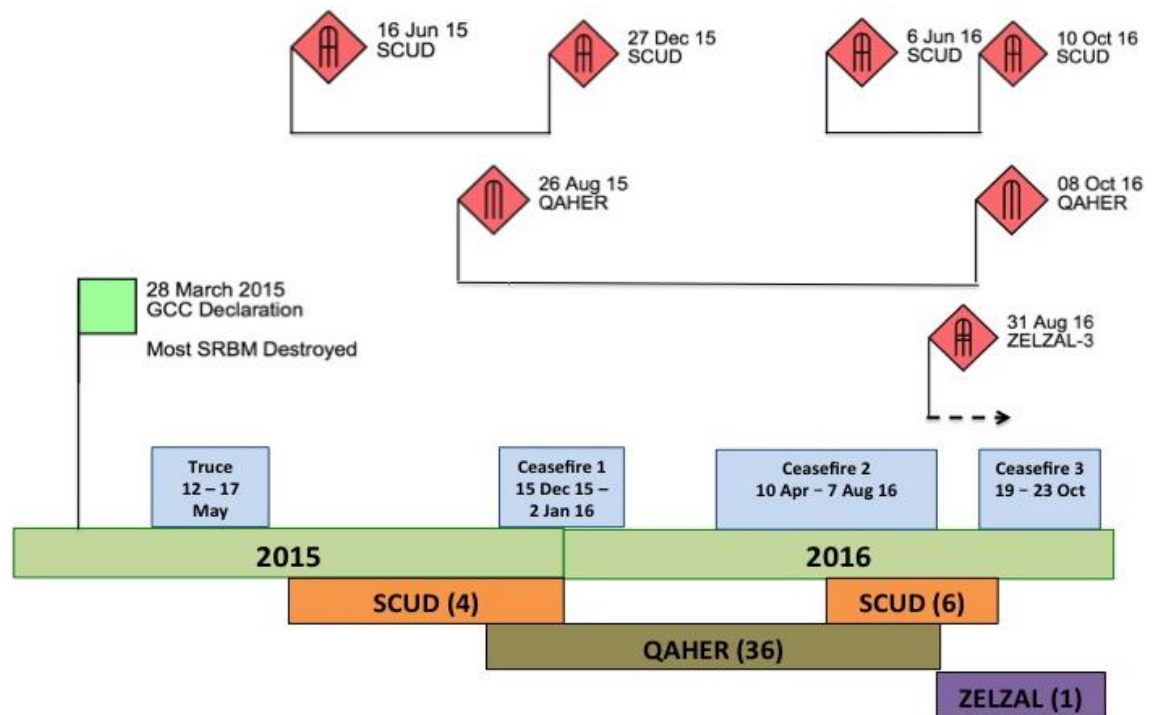
81. The Houthi-Saleh alliance has been engaged in a strategic “land missile campaign” against Saudi Arabia since the first recorded launch of a Scud-variant short-range ballistic missile on 16 June 2015 (see figure III). While the Panel has established that such missiles and improvised Qaher-1 free-flight rockets have been launched against Saudi Arabia by Houthi or Saleh forces, the latter have also initiated a propaganda campaign claiming the use of locally manufactured, as opposed to improvised, missiles. Annex 42 contains details of all short-range ballistic missiles and free-flight rockets used to date, with technical analysis showing why the Panel considers that the alliance’s claims to have manufactured new missile types locally are highly unlikely.

¹⁰⁵ Listed under the authority of resolution [1844 \(2008\)](#), para. 8, on 12 April 2010 by the Security Council Committee pursuant to resolutions 751 (1992) and [1907 \(2009\)](#) concerning Somalia and Eritrea.

¹⁰⁶ He was the head of Ali Abdullah Saleh’s Presidential Committee until late January 2010, when the Yemeni authorities arrested him.

¹⁰⁷ On 28 November, the Sana’a-based Houthi-Saleh supreme political council appointed him minister of state.

Figure III
Timeline of Houthi-Saleh missile campaign



82. Although the impact of the cross-border missile attacks is low in terms of casualties and infrastructure damage on the Saudi Arabian side, the attacks have a significant economic and political impact. From an economic perspective, launching the missiles, or even threatening to do so, is a very low-cost option for the Houthi-Saleh alliance because it seized the missile stocks at virtually no cost, whereas the financial cost to Saudi Arabia is high in terms of the expenditure of high-technology interceptor missiles such as the Patriot PAC-3, which reportedly cost some \$900,000.¹⁰⁸

83. Extensively reported open-source information indicates that the Saudi Arabian military is having mixed success in intercepting and destroying the Qaher-1 and Scud variants in flight. For example, of the 60 reported launches of missiles and rockets against Saudi Arabian territory since 16 June 2015 (see annex 42), the coalition claims to have intercepted and destroyed 28 in flight (47 per cent).

84. In terms of political impact, missile attacks on Saudi Arabian cities serve to maintain strategic pressure on Saudi Arabia, given that each impact illustrates the vulnerability of civilians to such attacks and demonstrates a weakness in defensive capabilities. The Panel assesses that it is likely that such attacks will continue until the Houthi or Saleh forces expend all their missile and free-flight rocket stocks or until the stocks are interdicted by the coalition.

¹⁰⁸ Clay Dillow, "U.S. green lights sale of 600 Patriot missiles to Saudi Arabia", *Fortune*, 1 August 2015. Available from <http://fortune.com/2015/08/01/u-s-patriot-missiles-saudi-arabia/>.

85. Given that the final impact locations of the missiles and free-flight rockets cannot be accurately predicted owing to the inherent inaccuracy of these weapon systems,¹⁰⁹ it is not possible for the users to adequately distinguish between civilians and military objectives, making them indiscriminate by nature, which is a violation of international humanitarian law.¹¹⁰ In this connection, the Panel considers the use by the Houthi-Saleh alliance of these weapon systems in attacks on civilian-populated areas to be a violation of international humanitarian law.¹¹¹

Figures IV and V

Houthi fighters training on OTR-21 Tochka missile, 23 May 2015



Source: Confidential.

Note: The white container is used to deceive aerial reconnaissance.

H. Improvised explosive devices

86. There have been significant developments in the technology of improvised explosive devices and associated tactics. The introduction of the suicide improvised explosive device tactic by ISIL, especially in Aden and Mukalla, has resulted in a constant threat to government officials and military bases. There have been at least 23 person-borne improvised explosive device or suicide vehicle improvised explosive device attacks against government targets or individuals claimed by or attributed to ISIL to date. This suicide tactic has also been adopted by AQAP, which has claimed six improvised explosive device attacks to date (see annex 28).

87. The Panel has also identified major technological developments in the type of initiation systems since the previous analysis of improvised explosive device types¹¹² and new container designs to enhance target effects and/or avoid detection. These are summarized in table 5, with more technical information provided in annex 43.

¹⁰⁹ Figures IV and V illustrate the Houthi use of missiles.

¹¹⁰ Jean-Marie Henckaerts and Louise Doswald-Beck, *Customary International Humanitarian Law*, vol. I, *Rules* (Cambridge, United Kingdom, International Committee of the Red Cross and Cambridge University Press, 2005), rule 71 (hereinafter “customary international humanitarian law”).

¹¹¹ *Ibid.*, rules 1, 7, 11 and 14.

¹¹² United Nations Development Programme, “IED threat assessment: Abyan”, 1 February 2013 (limited United Nations distribution).

Table 5
Finds of significant improvised explosive device types, 2016

<i>Date</i>	<i>Location</i>	<i>Type</i>	<i>Likely attributable to^a</i>
29 February	Ma'rib	Explosively formed projectile ^b	Houthis
16 March	Ta'izz	Disguised rock/minimal metal pressure pad	AQAP or Houthis
16 May	Mukalla	Explosively formed projectile radio-controlled device	AQAP
16 May	Mukalla	Directional-focused fragmentation charge ^c radio-controlled device	AQAP
18 June	Abyan	Directional-focused fragmentation charge radio-controlled device	AQAP
27 June	Mukalla	Person-borne suicide vest	AQAP
7 August	Aden	Under-vehicle device	AQAP
Unknown date in August	Ibb	Radio-controlled device with directional-focused fragmentation charge	Houthis
30 October	Saleh, Ma'rib	Passive infrared disguised rock	Houthis

^a Based on the geographical location of forces.

^b Also known as an explosively formed penetrator or self-forging fragment. In improvised explosive device use, an explosively formed projectile has a, normally, steel liner in the shape of a dish, which deforms upon the detonation of the explosive into a slug of metal. This accelerates to the target and then penetrates as a result of its kinetic energy. This differs from the hydrodynamic penetration effect of a shaped charge.

^c A directional-focused fragmentation charge usually consists of ball bearings, or other pre-formed small pieces of fragmentation bound together with resin in a designed shape. Upon detonation, the fragmentation is projected in a narrow pattern and penetrates the target as a result of kinetic energy. The pattern is dependent on the design shape used.

88. It cannot be assumed that the use of this technology is the preserve of a single group owing to the movement of fighters, and thus the exchange of technical knowledge, between AQAP, ISIL, Houthi or Saleh forces and “resistance” forces loyal to the current President.

89. The Panel assesses that the introduction of this new technology into Yemen presents a major threat to peace, stability and security, even after any prospective peace process agreement. It is also effectively acting as a force multiplier for armed groups operating outside the control of the Government, reducing their current and future dependence on conventional weapons. The Panel considers that the improvised explosive device will remain the weapon of choice for any residual opposition to any future peace process. It is a weapon that can be used strategically to create a perception of insecurity and influence national will.

90. The deployment of improvised explosive devices in civilian areas violates international humanitarian law because such devices affect civilians and military objectives indiscriminately.¹¹³

¹¹³ Customary international humanitarian law, rules 1, 7, 11 and 22.

I. Explosive remnants of war, mines and unexploded ordnance

91. The Panel continues to receive evidence of the use of mines by Houthi or Saleh forces and the use of integrated mine and improvised explosive device barrier belts (see annex 44).

V. Economic context and overview of finance

92. In accordance with its mandate, the Panel has researched the economic context in which individuals designated pursuant to resolutions 2140 (2014) and 2216 (2015) and their networks have continued to operate in violation of sanctions measures. In particular, the Panel has examined the flow of money, the transfer of wealth and the establishment of new proxies to finance military operations that threaten the peace, security or stability of Yemen. The continuing conflict has enabled new profiteers of war to emerge.

A. Impact of the conflict on public finances

93. The continuing conflict has provided opportunities for the Houthi and Saleh forces, AQAP and ISIL to explore new income streams in support of their war efforts and to secure tribal alliances. This includes access to State finances, oil and fuel supply and distribution systems and illegal taxation. Several prominent businesspeople have fled the country, providing an opportunity for the Houthis to take control of some significant private venture financial assets.

94. The overall financial situation is dire and has an impact on any direct financial responses to the developing humanitarian crisis. This is illustrated by the following:

(a) In April or May, Yemen defaulted on its international loan repayment obligations to private banking institutions;

(b) On 30 July, the International Monetary Fund (IMF) and the World Bank were requested by the President to freeze all overseas assets of the Central Bank;¹¹⁴

(c) The Central Bank reserves fell from a pre-war level of \$4.05 billion in December 2014 to \$1.56 billion in December 2015 to \$0.7 billion in September 2016, and were predicted to be zero by 31 December;

(d) The Central Bank requires \$372 million per year just to service its total overseas debt (including IMF and regional banks);

(e) All Central Bank income from oil and gas revenue and foreign investment ceased at the end of 2014;¹¹⁵

(f) In July, a liquidity crisis forced the Central Bank to initially suspend all public sector expenditure and the payment of public salaries;

¹¹⁴ Letter leaked to the media. The Panel confirmed its authenticity after meeting a Yemeni ambassador and staff of IMF and the World Bank in August and September.

¹¹⁵ In 2014, Yemeni revenue, according to the Ministry of Planning and International Cooperation, was \$16.7 billion (38 per cent from oil and gas, 19.8 per cent from remittances, 12.8 per cent from foreign financial assistance and 11.4 per cent from direct investment in oil).

(g) Money supply into the economy from the Central Bank is not possible because the cash in individuals' possession has increased eightfold, from an equivalent of \$103 million in 2014 to \$884 million in January-June 2016.¹¹⁶ This has entirely depleted the money supply in the banking system.

B. Houthi-Saleh financial networks: war profiteering and looting

95. The Panel found that the Houthi-Saleh alliance had greatly relied on the shadow economy to support its war efforts. The Houthi-Saleh financial partnership can be broadly summarized as follows:

(a) Houthi forces have been given complete control over northern Yemen, with the exclusion of the capital. This includes, but is not restricted to, control over land, crops, local taxation, fuel redistribution, humanitarian aid and taxation;¹¹⁷

(b) Saleh forces have reassumed control of the State finances, albeit under the guise of the Houthi banner, and reopened the black-market channels for trafficking in drugs, weapons and persons.

C. Funding available to the Houthis

96. The Panel found that the Houthis and their affiliates had taken advantage of the conflict to develop a wide range of income streams, including:

(a) Central Bank funding of Houthi-aligned armed forces and security agency salaries. A percentage of the salaries and funds intended to sustain units that are no longer functioning is diverted to individual Houthi commanders;

(b) Central Bank funding for the administrative support of Houthi-aligned armed forces and security agencies. This funding is still based on the national budget for 2014;¹¹⁸

(c) Tariffs from smugglers and profiteers operating in the black market;

(d) The imposition of a "business tax" of 20 per cent on the turnover of all commercial enterprises and all civil service salaries. This includes the khat trade, which accounts for 10 per cent of the gross domestic product. The national dependence on khat means that any movement of khat is effectively a cash transfer;

(e) The diversion of local authority taxation to a central Houthi authority;¹¹⁹

¹¹⁶ According to data from the Ministry of Planning and International Cooperation, *Yemen Socio-Economic Update*, issue No. 17, August 2016. Available from www.yemen.gov.ye/portal/mpic/الإصدارات/tabid/2574/Default.aspx.

¹¹⁷ For a taxation example, see annex 45.

¹¹⁸ The Sana'a-based ministry of defence continued to receive from the Central Bank the budget appropriation approved for fiscal year 2014 because no budget has since been approved. Several units have been disbanded because of the conflict, but their commanders, loyal to the Houthis, continued to receive funds for fuel and food for troops. Confidential military sources.

¹¹⁹ See www.almotamar.net/pda/133407.htm. For background, see <http://almashahid.net/news-937.html>.

(f) Taxation of 4 rials per litre on all petroleum products, which generates an estimated 59.3 billion rials (\$237 million) per year;¹²⁰

(g) The exploitation of cell phone technology to raise funds, using biweekly messaging appeals.¹²¹

97. The Panel also identified the rise of a new and different network of proxies and affiliates around the Houthis. Since early 2012, new individuals have emerged, while old partnerships have been dissolved (see confidential annex 46).¹²²

D. Al-Qaida in the Arabian Peninsula finances

98. AQAP gained a windfall revenue of \$100 million while in control of Mukalla from April 2015 to April 2016.¹²³ This was obtained by looting the local branch of the Central Bank and through taxes levied on local oil smuggling networks. The Panel believes that AQAP continues to use that money to recruit new fighters and to finance new attacks.

VI. Asset freeze

99. Pursuant to paragraphs 11 and 21 (b) of resolution 2140 (2014), as extended in paragraph 5 of resolution 2266 (2016), the Panel has continued to gather, examine and analyse information regarding the implementation by Member States of asset-freeze measures. The Panel has continued to focus on the five listed individuals and on identifying and investigating other individuals and entities that may be acting on their behalf or at their direction and entities owned or controlled by them.

A. Ali Abdullah Saleh¹²⁴

100. The Panel has continued to gather information on any assets owned or controlled by Ali Abdullah Saleh (YEi.003) further to those disclosed in its previous final report.

101. The Panel has identified two companies, Wildhorse Investments and the Wildhorse Corporation, that, although allegedly dissolved in June 2011, continued to make financial transfers until October 2011, when two transfers, of a total of \$58,148,155, were made to an account held by Ali Abdullah Saleh's (YEi.003) son, Khaled Ali Abdullah Saleh. The Panel continues to track the assets.

¹²⁰ Asa Fitch and Mohammed al-Kibsi, "Yemen's Houthi rebels face financial crisis", *Wall Street Journal*, 4 August 2015. Available from www.wsj.com/articles/yemens-houthi-rebels-face-financial-crisis-1438714980.

¹²¹ See www.alhagigah.com (29 September 2016) and Mohammed al-Khayat and Yasser Reyes, "Yemen's Houthis rule with iron fist and economic distress", Media Line, 9 June 2016, available from www.themedialine.org/featured/yemens-houthis-rule-with-iron-fist-and-economic-distress/.

¹²² Confidential sources.

¹²³ Yara Bayoumy, Noah Browning and Mohammed Ghobari, "How Saudi Arabia's war in Yemen has made Al-Qaeda stronger and richer", Reuters, 8 April 2016. Available from www.reuters.com/investigates/special-report/yemen-aqap/.

¹²⁴ For other Saleh affiliates, see confidential annex 47.

B. Khaled Ali Abdullah Saleh

102. The Panel has identified that Khaled Ali Abdullah Saleh operates as a financier acting on behalf and/or at the direction of his father, Ali Abdullah Saleh (YEi.003). Since the latter was listed on 7 November 2014, Khaled Ali Abdullah Saleh has acted to circumvent the asset-freeze measure and allow his father access to the funds necessary to maintain his capability to threaten the peace, security or stability of Yemen.

103. In its previous final report, the Panel presented documentary evidence that, on 23 October 2014, all the shares in Albula Limited and Weisen Limited belonging to Ali Abdullah Saleh (YEi.003) were transferred to Khaled Ali Abdullah Saleh. The Panel has now further investigated the transfers and identified additional evidence that indicates that the actual transfer of ownership took place on a date after the designation of Ali Abdullah Saleh (YEi.003) on 7 November 2014 (see annex 48). Although the two companies are registered in different countries, they are both managed by NWT Management S.A. in Geneva.¹²⁵ The register of members and share ledgers for both companies shows that Khaled Ali Abdullah Saleh acquired his shares in them from Ali Abdullah Saleh (YEi.003) on 23 October 2014. The Panel considers it more than a coincidence that these recorded transfers of shares in two companies, registered in two separate countries, took place on exactly the same day, in particular when the certificates of incumbency were signed on different dates, those dates being after the designation of Ali Abdullah Saleh (YEi.003) (see *ibid.*, appendix A). Ali Abdullah Saleh (YEi.003) also transferred a fifth company, Foxford Management Limited, to his son during the same period. The Panel has evidence that Khaled Ali Abdullah Saleh received \$33,471,993¹²⁶ and €734,786 from three of these companies, Albula Limited, Foxford Management Limited and Weisen Limited, between 24 and 29 October 2014 (see *ibid.*, appendix B).

104. The Panel also has evidence that Khaled Ali Abdullah Saleh is the sole director of the company Trice Bloom Limited and the sole shareholder of the two companies that own it, all registered in the British Virgin Islands: Precision Diamond Limited and Unmatchable Limited (see *ibid.*). Trice Bloom Limited, or Khaled Ali Abdullah Saleh, made two transfers to accounts in two different Member States of \$1,538,897 and \$181,610, respectively, on 27 November 2014. This was after the listing of Ali Abdullah Saleh (YEi.003) on 7 November 2014.¹²⁷ Khaled Ali Abdullah Saleh also appointed Ahmed Ali Abdullah Saleh (YEi.005) as an authorized signatory to the accounts maintained by Trice Bloom Limited (see *ibid.*, appendix C). Khaled Ali Abdullah Saleh is also the sole shareholder of a fourth company registered in the British Virgin Islands, Towkay Limited (see *ibid.*, appendix D).

105. Khaled Ali Abdullah Saleh has transferred funds from Trice Bloom Limited and Towkay Limited to his accounts in Singapore and the United Arab Emirates

¹²⁵ Identified by tracing signatories on the documents shown in annex 48. The address is NWT Management S.A., 16 Rue de la Pelisserie, Geneva 1211, Switzerland. The registered postal address is 8-10 Rue Muzy, PO Box 3501, Geneva 1211, Switzerland. The website is www.newworldtrust.ch/.

¹²⁶ All sums have been rounded to nearest whole number. The exchange rates used are included in annex 48.

¹²⁷ Confidential document in the Panel's archive.

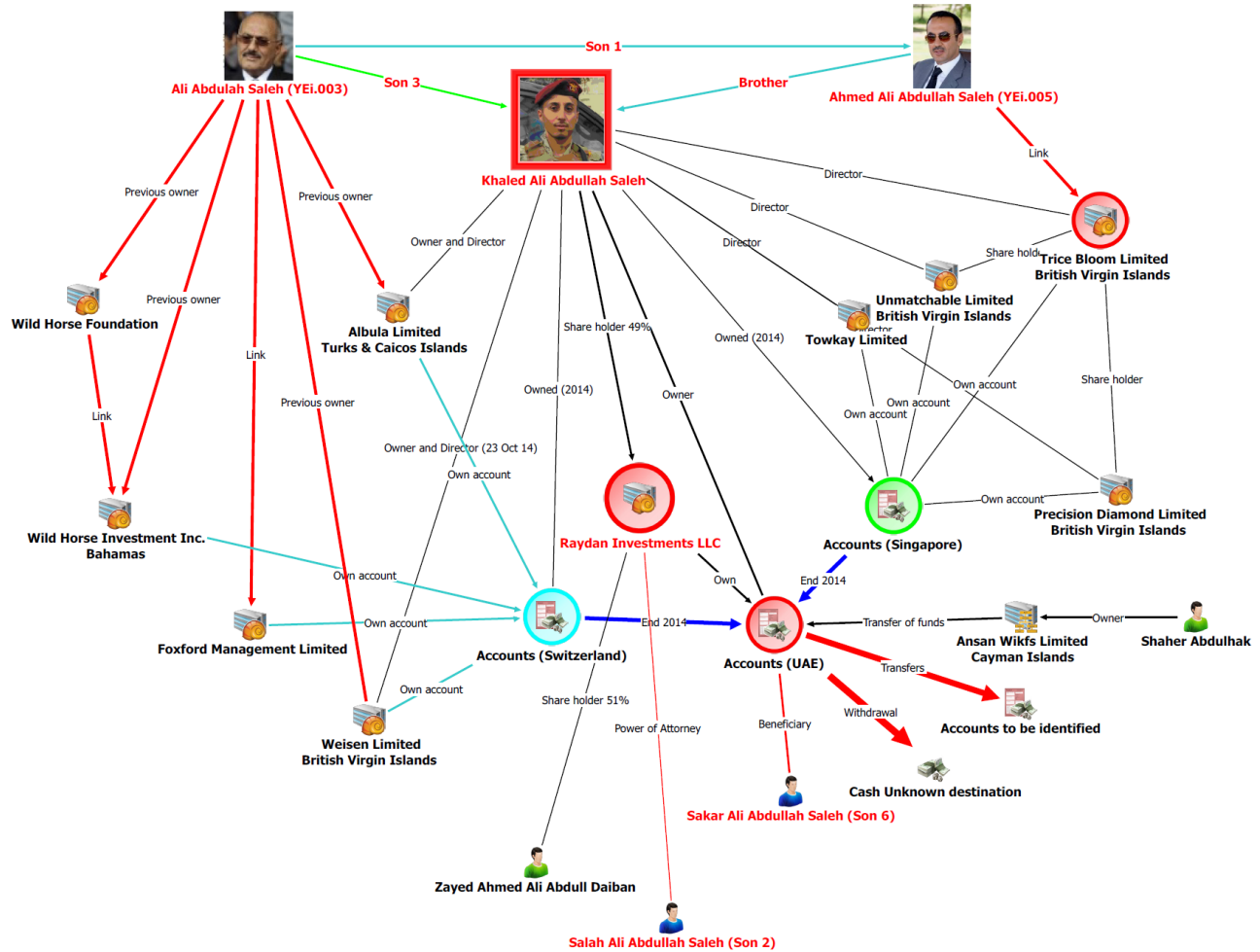
after the listing of Ali Abdullah Saleh (YEi.003). He has also used a dormant personal account in the United Arab Emirates to launder \$83,953,782 within a three-week period from 8 December 2014. The funds were deposited into the account and then withdrawn over the same period (see *ibid.*, appendix E).

106. He also transferred funds to another company, Raydan Investments Limited (see *ibid.*, appendix F). The Panel has evidence that he is likely to have established that company in the United Arab Emirates as a vehicle for money-laundering activities for the benefit of designated individuals. The company ownership is split 51/49 per cent between a national of the United Arab Emirates, Zayed Ahmed Ali Abdull Daiban, and Khaled Ali Abdullah Saleh (see *ibid.*, appendix G). The documents in the possession of the Panel indicate that Zayed Ahmed Ali Abdull Daiban is a “sponsor” partner, given that company law in the United Arab Emirates does not allow full ownership of companies by foreign nationals. Only Khaled Ali Abdullah Saleh and his brother, Salah Ali Abdullah Saleh, hold power of attorney for the company. Figure VI illustrates the financial links of Khaled Ali Abdullah Saleh to designated individuals.

107. Khaled Ali Abdullah Saleh transited through Oman early in 2016 and was observed making financial transactions.¹²⁸ The Panel has sent letters to Oman dated 22 February, 26 April, 17 May, 16 September and 19 October to request information on his assets and transactions. Responses are awaited.

¹²⁸ Confidential sources.

Figure VI
Links of Khaled Ali Abdullah Saleh and his assets with listed individuals



C. Shaher Abdulhak

108. Ansan Wikfs Limited, a company owned by Shaher Abdulhak, has made several transfers of funds equivalent to \$3,024,494 to Raydan Investments Limited, of which \$1,631,067 has been transferred since the listing of Ali Abdullah Saleh (YEi.003) (see annex 48, appendices H-J). The latest transfer of which the Panel is aware was on 24 April. The Panel has not identified business activities that can account for these transfers.

D. Ahmed Ali Abdullah Saleh

109. The Panel has to date identified assets to the value of \$953,262 that belonged to Ahmed Ali Abdullah Saleh (YEi.005), which are being traced. The Panel has also identified assets of his that have been frozen (see table 6).

Table 6

Frozen assets of Ahmed Ali Abdullah Saleh (YEi.005)

<i>Country</i>	<i>Asset</i>	<i>Equivalent in United States dollars</i>	<i>Remarks</i>
Malaysia	1 bank account	780 658	Reported on 2 August as frozen on 22 March
United Arab Emirates	10 bank accounts	166 405	Reported on 11 February as frozen on 10 June
Total		947 063	

110. The Panel has received information from two Member States that have identified and frozen further assets and bank accounts belonging to Ahmed Ali Abdullah Saleh (YEi.005), totalling just in excess of \$1 million. The Panel is also aware of a Member State that has frozen assets owned by an individual whom the Panel has grounds to believe was acting on his behalf.

E. Houthi designated individuals

111. The Panel has found no evidence that the three Houthis under asset-freeze measures, Abd al-Khaliq al-Houthi (YEi.001), Abdullah Yahya Al Hakim (YEi.002) and Abdulmalik al-Houthi (YEi.004), hold any bank accounts or assets outside Yemen.

VII. Travel ban

112. Pursuant to paragraph 15 of resolution [2140 \(2014\)](#), the Panel continues to focus on a range of monitoring and investigation activities in order to identify whether the individuals designated by the Committee have violated the travel ban.

A. Ali Abdullah Saleh

113. Ali Abdullah Saleh (YEi.003) has made regular appearances in the media around Sana'a and has recently met the Special Envoy of the Secretary-General and other diplomats in Yemen. His most recent television interview was on 8 December, when he stated that, although he had not planned to attend the funeral ceremony at the Salah al-Kubra community hall, he had been passing close by at the time of the air strike.¹²⁹ He had delegated his son, Khaled, and his nephew, Tariq Muhammad

¹²⁹ See www.youtube.com/watch?v=9nrwBm6PU54.

Abdullah Saleh, to attend in his stead. Media affiliated to him reported that, on 27 October, he requested permission and a United Nations aircraft from the Security Council to travel to Cuba to attend the funeral of Fidel Castro.¹³⁰ The Committee did not receive a request.

B. Ahmed Ali Abdullah Saleh

114. The Panel has found no evidence that Ahmed Ali Abdullah Saleh (YEi.005) has left the United Arab Emirates. The Panel met a close confidante in the United Arab Emirates and learned that he was willing to meet the Panel but would require clearance from the national security services to do so.¹³¹ The Panel offered him an opportunity to convey any messages directly to the Committee. According to the close confidante and the media, he was held under house arrest in the United Arab Emirates by the security services for about three months in late 2015.

C. Other designated individuals

115. The Panel has no evidence of any travel outside Yemen by Abd Al-Khaliq al-Houthi (YEi.001), Abdullah Yahya Al Hakim (YEi.002) or Abdulmalik al-Houthi (YEi.004). The last-mentioned individual was most recently seen on 11 December, when he gave a television address for the Prophet's birthday celebration.¹³² Abdullah Yahya Al Hakim (YEi.002) was reported by local media to have visited Parliament in Sana'a on 5 December after rumours circulated that he had been a victim of an air strike in Ibb a week earlier.

116. The Panel has seen video footage from official media sources affiliated with the Houthis showing Abdullah Yahya Al Hakim (YEi.002) in Ta'izz on 24 November 2016.

117. While investigating a potential violation of the arms embargo, the Panel identified that a designated individual, Fares Mohammed Mana'a (SOi.008), travelled to Brazil, the Czech Republic, Egypt and France in January 2015 using a diplomatic passport (see figure VII). The Panel has received information that he travelled to two African countries in October and November 2016. All the relevant evidence has been shared with the Monitoring Group on Somalia and Eritrea for its further investigation.

¹³⁰ See www.almotamar.net/pda/133659.htm.

¹³¹ The Panel visited the United Arab Emirates from 15 to 23 October and met officials.

¹³² See www.youtube.com/watch?v=q-xm0Z5fq9Q.

Figure VII
Diplomatic passport used by Fares Mohammed Mana'a



VIII. Acts that violate international humanitarian law and human rights law

118. In paragraph 9 of its resolution 2140 (2014), the Security Council called upon all parties to comply with their obligations under international law, including applicable international humanitarian law and human rights law. Paragraphs 17, 18 and 21 of resolution 2140 (2014), together with paragraph 19 of resolution 2216 (2015), further clarify the Panel's responsibilities with regard to investigations of violations of international humanitarian law and international human rights law and human rights abuses, and investigations into obstructions to the delivery of humanitarian assistance.

A. Incidents attributed to the coalition led by Saudi Arabia

119. The Panel investigated potential violations of international humanitarian law and international human rights law and other acts that may amount to threats to peace and security attributed to some States members of the coalition led by Saudi Arabia, both through air strikes and ground operations, details of which are provided below. The Panel has maintained the requisite high level of evidentiary standards in respect of each incident investigated and reported, even though it did not have physical access to Yemen.

1. Air strikes

120. The Panel investigated 10 air strikes that led to at least 292 civilian fatalities, including at least 100 women and children.¹³³ The strikes also destroyed three

¹³³ The Panel verified the data for seven incidents. Numbers 1, 6 and 10 are from United Nations and/or Médecins sans frontières data.

residential buildings, three civilian industrial factory complexes, a hospital and a marketplace (see table 7). Detailed case studies, which include assessments of compliance with international humanitarian law, are provided in appendices A to D to annex 49. Other case studies are with the Secretariat.

Table 7
Air strikes, 2016

	<i>Date</i>	<i>Location</i>	<i>Target</i>	<i>Type of explosive ordnance</i>	<i>Civilian casualties/ consequences^a</i>	<i>Appendix to annex 49</i>
1	15 March	Hajjah	Civilian market	Mk 83 Bomb/ Paveway	106 dead, 41 injured	A
2	25 March	Ta'izz	Civilian residence	Not confirmed	10 dead	
3	25 May	Lahij	Civilian residence	Mk 82 Bomb/ Paveway	6 dead, 3 injured	B
4	25 May	Lahij	Water bottling plant	Mk 82 Bomb/ Paveway	No fatalities	
5	9 August	Sana'a	Food production facility	High explosive aircraft bomb	Repeat strike; 10 dead, 13 injured	
6	15 August	Hajjah	Hospital	GBU-12 Paveway II	19 dead, 24 injured	C
7	13 September	Sana'a	Water pump factory	Mk 82 Bomb/ Paveway IV	No casualties	
8	22 September	Sana'a	Water pump factory	GBU-24/ Paveway IV	Repeat strike	
9	24 September	Ibb	Residential complex	Mk 82 Bomb/ Paveway	9 dead, more than 7 injured	
10	8 October	Sana'a	Civilian funeral hall	GBU-12 Paveway II	132 dead, 695 injured	D

^a All air strikes resulted in the complete or partial destruction of the objects.

2. Case summary: Sana'a community hall air strike¹³⁴

121. On 8 October, at around 3.20 p.m., two air-dropped bombs detonated on, or in, the Salah al-Kubra community hall in a residential area of south-western Sana'a, where more than 1,000 mourners were attending the funeral of the father of the Sana'a-based acting minister of the interior. A significant number of Houthi-Saleh-affiliated military and political leaders were expected to attend.

¹³⁴ Included to demonstrate the technical and international humanitarian law methodology in all case studies.

Figure VIII
Location of attack



Source: The sources for all imagery pertaining to the case study are given in annex 49, appendix D.

Technical analysis of physical evidence

122. The Panel obtained and analysed post-blast original imagery of the available physical evidence and found that fragments had the shape profile, and fell within the dimensional parameters, of a fragment of fins and wings from a GBU-12 Paveway II guidance unit fitted to a Mark 82 high explosive aircraft bomb (see figures IX and X).

Figure IX
GBU-12 Paveway II guidance unit fin fragment in situ



Figure X
**GBU-12 Paveway II guidance unit wing fragment showing manufacturer's
 Commercial and Government Entity code 3FU05¹³⁵**



123. The only party to the conflict known to have the capability to deliver a Mark 82 high-explosive aircraft bomb with a GBU-12 Paveway II guidance unit is the coalition led by Saudi Arabia.

124. The coalition did not respond to the Panel's request for information. The Joint Incident Assessment Team established by the coalition to "assess reported incidents of civilian casualties, investigation procedures and mechanisms of precision targeting" (see S/2016/100) attributed responsibility to the coalition.¹³⁶

125. The Panel, having carried out technical and international humanitarian law assessments, finds that:

(a) The coalition conducted the air strike on the community hall in Sana'a that resulted in at least 827 civilian fatalities and injuries. At least 24 of the injured were children. The strike also resulted in the total destruction of the hall;

(b) Given the nature of the event and those in attendance, the attack resulted in a very high number of civilian casualties, which should have been anticipated before the attack.¹³⁷ The Panel is unconvinced that the relevant international humanitarian law requirements relating to proportionality were met,¹³⁸

(c) The cumulative factors in (a) and (b) above also indicate that, if precautionary measures had been taken, they were largely inadequate and ineffective.¹³⁹ The Joint Incident Assessment Team also concluded that the relevant rules of engagement and procedures had not been followed and that those

¹³⁵ The code 3FU05 is assigned to the company Karlee Incorporated (United States). See www.karlee.com.

¹³⁶ Joint Incident Assessment Team press release.

¹³⁷ See the case study for information that should have formed the basis of any proportionality assessment.

¹³⁸ An attack that may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated, is prohibited under international humanitarian law (customary international humanitarian law, rule 14).

¹³⁹ International humanitarian law requires that all feasible precautions must be taken to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects. This obligation is particularly incumbent on those who plan and decide on the air strikes (customary international humanitarian law, rules 15-22).

responsible in the coalition “did not take in account the nature of the targeted area”;¹⁴⁰

(d) The second air strike, which occurred three to eight minutes after the first, resulted in more casualties to the already-wounded civilians and to the first responders. The coalition violated its obligations in respect of persons hors de combat and the wounded,¹⁴¹ in what was effectively a “double-tap” attack probably caused by the tactics adopted by the pilots to guarantee the destruction of the target;¹⁴²

(e) Even if an individual officer within the coalition acted negligently in carrying out the strike, coalition forces are still responsible for international humanitarian law violations.¹⁴³ An official acting against instructions may not be an adequate justification under broader international law for the relevant States members of the coalition to evade State responsibility for those wrongful acts;¹⁴⁴

(f) Those government officers who reportedly passed the information,¹⁴⁵ or were otherwise involved in the intelligence-gathering and targeting processes in relation to this incident, may also be responsible for any international humanitarian law violations to the extent of their contribution.

3. Panel assessment relating to air strikes

126. None of the member States comprising the coalition that operated air assets provided the Panel with access to information on the events listed in table 7, its requests notwithstanding.¹⁴⁶ This is in non-compliance with paragraph 8 of resolution [2266 \(2016\)](#).

127. In 8 of the 10 investigations, the Panel found no evidence that the air strikes had targeted legitimate military objectives.¹⁴⁷ For all 10 investigations, the Panel considers it almost certain that the coalition did not meet international humanitarian

¹⁴⁰ Joint Incident Assessment Team press release.

¹⁴¹ Including common articles 1 and 3 of the Geneva Conventions of 12 August 1949.

¹⁴² A “double-tap” attack is an event in which “multiple strikes take place in a short period of time”. See Andrew Clapham, Paolo Gaeta and Marco Sassòli, eds., *The 1949 Geneva Conventions: A Commentary* (Oxford University Press, 2016).

¹⁴³ Customary international humanitarian law, rules 14-22.

¹⁴⁴ See article 7 of the articles on the responsibility of States for internationally wrongful acts, which states that “the conduct of ... a person or entity empowered to exercise elements of the governmental authority shall be considered an act of the State under international law if the ... person or entity acts in that capacity, even if it exceeds its authority or contravenes instructions”. See also customary international humanitarian law, rule 139, which calls upon each party to the conflict to respect and ensure respect for international humanitarian law “by its armed forces and other persons or groups acting in fact on its instructions, or under its direction or control”.

¹⁴⁵ Joint Incident Assessment Team press release.

¹⁴⁶ Letters dated 1 July and 21 November 2016.

¹⁴⁷ The exceptions being air strikes Nos. 1 and 10 in table 7. The use of precision-guided weapons in 8 of the 10 incidents indicated that the intended target was hit.

law requirements of proportionality and precautions in attack. The Panel considers that some of the attacks may amount to war crimes.¹⁴⁸

128. In the investigation relating to Abs hospital (table 7, air strike No. 6) the Panel finds that the coalition violated principles relating to the protection of and respect for hospitals and medical personnel;¹⁴⁹ the protection of the wounded and sick;¹⁵⁰ and the protection of persons hors de combat¹⁵¹ in its strike on the hospital.

129. All States whose forces engage in or otherwise participate in military operations on behalf of the coalition are responsible for “all acts committed by persons forming part of its armed forces”.¹⁵² These States “may not evade their obligations by placing their contingents at the disposal of an ad hoc coalition”.¹⁵³ All coalition member States and their allies¹⁵⁴ also have an obligation to take appropriate measures to ensure respect for international humanitarian law by the coalition.¹⁵⁵ This obligation is especially incumbent upon the Government of Yemen, upon whose request and with those consent the air strikes are being conducted (see S/2015/217).

130. Those individuals responsible for planning, deciding on and/or executing air strikes¹⁵⁶ that disproportionately affect civilians and civilian infrastructure may fall

¹⁴⁸ Serious violations of international humanitarian law constitute war crimes (customary international humanitarian law, rule 156). See also William Boothby and Michael N. Schmitt, *The Law of Targeting* (Oxford University Press, 2012), on some legal aspects relating to bombardments.

¹⁴⁹ See customary international humanitarian law, rules 25 and 28. See also Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949, arts. 9 and 11.

¹⁵⁰ See common article 3 of the Geneva Conventions of 12 August 1949 and article 7 of the Additional Protocols thereto of 8 June 1977.

¹⁵¹ Ibid.

¹⁵² See updated commentary to common article 1 of the Geneva Conventions of 12 August 1949 at https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Comment.xsp?action=openDocument&documentId=72239588AFA66200C1257F7D00367DBD#_Toc452378931. See also article 3 of the Hague Convention respecting the Laws and Customs of War on Land of 1907.

¹⁵³ See updated commentary to common article 1 of the Geneva Conventions of 12 August 1949.

¹⁵⁴ On the basis of the updated commentary to common article 1, “allies” may include those States that engage in “financing, equipping, arming or training” of the coalition armed forces for their engagement in Yemen and/or those States that plan, carry out and debrief operations jointly with the coalition. For the specific States that are involved, see para. 30.

¹⁵⁵ This obligation to respect and ensure respect under common article 1 of the Geneva Conventions of 12 August 1949 is not limited to those coalition States that actively participated in this air strike as stated in the updated commentary. “The duty to ensure respect ... is particularly strong in the case of a partner in a joint operation, even more so as this case is closely related to the negative duty neither to encourage nor to aid or assist in violations of the Conventions. The fact, for example, that a High Contracting Party participates in the financing, equipping, arming or training of the armed forces of a Party to a conflict, or even plans, carries out and debriefs operations jointly with such forces, places it in a unique position to influence the behaviour of those forces, and thus to ensure respect for the Conventions.”

¹⁵⁶ In reference to those executing attacks, it is possible that the pilot of the aircraft may fire his or her weapons in reliance of the accuracy of the information that may have been previously provided to him or her. In these cases, the Panel finds that it is those commanders who plan and decide upon the air strikes, who have at their disposal the relevant information from a variety of sources, who have the responsibility to ensure compliance with international humanitarian law. See also William Boothby and Michael N. Schmitt, *The Law of Targeting* (Oxford University Press, 2012).

under the designation criteria contained in paragraph 17 of resolution 2140 (2014) as those who threaten the peace, security or stability of Yemen. Their acts may also fall under paragraph 18 of the resolution.

131. The Panel finds that violations associated with the conduct of the air campaign are sufficiently widespread to reflect either an ineffective targeting process or a broader policy of attrition against civilian infrastructure.¹⁵⁷

4. Ground operations

132. The Panel investigated international humanitarian law violations relating to enforced disappearances of both suspected and/or actual AQAP affiliates/members carried out by the Hadrami Elite Forces in Mukalla. The Forces were created to counter the AQAP threat after the Government re-established control of the city in late April. While nominally under the command of the legitimate Government, they are effectively under the operational control of the United Arab Emirates, which oversees ground operations in Mukalla.¹⁵⁸

133. The Panel investigated five incidents relating to six individuals who were forcibly disappeared after being arrested by the Hadrami Elite Forces between May and November.¹⁵⁹ One was detained at the Riyan airport and has subsequently been released.¹⁶⁰ Another was a professional tradesperson who undertook some technical work for AQAP while it was the de facto authority in the area. The other five have no known links to AQAP.

134. The Panel finds that, even if these individuals were associated with AQAP, the Government is obliged under international humanitarian law and international human rights law to ensure that the Hadrami Elite Forces, or any other forces operating on the ground under the authority and/or control and/or with the consent of the Government, comply with relevant legal requirements and procedural safeguards regarding deprivation of liberty.¹⁶¹ This includes taking active steps to prevent disappearances, including through the regularization of the procedure relating to the registration of detainees and notification of whereabouts to family members.¹⁶² Given that the United Arab Emirates also has ground forces operating in Mukalla, its Government has similar obligations. The United Arab Emirates has informed the Panel that the coalition has provided “military, financial and training assistance” and “intelligence, logistic information and aerial intervention” to the Hadrami Elite Forces, which are under the control of the legitimate Yemeni Armed Forces.

¹⁵⁷ The United Nations, for example, recorded 987 incidents of air strikes on residential buildings, 31 on civilian factories, 27 on educational institutions and 16 on medical units in 2016. Information provided to the Panel on 19 December.

¹⁵⁸ Confidential sources.

¹⁵⁹ Ibid.

¹⁶⁰ Situation as at 2 December.

¹⁶¹ See customary international humanitarian law, rules 98, 99, 117 and 123. See also Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949, arts. 4 and 5, and International Covenant on Civil and Political Rights, arts. 9, 10, 17 and 26.

¹⁶² Ibid., and customary international humanitarian law, rule 99.

B. Incidents attributed to Houthi and Saleh forces: violations associated with deprivation of liberty¹⁶³

135. The Panel investigated 12 incidents relating to deprivation of liberty by Houthi security agencies. Violations of international humanitarian law and human rights norms¹⁶⁴ were widespread and are summarized in table 8.

Table 8
Houthi violations associated with deprivation of liberty

	<i>Past or most recent place of detention</i>	<i>Detention period</i>	<i>Restricted external communications</i>	<i>Denial of arrest reasons</i>	<i>No formal charges</i>	<i>No opportunity to challenge detention</i>	<i>Torture</i>	<i>Ill-treatment</i>	<i>Death as a result of captivity</i>	<i>Exposure to air strikes</i>	<i>Denial of access to medicines</i>	<i>Remarks</i>
1	Ibb	8 days	X	X	X	X	X	X	X		X	Mechanic
2	Amran	2 years	X	X	X	X	X	X		X	X	Injured by air strike in detention — university student
3	Central, Sana'a	4 months	X	X	X	X	X	X				Escaped — child
4	Central, Sana'a	8 months	X	X	X	X		X		X	X	Social media activist
5	Habrah, Sana'a	9 months	X	X	X	X			X		X	University student
6	Saref, Sana'a	11 days	X	X	X	X						Housewife
7	Saref, Sana'a	3 weeks	X	X	X	X				X		Community leader
8	Saref, Sana'a	More than 3 months	X	X	X	X				X		Community leader
9	Saref, Sana'a	More than 3 months	X	X	X	X				X		Community leader
10	Saref, Sana'a	4 months	X	X	X	X				X		Community leader
11	Saref, Sana'a	2 months	X	X	X	X				X		Community leader
12	Central, Sana'a	More than 3 years	X	X	X	X	X	X			X	Trial continuing

¹⁶³ Table 8 details violations, including those under rules 22, 87, 90, 98 99, 117, 118 and 123. Details of some of these cases are provided in confidential annex 50.

¹⁶⁴ It is increasingly accepted that non-State actors, especially if they exercise government-like functions and have de facto control over a territory, should respect human rights standards when their conduct affects the human rights of the individuals under their control. See [A/HRC/33/38](#), para. 10; [A/HRC/29/51](#), para. 30; [A/HRC/10/22](#), para. 22; [S/PRST/2014/20](#); [A/HRC/21/50](#), para. 134 and annex II, para. 10; [A/HRC/22/33](#); and [A/HRC/14/24](#), para. 46 (c).

136. The violations listed in table 8 occurred in 11 detention centres. The Panel also documented more than 50 verified cases of international humanitarian law violations associated with deprivation of liberty in eight governorates.¹⁶⁵ The Panel finds that these violations are both recurrent and widespread in detention centres under Houthi control. Although there is ample evidence in the public domain of these violations (see annex 50), the Panel is unaware of a single criminal prosecution or disciplinary action brought against any Houthi agent who caused or contributed to these violations.

137. The Panel has also identified a trend of individuals, including migrants and children, being preventively detained for fear that they may engage in combat in the future, also in violation of their due process rights.¹⁶⁶

138. The Panel finds that these violations associated with deprivation of liberty are sufficiently widespread as to reflect a wider policy. Consequently, individuals responsible for committing these serious violations, as well as their leaders, fall within the designation criteria set out in paragraph 17 of resolution 2140 (2014) as those who threaten peace and security of Yemen. Their acts may also fall under paragraph 18 of the resolution. Some of these violations are war crimes.¹⁶⁷ An overview of the detention facilities and those responsible is provided in annex 21.

C. Use of explosive ordnance in populated areas

139. The Panel documented four incidents of the use of explosive ordnance (see table 9) and continues to investigate two other incidents that involved explosions¹⁶⁸ in densely populated areas in Ta'izz (see annex 51), which together caused 27 civilian deaths¹⁶⁹ and damage to a residential building, a school, a hospital and three marketplaces.

¹⁶⁵ Information provided by victims, families, local and international non-governmental organizations, human rights activists and lawyers. The United Nations documented at least 174 arbitrary "arrests" by the Houthi forces in 2016 (as at 19 December).

¹⁶⁶ Confidential sources.

¹⁶⁷ For example, grave breaches of the Geneva Conventions of 12 August 1949 are war crimes. The commission of torture is a grave breach. See common article 3 of the Geneva Conventions of 12 August 1949 and customary international humanitarian law, rule 156.

¹⁶⁸ The two other incidents pertained to the explosion at Bab al-Kabir, on 3 June, which killed at least 12 individuals and wounded some 100 others, and the explosion at a school in Shami neighbourhood, on 7 June, which killed five people, including four women and children.

¹⁶⁹ Of these, the Panel verified the numbers for four incidents. For one, involving mass casualty figures, the Panel relies on United Nations and Médecins sans frontières data.

Table 9
Explosive ordnance use in densely populated areas, 2016

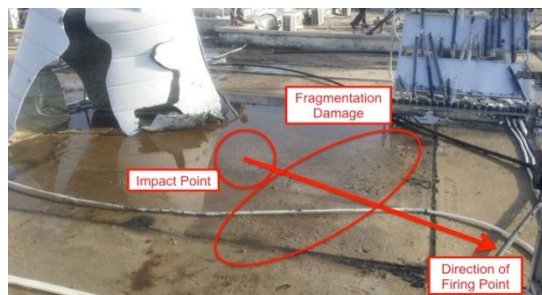
	<i>Date</i>	<i>Location</i>	<i>Impact</i>	<i>Explosive ordnance</i>	<i>Comments/consequences</i>	<i>Appx to Annex 51</i>
1	3 June	Jamal Street	Market	Free-flight rocket	More than 2 injured	A
2	18 September	Revolution Hospital	Hospital	Mortar bomb	Damage to essential infrastructure	
3	3 October	Bi'r Bashah	Market	Mortar bomb	10 dead, more than 17 injured	
4	15 November	Shamsin neighbourhood	Residential building	Mortar bomb	1 injured	

140. The Panel used technical analysis to identify that attacks Nos. 1, 2 and 4 in table 9 were launched from eastern Ta'izz, which is under the control of Houthi or Saleh forces.

1. Case study summary: attack on Revolution Hospital¹⁷⁰

141. On 28 September at 9.15 p.m., explosive ordnance detonated on the roof of the staff residential building at the Revolution Hospital, damaging the solar panels and water storage tanks. The Panel finds that the mortar bombs were fired from an area under the control of the Houthi or Saleh forces.

Figure XI
Impact point

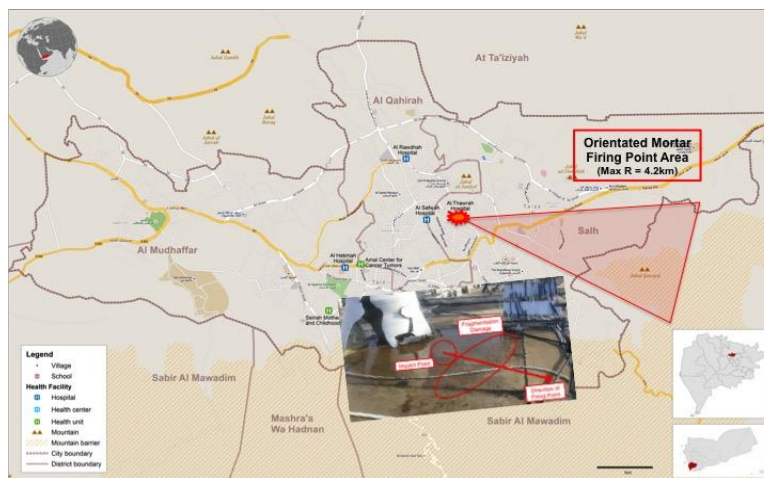


¹⁷⁰ Included to demonstrate the technical and international humanitarian law methodology in all case studies.

Figure XII
High explosive mortar bomb tail fin



Figure XIII
Mortar firing point analysis



142. The Panel finds that:

(a) It is almost certain that the Houthi or Saleh forces were responsible for the attack;

(b) The hospital and its medical personnel are protected from attack under international humanitarian law.¹⁷¹ There is no demonstrable evidence to indicate that at the time of the attack they had lost that protected status.¹⁷² The hospital staff deny receiving any communication that would have constituted the warning required under international humanitarian law;¹⁷³

(c) It is certain that the Houthi-Saleh fighters knew the location of the hospital and therefore that any mortar bombs fired into the vicinity would have a high likelihood of damaging the hospital and posing a risk to its staff, the wounded and sick and civilians;

¹⁷¹ Customary international humanitarian law, rules 25 and 28.

¹⁷² Ibid.

¹⁷³ Customary international humanitarian law, rule 28.

(d) On the basis of the foregoing, it is highly likely that principles relating to international humanitarian law on distinction, proportionality and precautions in attack were not met.

2. Panel assessment relating to ground operations

143. The Houthi and Saleh forces have not provided the Panel with access to information on the four events listed in table 9. In all the investigations, the Panel finds it highly unlikely that the Houthi or Saleh forces met international humanitarian law requirements of proportionality and precautions in attack. Some of these attacks may also amount to war crimes.¹⁷⁴

144. The proliferation of explosive remnants of war continues to pose a major risk to civilians (see annex 44), and the Panel finds that this also heavily constrains the safe return of the displaced to their homes.

145. The Panel finds that individual commanders whose forces continue to engage in the above acts fall within the designation criteria set out in paragraph 17 of resolution 2140 (2014) as those who threaten peace and security in Yemen. Their acts may also fall under paragraph 18 of the resolution. For more information on those with command responsibility for the Houthi and Saleh forces in Ta'izz, see paragraph 42 and annexes 21 and 25.

D. Recruitment and use of children in armed conflict

146. Houthi and Saleh forces, AQAP and armed groups associated with the legitimate Government all continue to recruit and use children in armed conflict.¹⁷⁵ The coalition led by Saudi Arabia provided the Panel with a list of 52 children in its custody and access to alleged child soldiers recruited by the Houthis. Saudi Arabia informed the Panel that 52 children had subsequently been handed over to the legitimate Government and transported to Ma'rib.

147. The Panel investigated a case of a 16-year-old child who was captured by the Houthi forces and severely tortured and disfigured on suspicion of being a fighter (see confidential annex 50).

148. Repeated findings of child recruitment and use by Houthi and Saleh forces by the United Nations (see [A/70/836-S/2016/360](#) and Add.1) indicate that the Houthi-Saleh leaders are aware of these violations and have failed to implement effective measures to prevent them.

E. Intolerance and discrimination against religious minorities

149. The Panel documented cases relating to persons of the Baha'i faith who were deprived of their liberty or arrested in a manner that did not respect due process. The information relating to these cases is included in confidential annex 50. The deprivation of liberty of a group of individuals on account of their faith-based

¹⁷⁴ Serious violations of international humanitarian law constitute war crimes (customary international humanitarian law, rule 156).

¹⁷⁵ Multiple sources.

activities violates several human rights norms.¹⁷⁶ The Panel has identified an individual responsible for the incidents.

F. Incidents attributed to the Government

1. Forced deportation of civilians

150. On 8 May, security personnel began to forcibly displace individuals working or residing in Aden who were from the north.¹⁷⁷ Local authorities supported this move as a security initiative to curb continuing assassinations and violence in the area.

151. On or about 9 May, the President issued a statement in which he condemned the deportations and instructed the Governors of Aden, Lahij and Dali‘ to urgently act to halt regional incitement and forced evictions.¹⁷⁸

152. The Panel finds that, although the expulsions were implemented at the local level, they were almost certainly indicative of a wider governorate-level policy within Aden. The Panel has identified those responsible for the implementation of this policy.

153. The Panel subsequently investigated another incident relating to the forced deportation of three workers from a factory in Lahij to Ta‘izz on or about 12 May. The Yemeni military forcefully removed them from their workplace and transported them to the “north” of Yemen. One worker was given time to go to Aden, before being deported, to enable him to relocate his family to the north. This incident violates several provisions of international humanitarian law and international human rights law, including the rights relating to occupation, prohibition of forced displacement and discrimination.¹⁷⁹ The Panel has identified the commander in Lahij responsible for these deportations.

154. The Panel finds that actual or perceived discrimination against “northerners” continues in Aden. This discrimination and incidents of deportation risk undermining the legitimacy of the local authorities and may obstruct national and international efforts to establish the local security and governance needed for a durable solution. Individuals and entities engaging in serious practices of this nature fall within the designation criteria in paragraph 17 of resolution 2140 (2014) as those who threaten peace and security in Yemen. Their acts may also fall under paragraphs 18 (a) and (c) of the resolution.

¹⁷⁶ Universal Declaration of Human Rights, arts. 2, 7, 18, 19 and 20.

¹⁷⁷ Multiple individuals who were deported.

¹⁷⁸ Rua’a Alameri, “Yemen leader slams civilian evictions in south”, Al Arabiya, 9 May 2016, available from <http://englih.alarabiya.net/en/News/middle-east/2016/05/09/Yemen-leader-slams-civilian-expulsions-from-Aden-.html>; and “Aden officials backtrack on controversial deportation campaign”, The New Arab, 11 May 2016, available from www.alaraby.co.uk/english/news/2016/5/11/aden-officials-backtrack-on-controversial-deportation-campaign.

¹⁷⁹ See Additional Protocol II of 8 June 1977 to the Geneva Conventions of 12 August 1949, art. 17 (1), and customary international humanitarian law, rules 87, 88 and 129. See also International Covenant on Civil and Political Rights, arts. 17, 25 and 26.

2. Obstructions to provision of medical services

155. The Panel documented 18 attacks against hospitals in Yemen in 2016 (see annex 52). International humanitarian law requires parties to take measures to ensure that medical units, transport and personnel are respected and protected during a conflict. The Panel recorded three incidents in Ta‘izz in which armed men threatened staff and disrupted life-saving treatment with the aim of compelling staff to accord priority to the medical treatment of their wounded (see confidential annex 53). The hospitals were in areas under the control of the “resistance”. The Panel notes that compelling a person engaged in medical activities to perform acts contrary to medical ethics is prohibited under international humanitarian law.¹⁸⁰

IX. Obstruction of humanitarian assistance

156. Pursuant to paragraph 19 of resolution 2216 (2015), the Panel continues to investigate the obstruction of the delivery of humanitarian assistance to Yemen or access to, or distribution of, humanitarian assistance in Yemen.

A. Obstruction of deliveries of humanitarian assistance

157. The Panel finds that insecurity arising from recent attacks on commercial vessels (see paras. 33 and 37), higher war risk insurance costs, issues relating to currency exchange¹⁸¹ and the seizure, detention and diversion of some commercial vessels¹⁸² have an adverse impact on the distribution of commercial food supplies. Some of these vessels also carry humanitarian assistance. This places a heavy burden on humanitarian actors to bring additional aid into Yemen to meet needs.¹⁸³ Before the conflict, Yemen relied on other countries for 90 per cent of its food supplies.

158. The other factor placing a similar burden on humanitarian actors is the provision of medical supplies. The humanitarian country team assesses that the restrictions on access to the international airport in Sana’a affecting commercial flights initiated by the coalition in August left more than 6,500 people unable to access medical care.¹⁸⁴ Yemenia Airways estimates that at least one third of passengers were travelling abroad to seek medical care, often for chronic diseases

¹⁸⁰ Customary international humanitarian law, rule 26.

¹⁸¹ Notification by wheat importer that it will stop importing wheat to Yemen. Document in the possession of the Panel.

¹⁸² Ahmad Ghaddar, Ron Bousso and Dmitry Zhdannikov, “Tankers seized in Yemen port, risking deeper import crisis”, Reuters, 15 September 2016. Available from www.reuters.com/article/us-yemen-oil-exclusive-idUSKCN11K2BQ.

¹⁸³ The prices of wheat flour and sugar were about 25 per cent higher in November on average across Yemen than before the conflict. The volume of fuel imported in November was only 40 per cent of the country’s monthly requirements. See Jonathan Saul and Maha El Dahan, “Yemen traders halt new wheat imports as famine approaches”, Reuters, 16 December 2016. Available from www.reuters.com/article/us-yemen-food-exclusive-idUSKBN1450H6.

¹⁸⁴ Office for the Coordination of Humanitarian Affairs, “2017 Humanitarian needs overview: Yemen”, November 2016. Available from www.humanitarianresponse.info/system/files/documents/files/yemen_2017_hno_final_1.pdf.

for which treatment in Yemen had become almost non-existent, in part owing to import difficulties.¹⁸⁵

B. Obstructions to the distribution of humanitarian assistance

159. The Panel finds that all parties to the conflict obstructed the distribution of humanitarian assistance. At the request of its sources, and with due consideration for the sensitivities relating to humanitarian access on the ground, information on 29 incidents is provided in confidential annex 54.

X. Recommendations

160. The Panel has no further recommendations in addition to those already made in its final report for 2015 ([S/2016/73](#)) and its midterm update to the Committee.

¹⁸⁵ Ibid.

Annex 1: ‘The opportunity to reply’ methodology used by the Panel

1. Although sanctions are meant to be preventative not punitive, it should be recognized that the mere naming of an individual or entity¹ in a Panel’s report, could impact adversely on the fundamental human rights and reputation of the person. As such, the Panel decided to allow individuals concerned with an opportunity to provide an alternative narrative and to provide concrete and specific information/material to support the narrative. Through this interaction, the individual is given the opportunity to demonstrate that their conduct does not fall within the relevant listing criteria. This is called the ‘opportunity to reply’.

2. The Panel’s methodology on the opportunity to reply is as follows:

(a) Providing an individual with an ‘opportunity to reply’ should be the norm;

(b) An individual may be denied an opportunity to reply if the Panel concludes based on credible evidence that there is a fear that doing so would:

(i) Result in the individual moving assets if they get advance warning of a possible recommendation for designation;

(ii) Restrict further access of the Panel to vital sources;

(iii) Endanger Panel sources or Panel members;

(iv) Adversely and gravely impact humanitarian access for humanitarian actors in the field; or

(v) For any other reason that can be clearly demonstrated as reasonable and justifiable in the prevailing circumstances.

3. Unless any of 2 (b) (i) to (v) above applies, members of the Panel should be in a position to provide an individual an opportunity to reply. The individual should be able to communicate directly with the Panel to convey their personal determination as to the level and nature of their interaction with the Panel.

4. Interactions between the Panel and the individual should be direct, unless in exceptional circumstances.

5. In no circumstances can third parties, without the knowledge of the individual, determine for the individual its level of interaction with the Panel.

6. The individual, on the other hand, in making their determination of the level and nature of interaction with the Panel, may consult third parties or allow third parties (for example, legal representative or his government) to communicate on his/her behalf on subsequent interactions with the Panel.

7. The key point is that the Panel, at the conclusion of its investigations, is able to directly communicate with the individual to afford the ‘opportunity to reply’ to allegations against him/her. Some possible differences between a right of reply (after designation) and the opportunity to reply (before designation) are as shown in table 1.1.

¹ Hereinafter just the term individual will be used to reflect both.

Table 1.1
Right of Reply versus Opportunity to Reply

<i>Question</i>	<i>Right of Reply</i> ²	<i>Opportunity to Reply</i>
Who is the responsible entity?	A duly appointed focal person/ ombudsperson with the ability to provide an effective remedy.	The Panel
When should the right of reply/ opportunity to reply be given?	After the individual is designated.	If possible before an individual is named in the report as having violated the sanctions regime and definitely before a confidential recommendation is made to the Sanctions Committee recommending designation.
What are the objectives sought to be achieved?	To afford the individual the ability to contest the listing/designation. It is up to the relevant competent body to decide the extent of information shared with the individual, but it should be sufficiently detailed to enable him to prepare an informed response.	To allow the Panel to complete its investigation and to ensure that the individual does not have an alternative narrative that requires investigation prior to a recommendation for designation.
What information should be shared with the individual/entity?	Nature of allegations that form the basis of the summary of evidence and other information deemed necessary by the competent authority.	Sufficient information on the activities being investigated. Outline of allegations against individuals to enable them to provide an informed response to these allegations. Sufficient information on possible violations.

² This table is aimed to illustrate the differences between the opportunity to reply when compared to the right of reply and is not an authoritative statement on the nature and scope of the right to reply, which is within the competence of other bodies/entities, such as the Council in the event of a designation.

Annex 2: Violations relating to IHL, IHRL, and acts that constitute human rights abuses investigative methodology

1. The Panel adopted the following stringent methodology to ensure that its investigations met the highest possible evidentiary standards, despite it being prevented from visiting Yemen. In doing so it has paid particular attention to the “Informal Working Group on General Issues of Sanctions Reports”, [S/2006/997](#), on best practices and methods, including paragraphs 21, 22 and 23, as requested by paragraph 11 of resolution [2266 \(2016\)](#).

2. The Panel’s methodology, in relation to its investigations concerning IHL, IHRL and human rights abuses, is set out as below:

(a) All Panel investigations are initiated based on verifiable information being made available to the Panel, either directly from sources or from media reports.

(b) In carrying out its investigations on the use of explosive ordnance, the Panel relies on at least three or more of the following sources of information:

(i) At least two eye-witnesses or victims;

(ii) At least one individual or organization (either local or international) that has also independently investigated the incident;

(iii) If there are casualties associated with the incident, and if the casualties are less than ten in number, the Panel obtains copies of death certificates and medical certificates. In incidents relating to mass casualties, the Panel relies on published information from the United Nations and other organizations;

(iv) Technical evidence, which includes imagery of explosive events such as the impact damage, blast effects, and recovered fragmentation. In all cases, the Panel collects imagery from at least two different and unrelated sources. In the rare cases where the Panel has had to rely on open source imagery, the Panel verifies that imagery by referring it to eyewitnesses or by checking for pixilation distortion;

a. In relation to air strikes, the Panel often identifies the responsible party through crater analysis or by the identification of components from imagery of fragmentation; and

b. The Panel also analyses imagery of the ground splatter pattern at the point of impact from mortar, artillery, or free flight rocket fire to identify the direction from which the incoming ordnance originated. This is one indicator to assist in the identification of the perpetrator for ground fire when combined with other source information.

(v) The utilisation of open source or purchased satellite imagery wherever possible, to identify the exact location of an incident, and to support analysis of the type and extent of destruction. Such imagery may also assist in the confirmation of timelines of the incident;

(vi) Access to investigation reports and other documentation of local and international organizations that have independently investigated the incident;

(vii) Other documentation that supports the narrative of sources, for example, factory manuals that may prove that the said factory is technically incapable of producing weapons of the type it is alleged to have produced;

(viii) In rare instances where the Panel has doubt as to the veracity of available facts from other sources, local sources are relied on to collect specific and verifiable information from the ground. (For example, if the Panel wished to confirm the presence of an armed group in a particular area);

(ix) Statements issued by or on behalf of a party to the conflict responsible for the incident; and/or

(x) Open source information to identify other collaborative or contradictory information regarding the Panel's findings.

(c) In carrying out its investigations on deprivation of liberty and associated violations the Panel relies on the following sources of information:

(i) The victims, where they are able and willing to speak to the Panel, and where medical and security conditions are conducive to such an interview;

(ii) The relatives of victims and others who had access to the victims while in custody. This is particularly relevant in instances where the victim dies in custody;

(iii) Interviews with at least one individual or organization (either local or international) that has also independently investigated the incident;

(iv) Medical documentation and, where applicable, death certificates;

(v) Documentation issued by prison authorities;

(vi) Interviews with medical personnel who treated the victim, wherever possible;

(vii) Investigation and other documentation from local and international organizations that have independently investigated the incident. The Panel may also seek access to court documents if the detainee is on trial or other documentation that proves or disproves the narrative of the victim;

(viii) Where relevant, the Panel uses local sources to collect specific and verifiable information from the ground, for example, medical certificates;

(ix) Statements issued by the party to the conflict responsible for the incident; and/or

(xx) Open source information to identify other collaborative or contradictory information regarding the Panel's findings.

(d) In carrying out its investigations on other violations, including forced displacement and threats against medical workers, the Panel relies on information that includes:

(i) Interviews with victims, eyewitnesses, and direct reports where they are able and willing to speak to the Panel, and where conditions are conducive to such an interview;

(ii) Interviews with at least one individual or organization (either local or international) that has also independently investigated the incident;

(iii) Documentation relevant to verify information obtained;

- (iv) Statements issued by the party to the conflict responsible for the incident; and/or
- (v) Open source information to identify other collaborative or contradictory information regarding the Panel's findings.

(e) The standard of proof is met when the Panel has reasonable grounds to believe that the incidents had occurred as described and, based on multiple corroboratory sources, that the responsibility for the incident lies with the identified perpetrator. The standard of proof is "beyond a reasonable doubt".

(f) Upon completion of its investigation, wherever possible, the Panel provides those responsible with an opportunity to respond to the Panel's findings in so far as it relates to the attribution of responsibility. This is undertaken in accordance with the Panel's standard methodology on the opportunity to reply. Generally, the Panel would provide detailed information in any opportunity to respond, including geo-locations. However, detailed information on incidents are not provided when there is a credible threat that it would threaten Panel sources, for example, in violations related to deprivation of liberty, violations associated with ground strikes on a civilian home, or in violations associated with children.

(g) If a party does not provide the Panel with the information requested, then the Panel will consider whether this is of sufficient gravity to be considered as non-compliance with paragraph 8 of resolution [2266 \(2016\)](#), and thus consideration for reporting to the Committee.

3. The Panel will not include information in its reports any information that may identify or endanger its sources. Where it is necessary to bring such information to the attention of the Council or the Committee, the Panel may include more source information in confidential annexes.

4. The Panel will not divulge any information that may lead to the identification of victims, witnesses, and other particularly vulnerable Panel sources, except: 1) with the specific permission of the sources; and 2) where the Panel is, based on its own assessment, certain that these individuals would not suffer any danger as a result. The Panel stands ready to provide the Council or the Committee, on request, with any additional imagery and documentation to supports the Panel's findings beyond that included in its reports. Appropriate precautions will be taken though to protect the anonymity of its sources.

Annex 3: UN Geographic Information Systems (GIS) map (place name identification)



Map No. 3947 Rev. 3 UNITED NATIONS
January 2004

Department of Peacekeeping Operations
Cartographic Section

Annex 4: Summary of Panel correspondence (2016)

Table 4.1
Correspondence with Member States

<i>Member State</i>	<i>Number of letters sent by the Panel</i>	<i>Number of unanswered letters by Member State</i>
Australia	3	1 ³
The Bahamas	2	2
Bahrain	1	1
Belgium	1	
Brazil	4	
Bulgaria	2	
Canada	1	
China	3	
Czech Republic	1	
Djibouti	2	1
Democratic People's Republic of Korea	1	1
Egypt	2	
France	2	1
Hungary	1	1
Islamic Republic of Iran	7	7
Isle of Man	1	
Italy	2	
Jordan	4	2
Kuwait	1	1
Liechtenstein	1	
Malaysia	2	
Morocco	3	
Netherlands	2	
Oman	5	5
Qatar	1	1
Romania	1	1
Russian Federation	5	
Saudi Arabia	21	12
Singapore	2	
Spain	1	
The Sudan	2	2
Switzerland	4	

³ Holding reply only received to date.

<i>Member State</i>	<i>Number of letters sent by the Panel</i>	<i>Number of unanswered letters by Member State</i>
United Arab Emirates	18	3
United Kingdom of Great Britain and Northern Ireland	2	2
United States of America	5	3
Yemen	13	1
Total	129	48

Table 4.2
Correspondence with the ministry of foreign affairs in Yemen

<i>Entity</i>	<i>Number of letters sent by the Panel</i>	<i>Number of unanswered letters by entity</i>
MFA Yemen in Sana'a	5	5
Total	5	5

Table 4.3
Correspondence with commercial companies

<i>Commercial company</i>	<i>Number of letters sent by the Panel</i>	<i>Number of unanswered letters by company</i>
Al Rams Trading (UAE)	1	
Al Thuraya Tower Trading (UAE)	1	
Amir Mizraei(UAE)	1	
Arab Bank (UAE)	1	
Arsenal Joint Stock Company (Bulgaria)	1	
Agency for Aerial Navigation Safety in Africa and Madagascar (ASCECNA) (Regional, Senegal)	1	1
Caracal (UAE)	1	
Citibank (UAE)	1	
CITIGROUP (USA)	1	1
Commercial Bank of Dubai (UAE)	1	
Cygnus Telecom (UAE)	2	
Deutsche Bank	1	
Dubai Islamic Bank (UAE)	1	
EDO MBM (UK)	1	
Emirates National Dubai Bank (UAE)	1	

<i>Commercial company</i>	<i>Number of letters sent by the Panel</i>	<i>Number of unanswered letters by company</i>
First Gulf Bank (UAE)	1	
Instlaza (Spain)	1	
International Commercial Bank (UAE)	1	
Jetworks (UK)	1	
Lockheed Martin (USA)	1	1
Mobile Yemen (Yemen)	1	1
Mediterranean Shipping Company (Switzerland)	1	
National Bank of Abu Dhabi (UAE)	1	
Noor Bank (UAE)	1	
PGW Defence (Canada)	1	
Raytheon (UK)	1	1
SAMCO (Netherlands)	1	
Taurus (Brazil)	1	
Thuraya (UAE)	1	
Zastava (Serbia)	1	
Total	32	5

Annex 5: Acting government under the control of the Houthis (to 28 November 2016)

1. Until 28 November 2016, the Houthis managed to keep the ministries in Sana'a operational under the authority of previous members of the cabinet who chose to cooperate with them. One example being Major General Jalal al-Rowayshan who kept his post of minister of interior after President Hadi left Sana'a. Those who chose to cooperate kept their titles as minister or deputy ministers. The Houthis also appointed additional members with the title of 'chargé d'affaires'. The acting cabinet comprised of 33 members chaired by Talal Aqlan.

Figure 5.1

Image of the official webpage of the prime ministry with Talal Aqlan as the acting prime minister

The image shows a screenshot of the official website of the Prime Ministry of Yemen. The page features the national emblem and the text 'رئاسة الوزراء' (Prime Ministry) and 'WWW.YEMEN.GOV.YE'. Below the header, there is a navigation menu with items like 'الرئيسية', 'رئيس الوزراء', 'الأمين العام', 'برنامج الحكومة', 'المهام والإختصاصات', 'الهيكل و اللاتحة التنظيمية والقواد'. The main content area displays a list of 'أعضاء الحكومة الحالية' (Current Government Members) with a table listing names and titles. A sidebar on the right contains a 'القائمة الرئيسية' (Main Menu) with links to various sections of the website.

Mohamed Ali al Houthi
Head of SRC

Talal Abdulkarim Aqlan
Acting PM

الاسم	الصفة
أبطال عبدالكريم عتاتن	القائم بأعمال رئيس الوزراء
اللواء الركن/جلال الرويشان	وزير الداخلية

Source: <http://www.yemen.gov.ye/portal/gov/الحكومةالحالية/tabid/984/Default.aspx>, This page was saved by the Panel before it was removed and replaced by the current “cabinet of national salvation”, see below.

Table 5.2
List of the acting council of government up to 28 November 2016 (English)

<i>Ser</i>	<i>Name</i>	<i>Cabinet rank</i>	<i>Position of responsibility</i>
1	Talal Abdelkarim Aqlan	head	head of government
2	Major General Jalal Al Rowayshan	minister	interior
3	Ghaleb Abdullah Motlaq	minister of state	implementation of NDC outcomes
4	Hassan Mohamed Zaid	minister of state	member of council of ministers
5	Ahmed Mohamed Ashami	minister	civil service and insurance
6	Abdurrahman al Mokhtar	minister / chargé d'affaires	legal affairs
7	Mohsein Ali Annaqib	deputy minister	industry and commerce
8	Abdullah Abdu al Hamdi	deputy minister	education
9	Mathar al Abbassi	deputy minister	planning and international cooperation
10	Hadi Ablan	deputy minister	culture
11	Ahmed al Aqida	deputy minister	justice
12	Mosleh Mohsein al A'zir	deputy minister	communications and information technology
13	Khaled al Houali	deputy minister	professional and technical learning
14	Hassan Zaid ben Yahya	deputy minister	youth and sport
15	Abdussalam Ahmed Addal'I	minister / chargé d'affaires ⁴	local administration
16	Mohamed Ali Siwar	secretary-general / chargé d'affaires	council of ministers
17	Mohamed Abdullah Hajar	minister / chargé d'affaires	foreign affairs
18	Mohamed Nasser al Janad	minister / chargé d'affaires	finance
19	Yahya al A'jam	minister / chargé d'affaires	oil and minerals
20	Abdulmalik al Jawlahi	minister / chargé d'affaires	general labour and roads
21	Abdullah Basunbul	minister / chargé d'affaires	fisheries
22	Ahmed Nasser al Hammati	minister / chargé d'affaires	education
23	Ali Saleh Taissir	minister / chargé d'affaires	human rights
24	Abdu Mohamed al Hukaimi	minister / chargé d'affaires	social affairs and justice
25	Abdulkarim Arrawdi	minister / chargé d'affaires	higher education and social research

⁴ Although titled chargé d'affaires these individuals also had ministerial responsibility.

<i>Ser</i>	<i>Name</i>	<i>Cabinet rank</i>	<i>Position of responsibility</i>
26	Ghazi Ismail	minister / chargé d'affaires	public health and housing
27	Abdurrahman al Qallam	minister / chargé d'affaires	endowment and religious guidance
28	Abdullah Ali al A'nsi	minister / chargé d'affaires	transport
29	Ibrahim al Hamdi	minister / chargé d'affaires	diaspora
30	Issam Assanini	minister / chargé d'affaires	tourism
31	Adil Dhamran	minister / chargé d'affaires	energy and electricity
32	Mohamed Shamsan	minister / chargé d'affaires	water and forestry
33	Ali Abdullah al Fadil	minister / chargé d'affaires	agriculture and irrigation

Annex 6: Supreme security committee and security and military committee

1. The Houthis established a supreme security committee on 7 February 2016, which initially comprised 17 members. A number of members left the country with some joining President Hadi. Major General Abderaïb Thabit Assoubaihi, the then Minister of Defence under President Hadi who initially chaired the supreme security committee, escaped Sana'a and the legitimate Government in Aden. He was then subsequently arrested by the Houthis and remained incommunicado as at 2 January 2017.

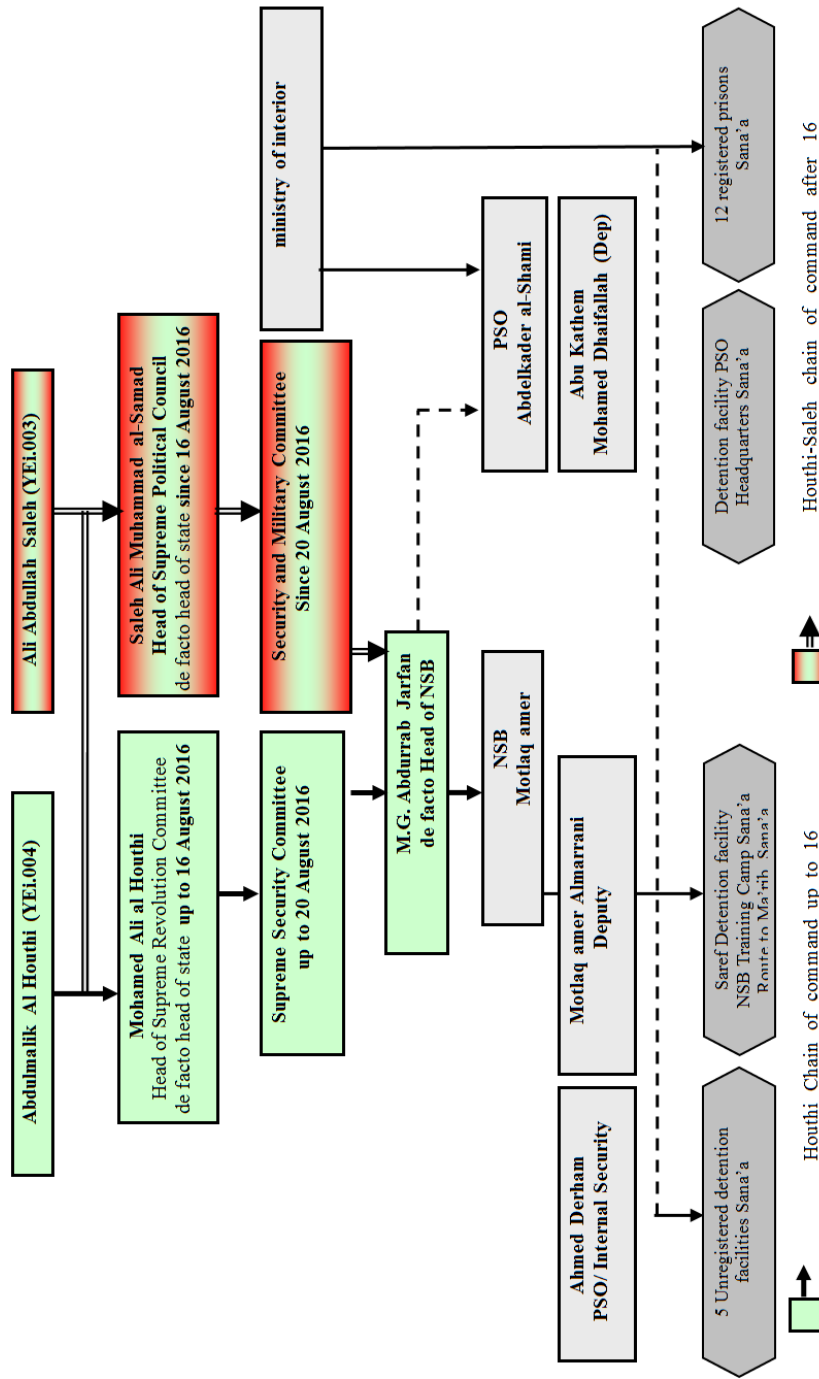
2. On 20 August 2016, the supreme political council (SPC) appointed a security and military committee to replace the supreme security committee. Only Major General Jalal Al Rowayshan the acting minister of interior, Major General Hussain Khairan, the acting minister of defence, Major General Zakaria Yahya Mohammed Al-Shami the acting Chief of Staff of the Yemeni Armed Forces in areas controlled by the Houthis and Major General Abdurrah Saleh Ahmed Jarfan continued on to also become members of the security and military committee.

Table 6.1

List of the SSC and SMC (English)

Serial	Supreme security committee Appointed on 7 February 2016	Security and military committee Appointed on 20 August 2016
1	Major General Jalal Al Rowayshan	
2	Major General Hussain Khairan	
3	Major General Zakaria Yahya Mohammed Al-Shami	
4	Major General Abdurrah Saleh Ahmed Jarfan	
	Appointment Terminated	
5	Yussef Hassan Ismail Al Madani	
6	Abdullah Yahya Abdullah Al Hakim	
7	Taha Hassan Al Madani	
8	Abderrazak Al Marouni	
9	Awad Ben Farid	
10	Abderaïb Thabit Assoubaihi	
11	Ali Ben Ali Al Jaifi	
12	Abdullah Mohnif	
13	Ahmed Mohsin Al Yafai	
14	Mohamed Daifallah Saleh Sabhan	
15	Mohammed Abdulkarim Al Ghumari	
16	Hamoud Khaled Al Soufi **	
17	Ali Hassan Al Ahmadi **	
	** Discontinued their membership and left Yemen	New appointments
18		Abdulkarim Amir Eddine Al Houthi
19		Abdulkader Kassem Al-Shami
20		Abdullah Al Qawssi
21		Ahmed Naji Mane'a
22		Abdulhakim Hashem Al Khiwani
23		Brigadier General Said Mohammed Al Hariri
24		Brigadier General Ahmed Adhufaiif
25		Asa'ad Hadi Asa'ad
26		Hassan Salah Al Marrani

Annex 7: Structure of the intelligence and security services controlled by the Houthis



Annex 8: Supreme political council ⁵

Table 8.1
Supreme political council

<i>Ser</i>	<i>Name</i>	<i>Position</i>	<i>Affiliation</i>
1	Salih Ali Muhammad al-Samad ⁶	president	Houthi
2	Qasim Muhammad Ghalib Labuzah ⁷	vice president	Saleh
3	Sadiq Amin Abu Ras ⁸	member	Saleh
4	Yusif Husayn Abdullah al-Fayshi ⁹	member	Houthi
5	Khali Said Muhammad al-Dayani ¹⁰	member	Saleh
6	Muhammad Saleh Mabkhut al-Nuaymi ¹¹	member	Houthi
7	Jabir Abdullah Ghalib al-Wahabani ¹²	member	Saleh
8	Sultan Ahmed Abd al-Rabb Mujahid al-Samai ¹³	member	Houthi
9	Nasir Nasir Abdullah al-Nasiri ¹⁴	member	Saleh
10	Mubarak Salih al-Mashin al-Zayadi ¹⁵	member (Deceased)	Saleh

⁵ Established 15 August 2016.

⁶ Salih Ali Muhammad al-Samad is the head of Ansar Allah's Political Bureau.

⁷ Qasim Muhammad Ghalib Labuzah is the head of the GPC in Lahj. He holds a Ph.D and participated in the National Dialogue.

⁸ Sadiq Amin Abu Ras is a tribal shaykh from Dhu Husayn of the Bakil tribal confederation. He is the Deputy Head of the GPC and was next to Ali Abdullah Saleh (YEi.003) on 3 June 2011 when the mosque inside the presidential palace was bombed in an attempted assassination.

⁹ Yusif Abdullah Husayn al-Fayshi is a former member of the Houthi's now disbanded Revolutionary Committee. al-Fayshi stood behind al-Samad when the latter signed the agreement establishing the Houthi-Saleh Political Council on 28 July 2016.

¹⁰ Khalid Said Muhammad al-Dayani is a member of the GPC and a former Governor of Hadramawt.

¹¹ Muhammad Saleh Mabkhut al-Nuaymi is the pro-Houthi head of the Political Bureau for the Union of Popular Yemeni Forces.

¹² Jabir Abdullah Ghalib al-Wahabani is a member of Yemen's parliament and heads the pro-Saleh GPC in Ta'izz.

¹³ Sultan Ahmad Abd al-Rabb Muijahid al-Samai is from Ta'izz.

¹⁴ Nasir Nasir Abdullah al-Nasiri is from Dhamar.

¹⁵ Mubarak Salih al-Mashin al-Zayadi was a military commander from the al-Zayadi tribe in Ma'rib. The Houthis appointed him to command the 3rd military district, centred in Ma'rib and he was active in the fighting in Sirwah. He was killed on 8 October 2016 in a Saudi Arabia-led coalition strike on the al-Sala al-Kubra Funeral Hall in Sana'a. The Panel is unaware of his replacement.

Annex 9: Government of national salvation since 28 November 2016

1. On 28 November 2016, the SPC appointed the “government of national salvation” under decree 56(2016), which consists of a cabinet of 42 members headed by Abulaziz Sale bin Habtour, a GPC member. The cabinet contains thirteen members affiliated to GPC. The Panel notes that only five members of the outgoing acting government were renamed in the new cabinet. Two Major Generals with an active role in Houthi military operations were named ministers: 1) Major General Zakaria Yahya Mohammed Al-Shami, the chief of staff of the armed forces affiliated to the Houthis, also a member of the military and security committee, was appointed as minister of transportation and 2) Major General Mohamed Nasser al A'tifi¹⁶ was appointed minister of defence.

2. Fares Mohamed Mana'a (SOi.008), who was designated on 12 April 2010 by the Security Council Committee pursuant to resolutions [751 \(1992\)](#) and [1907 \(2009\)](#) concerning Somalia and Eritrea, who was previously governor of Sa'dah under the Houthis between 2012 and 2014, was appointed as minister of state.

Figure 9.1

Members of the government of national salvation appointed in 28 November 2016



¹⁶ He commanded the group of ballistic missile brigades since at least 2012. He is a well-known professional officer from the Khawlan tribe who has recently been praised several times by Abdulmalik al Houthi (YEi.004) for the ingenuity of the ballistic missile units.

Figure 9.2
Prime Minister Abulaziz Sale bin Habtour



Figure 9.3
Extract from official webpage of the prime ministry

قرار رئيس المجلس السياسي الأعلى رقم (56) لسنة 2016م
بشأن تشكيل حكومة الإنقاذ الوطني وتسمية أعضائها

رئيس المجلس السياسي الأعلى:
بعد الإطلاع على دستور الجمهورية اليمنية،
وعلى الاتفاق السياسي الموقع بتاريخ 28/7/2016م بين أنصار الله وحلفائهم والمؤتمر الشعبي العام وحلفائه،
وعلى الإعلان الصادر بتاريخ 6/8/2016م بتشكيل المجلس السياسي الأعلى،
وعلى قرار رئيس المجلس السياسي الأعلى رقم (1) بشأن تحديد مهام المجلس واختصاصاته،
وعلى قرار رئيس المجلس السياسي الأعلى رقم (18) لسنة 2016م بشأن تكليف الدكتور عبدالعزيز صالح بن حبتور بتشكيل حكومة إنقاذ وطني،
وبناءً على ترشيح المؤتمر الشعبي العام وحلفائه وأنصار الله وحلفائهم،
وبعد موافقة المجلس السياسي الأعلى،
قرر:

مادة (1): تشكل حكومة الإنقاذ الوطني على النحو التالي:

1. /د. عبدالعزيز صالح بن حبتور رئيساً للوزراء

Source: <http://www.yemen.gov.ye/portal/gov/الحكومة%الحالية/tabid/984/Default.aspx>,

Translation:

Decree of the supreme political council 56 of 2016

../..

Article (1): the government of the national salvation comprises as follow:

1. Abdulaziz Saleh bin Habtour, prime minister;

../..

Table 9.1
List of the acting council of government up to 28 November 2016 (English)

<i>Ser</i>	<i>Name</i>	<i>Cabinet rank</i>	<i>Position of responsibility</i>
1	Abdulaziz Saleh bin Habtour ^{GPC}	prime minister	head
2	Hussein Abdullah Maqboli	deputy prime minister	economic affairs
3	Akram Abdullah A'tia	deputy prime minister	internal affairs
4	Major General Jalal Ali Al Rowayshan	deputy prime minister	security affairs
5	Major General Mohamed Nasser al A'tifi ^{GPC}	minister	defence ¹⁷
6	Ali ben Ali Alqissi ^{GPC}	minister	local administration
7	Ahmed Abdullah A'qabat	minister	justice
8	Saleh Ahmed Sha'ban	minister	finance
9	Talal Abdelkarim A'qlan	minister	civil service and insurance
10	Major General Mohamed Abdullah al Qawsi ^{GPC}	minister	interior
11	Alia'a Faissal Abdullatid Asha'bi	minister	human rights
12	Yasser Ahmed al A'wadi ^{GPC}	minister	planning and international cooperation ¹⁸
13	Major General Zakaria Yahya Al-Shami	minister	transport ¹⁹
14	Ahmed Mohamed Hamed	minister	social affairs and labour ²⁰
15	Yahya Badreddine al Houthi	minister	information
16	Husein Ali Hazeb ^{GPC}	minister	education ²¹
17	Mohsen Ali Annaqib ^{GPC}	minister	tertiary education and research
18	Abdurrahman Ahmed al Mokhtar	minister	technical education and professional training
19	Hassan Mohamed Zaid	minister	legal affairs ²²
20	Mohamed Mohamed al Zubairi	minister of state	member of the council of ministers ²³
21	Hisham Sharaf Abdullah ^{GPC}	minister	fisheries
22	Nabil Abdullah al Wazir	minister	foreign affairs
23	Dhiab Mohsen ben Ma'ili	minister	water and environment
24	Lotf Ali al Jarmouzi	minister	oil and mineral resources
25	Sharaf Ali al Qalissi ^{GPC}	minister	electricity and energy
26	Abdu Mohamed Bashar	minister	endowments and religious guidance

¹⁷ Commander, ballistic missile brigades since 2012.

¹⁸ Member of GPC negotiation team for the talks.

¹⁹ De facto chief of staff armed forces, member of the military and security committee.

²⁰ Member of GPC negotiation team for the talks.

²¹ Half brother of Abdulmalik Al Houthi (YEi.004) and was living in Germany until mid 2016.

²² Was chargé d'affaires in the same ministry under the SRC.

²³ Ibid.

<i>Ser</i>	<i>Name</i>	<i>Cabinet rank</i>	<i>Position of responsibility</i>
27	Jlidan Mohamed Jlidan ^{GPC}	minister	trade and industry
28	Ghazi Ahmed Mohsen	minister	communications and information technology
29	Nasser Mafoudh Baqazquz	minister	agriculture and irrigation
30	Mohamed Salim ben Hafidh	minister	tourism
31	Ahmed Saleh al Qana'a	minister	public health and population
32	Abdullah Ahmed al Kebsi ^{GPC}	minister	implementation of the NDC outcomes
33	Ghaleb Abdullah Motlaq	minister	reconciliation
34	Mohamed Said al Mashjari	minister	culture
35	Ali Abdullah Abu Haliqa	minister	general and roads ²⁴
36	Fares Mohamed Hassan Mana'a	minister of state	diaspora
37	Nabih Mohsen Abu Nashtan	minister of state	house of representatives and al shoura affairs ²⁵
38	Radiyah Mohamed Abdullah	minister of state	
39	Obeid Saleh ben Dobai'a	minister of state	
40	Hamed Awadh al Mazjaji	minister of state	
41	Abdulaziz Ahmed al Bakir ^{GPC}	minister of state	
42	Ahmed Abdullah A'qabat	minister of state	

(^{GPC} Member of GPC)

²⁴ Minister of state for the implementation of NDC outcomes under the SRC.

²⁵ He is under asset freeze and travel ban measures since 12 April 2010 (SOi.008) by the Security Council Committee pursuant to resolutions 751 (1992) and 1907 (2009) concerning Somalia and Eritrea.

Annex 10: Houthi negotiation team visits to Baghdad, Iraq and Beijing, China

Figure 10.1
Houthi negotiation team



(Left to Right): (5) **Mohamed Abdusalam Salah Fletah**, (6) Haider Al-Abadi, Prime Minister of Iraq, (7) **Yahya al Houthi**, (8) **Mahdi Mohammed Hussein al-Mashaat**, (9) **Hamza al Houthi**, during visit to Baghdad (28 to 31 August 2016).

Figure 10.2
Houthi team China visit (20 November 2016)



(Left to Right): **Hamza al Houthi**, **Mohamed Abdusalam Salah Fletah**, **Mahdi Mohammed Hussein al-Mashaat** during a visit to Beijing on 30 November 2016.

Annex 11: Conflict map

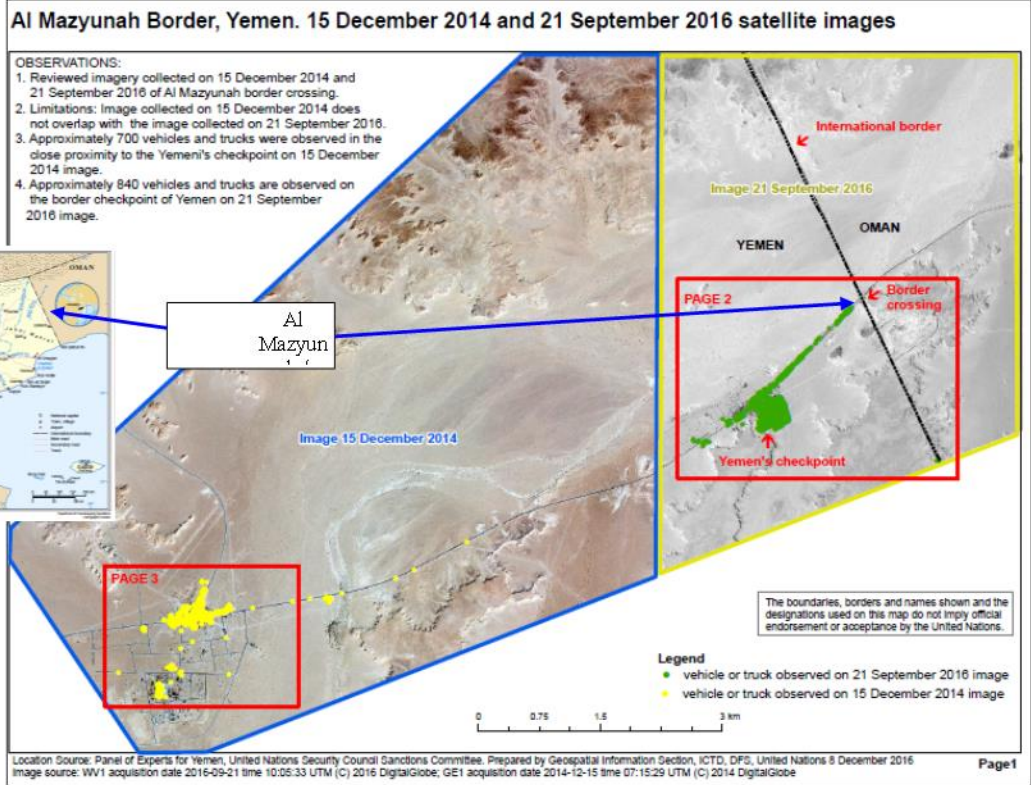


Map No. 4864 UNITED NATIONS December 2016
 Data and location source: Panel of Experts for Yemen, United Nations Security Council Sanctions Committee

Department of Field Support
 Geospatial Information Section

Annex 12: Activity along the border between Oman and Yemen

1. The Panel received from confidential official sources within the coalition indications of Omani support to the Houthi-Saleh alliance designed to sustain their fighting capability. The Panel learned that battle-winning weapons such as anti-tank guided weapons (ATGW) and other military equipment are transited through Oman before finishing in the hands of smuggling networks associated with Ali Abdullah Saleh in al Mahrah. The weapons are then shipped across the land smuggling route to the Houthis.
2. Following a number of arms seizures between Eastern Yemen and Ma'rib, the Panel analysed commercially available satellite imagery of the area in order to examine the border crossing point (BCP) between al Mazyunah in Oman and Ashehn in Yemen. On the date when imagery was available (21 September 2016) the BCP was very active with several hundreds of trucks parked awaiting crossing.
3. The Panel received information that the Government of Yemen does not fully control this BCP and that it was the main smuggling point in the area. Although the 137th Infantry Brigade is responsible for security in that area, its Commander and other senior security officials in the Mahrah Governorate administration are supporters of Ali Abdullah Saleh (YEi.003).
4. The Panel sent a letter to the Government of Oman requesting a visit to al Mazyunah. Oman subsequently verbally informed the Panel that a visit to al Mazyunah could not be arranged.

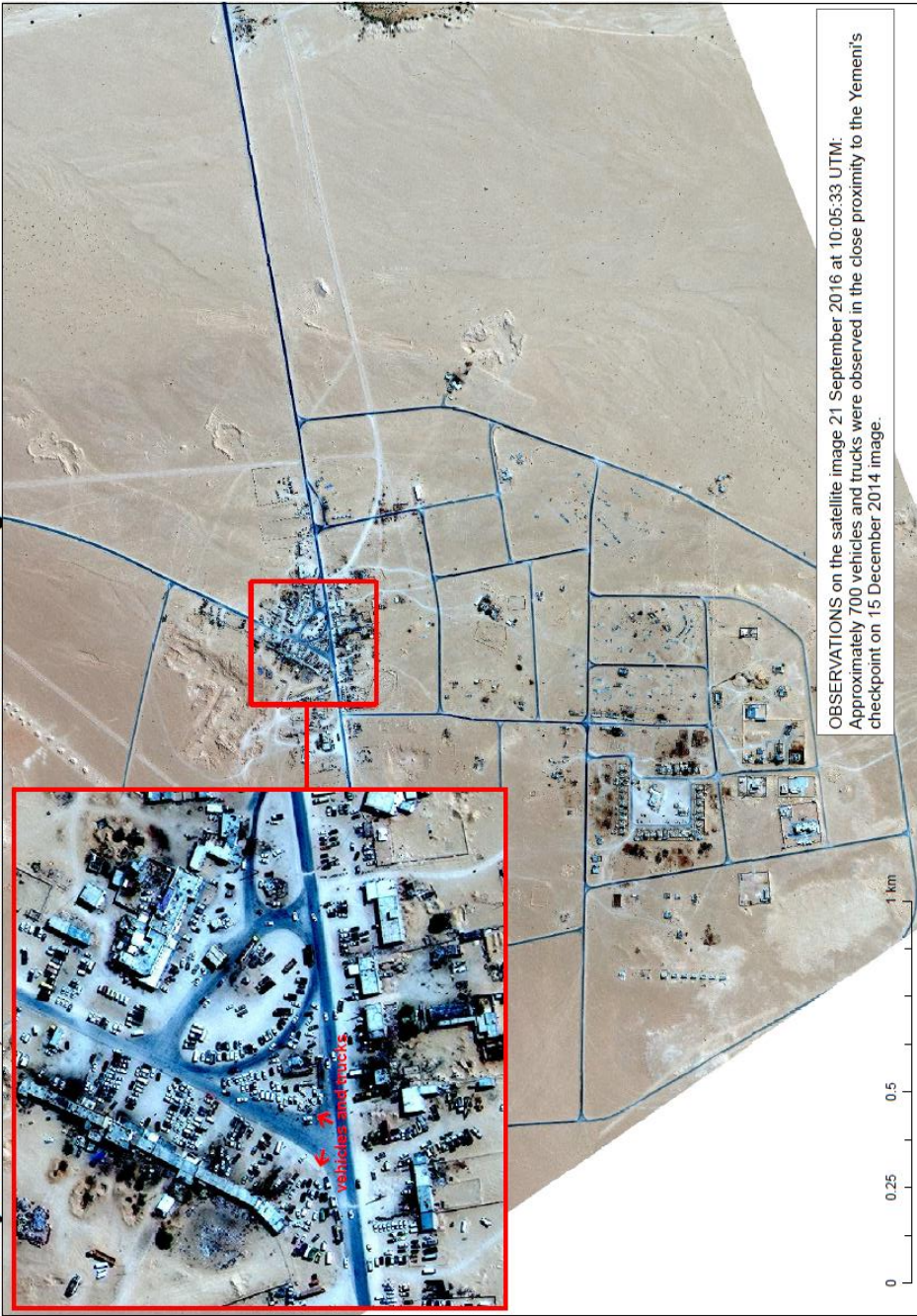


Al Mazyunah Border, Yemen 21 September 2016 satellite image



Location Source: Panel of Experts for Yemen, United Nations Security Council Sanctions Committee. Prepared by Geospatial Information Section, ICTD, DFS, United Nations 16 November 2016
Image source: WV1 acquisition date 2016-09-21 time 10:05:33 UTM (C) 2016 DigitalGlobe

Al Mazyunah Border, Yemen 15 December 2014 satellite image



OBSERVATIONS on the satellite image 21 September 2016 at 10:05:33 UTM:
Approximately 700 vehicles and trucks were observed in the close proximity to the Yemeni's checkpoint on 15 December 2014 image.

Annex 13: Maritime attack against the SWIFT-1 High Speed Vessel (HSV)

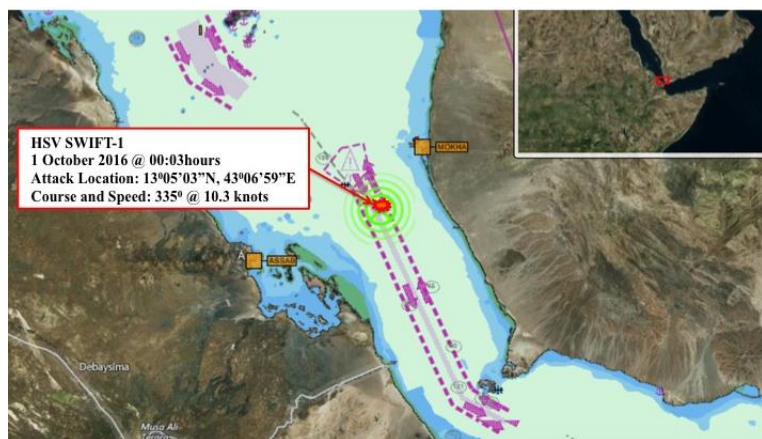
1. The attack on the United Arab Emirates' flagged vessel SWIFT-1 on 1 October 2016 was investigated by the Panel as a potential threat to the peace and security of Yemen. The use of anti-shipping missiles in the Strait of Bab al-Mandab and the Red Sea has the potential to affect the security of maritime navigation and commercial shipping and thus jeopardize the delivery of humanitarian assistance to Yemen by sea, in violation of paragraph 19 of resolution [2216 \(2015\)](#). Also, any attack on a civilian ship carrying humanitarian assistance is likely to be a violation of international humanitarian law (IHL).

A. Introduction

2. IHS Maritime data²⁶ shows that the SWIFT-1²⁷ stopped transmitting its automatic identification signal (AIS) a few seconds past midnight on the night of 30 September / 1 October 2016. Immediately prior to this the vessel was at a position 13°05'03"N, 43°06'51"E travelling on a course of 335° at a speed of 10.4 knots (see figure 13.1). Although the vessel was only 10.5 nautical miles from the Yemeni coast, and thus within Yemen's territorial waters, it was exercising its 'right of transit passage'²⁸ through the Strait of Bab al-Mandab international shipping lane. The vessel was in transit from Aden, Yemen to Assab, Eritrea at the time of the attack.

Figure 13.1

Last reported AIS position for SWIFT-1²⁹



B. SWIFT-1 background, operations and IHL

3. The SWIFT-1 was taken on long-term lease hire, from the original manufacturer, Incat³⁰ of Australia, by the National Marine Dredging Company of the United Arab Emirates (UAE) in July 2015.

4. A statement by the UAE on 5 October 2016 stated that the vessel was unarmed, had no military protection, and was carrying humanitarian assistance, wounded Yemenis and passengers. "In more than a year of operating routine journeys to Aden, the civilian ship has carried thousands of tonnes of humanitarian assistance and more than 1,000 wounded people, along with their companions, in addition to large equipment for the electricity, water and healthcare

²⁶ <http://maritime.ihs.com/>

²⁷ Identification data. IMO 9283928 / MMSI 470149000.

²⁸ In accordance with Articles 38 and 39 of Part III of the UN Convention on the Law of the Sea (UN CONLAS).

²⁹ Image developed by Panel. Location from www.maritime.ihs.com database.

³⁰ <http://www.incat.com.au/>

sectors which had significantly eased the suffering of the residents of Aden through the restoration of the infrastructure in these vital sectors”.³¹

5. The Panel has so far been unable to corroborate this statement by the UAE, and is unconvinced of its veracity for the following reasons:

(a) Data on one of the leading maritime traffic databases³² shows that the SWIFT-1 was in Port Rashid, UAE on 29 November 2015. Its next recorded movement, according to the vessel’s satellite based Automatic Identification System (AIS) was to Abu Dhabi, via Jebel Ali, on 25 May 2016. The first AIS recorded voyage to Aden was on 15 June 2016. Since 15 June 2016 the AIS shows that, with exception of four voyages to Al Mukalla, the vessel made 36 regular and routine direct voyages from Assab, Eritrea to Aden and return. This voyage pattern does not support a claim that it had been engaged in the delivery of humanitarian aid for “more than a year”. The Somalia and Eritrea Committee Monitoring Group (SEMG) recently reported that “regular movement of particular naval vessels, including the SWIFT-1” was an indicator that the UAE were transporting military personnel from Assab, Eritrea to Aden.³³ The Panel has identified from satellite imagery the presence of a UAE Navy Baynunah Class corvette in Assab Port,³⁴ unidentified military transport aircraft and helicopters at Assab airport³⁵ and the development of a military port at Assab airport.³⁶ Whilst the Panel has established a UAE military presence in Assab, there is no public record of any humanitarian organization based in, or operating from, Assab providing large quantities of bilateral aid to Yemen;

(b) The Panel was also informed that the SWIFT-1 had not previously delivered any UN coordinated humanitarian aid to Aden.³⁷ This particular voyage was very unlikely to contain any humanitarian aid to Yemen as the vessel was en route to Assab from Aden. The Panel wrote to the UAE on 4 October 2016 requesting details of the role of the vessel and the nature of the cargo and passengers relevant to humanitarian assistance to Yemen and is awaiting their response;

(c) Interviews with the crew of the vessel and open source media confirm that the only persons on board at the time of attack were the crew, who evacuated from the vessel with minimal injuries;³⁸

(d) The vessel is not shown as having ever operated as part of the National Marine Dredging Company support fleet on their company website.³⁹ SWIFT-1 is classified as a Logistics Naval Vessel on the ‘MarineTraffic’ database,⁴⁰ and as a Military Vessel, now “retired from service” on the manufacturer’s website;

(e) Although the vessel, a wave-piercing, aluminum-hulled, catamaran was originally designed and built to commercial standards, these included many military enhancements. For example, a helicopter flight deck, helicopter night landing capability, vehicle deck, small boat and unmanned vehicle launch and recovery capability, and a communications suite. The vessel also has four inbuilt gun mounts for 0.50” Heavy Machine Guns, although there is no evidence that any weapons were mounted at the time of the attack. It would be unusual to purchase, or lease, a vessel with these capabilities, for purely civilian purposes;

³¹ Statement of 5 October 2016.

³² www.maritime.ihs.com.

³³ Paragraphs 31 - 35, S/2016/290. See “وصول القوات السودانية إلى عدن”, Sky News Arabia, 17 October 2015. Available at www.youtube.com/watch?v=1Cs8eRuQfgw.

³⁴ Google Earth image dated 3 April 2016.

³⁵ Google Earth image dated 16 August 2016.

³⁶ Ibid.

³⁷ Two senior well-placed UN sources in Yemen.

³⁸ Confidential sources in contact with the crew.

³⁹ <http://www.nmdc.com/site/fleet>.

⁴⁰ <http://www.marinetraffic.com/en/ais/details/ships/shipid:442881/mmsi:470149000/vessel:SWIFT>.

(f) The vessel is painted Naval Grey, which is an unusual choice of colour for a civilian vessel. The manufacturer could have been painted the vessel in a more appropriate colour prior to delivery to the UAE in July 2015 if it was intended that the vessel be for purely civilian use;⁴¹ and

(g) The vessel is insured as taking part in naval support operations.⁴²

6. A ship that conducts military support operations may be considered as a military objective under principles of IHL.⁴³ At the time of attack and based on the above evidence, the Panel considers that the ship was operating directly to support the military efforts of one party of the conflict (the UAE). Thus, even with a civilian crew, the Panel finds that, based on the available evidence, the SWIFT-1 qualified as a military objective under IHL at the time of the attack.⁴⁴

C. Weapon system used for the attack

7. The performance and capability of the weapon system used for the attack is important to know in terms of determining what threat there is to the security of maritime navigation and commercial shipping in the Red Sea and Strait of Bab al-Mandab. This performance and capability depends on the type of weapon system used, hence the Panels' interest in the type available to the Houthi-Saleh alliance.

8. The delivery of humanitarian assistance to Yemen by sea could be jeopardized unless the above threat is fully understood and negated. Similarly the costs of shipping insurance could rise to prohibitive levels dependent on the view of the threat taken by the major maritime insurance brokers, such as the London based International Group of Protection and Indemnity clubs⁴⁵ that insure approximately 90% of the worlds ocean-going shipping.

Analysis of the Anti-Ship Missile (ASM) threat

9. There have been numerous media reports of the Houthis claim that a C-802 anti-ship missile (ASM) was used for the attack. The Panel is unable as yet to verify this claim for the missile type, as no available information confirms that the Yemeni Navy ever possessed that particular ASM system.

10. The Panel has identified that the Yemeni Navy had an ASM capability prior to the current conflict. In November 1990 and January 1991 a Member State supplied the Yemeni Navy with two Tarantul (Molnya) Class corvettes each armed with four P-21 'Termit' (Styx-2) surface-to-surface missile launchers. The requirement to use liquid propellant for the sustain rocket motor in the Styx-2 missile, the age of the system, and all of the inherent hazards and complexities involved in preparing a missile for launch, means that this attack option is assessed by the Panel as being unrealistic.

⁴¹ <http://www.incat.com.au/domino/incat/incatweb.nsf/0/76457AADD2C1A987CA2571AF0019EC66?OpenDocument>.

⁴² Confidential source.

⁴³ Customary IHL, which binds all parties to the conflict, including the UAE and the Houthi-Saleh alliance, reflects Article 52 (2) of the Additional Protocol I to the Geneva Conventions of 1949 in stating that: "In so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose partial or total destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage". (Rule 8 of Customary IHL Study of the International Committee of the Red Cross (ICRC)).

⁴⁴ Military objectives are legitimate targets under IHL (see Rule 7 of the ICRC study). Given that there was a civilian crew the Houthis were under an obligation to ensure that IHL principles of distinction, proportionality and precautions in attack are adhered to when carrying out the attack. The Panel does not have sufficient information to assess whether the Houthis conducted this military operation in accordance with IHL.

⁴⁵ <http://www.igpandi.org>.

11. In June 1995, another Member State supplied the Yemeni Navy with three ‘Huangfen’ (Type 021) (Osa I Type) fast attack craft (missile). Each was armed with four HY-2 (C-201) surface-to-surface missile launchers. Open source information also states that this Member State subsequently supplied YJ-8 (C-801) type missile launchers to the Yemeni Navy on an unknown date, possibly in June 2007.⁴⁶

12. It is not known how many of these naval platforms were operational at the commencement of current hostilities in March 2015, nor how much they may have been subsequently degraded by Saudi Arabia-led coalition air strikes in support of the legitimate Government of Yemen.

13. Although the Panel is still investigating the type of ASM system that could have been used in this attack, it is highly probable that, based on known past procurement patterns, the ASM options most likely available to Houthi-Saleh forces are shown in table 13.1.

Table 13.1
Surface-to-surface ASM options and operational data

<i>Ser</i>	<i>ASM Type</i>	<i>Range (km)</i>		<i>Speed (m/s)</i>	<i>Explosive content (kg)</i>	<i>Remarks⁴⁷</i>
		<i>Min</i>	<i>Max</i>			
1	HY-2 (C-201)		94.5	320	513+	Initially supplied in June 1995.
2	YJ-8 (C-801)	4.5	42.6	306	165	Reported as being supplied in 2006/2007.
3	C-802		120	306	165	Compatible with the C-801 launch system.
4	C-802A		180	306	165	
5	‘Noor’		120	306	150	Compatible with the C-801 launch system. Member State copies of the C-802.
6	‘Ghadar’		200		165	

14. The Panel was informed⁴⁸ that the ASM was a ‘Noor’, but has not provided any corroboratory evidence to support their claim. The source also claimed that the ‘Noor’ missile was an Iranian copy of the Chinese C-802, when in fact it is a copy of the Chinese C-801 system. The same source also claimed that all the old stocks of Yemeni Navy missiles had been destroyed, but this claim was also made for the land ballistic missile stocks; a claim events subsequently proved was optimistic. This all brings into question the credibility of the source, or their access to detailed technical information. Until the Panel can identify the type of missile and its original source of supply then a potential violation of the arms embargo cannot be ruled out.

15. The largest weapons system seen to date during an illicit maritime transfer by “stateless” dhows are anti-tank guided weapons (ATGW), which are significantly smaller than the above ASM types which are approximately 7.4m long.

⁴⁶ Member State June 2007 Report to the UN Register of Conventional Arms showed the supply of two missile systems.

⁴⁷ This does not imply that any of these Member States have acted in violation of the targeted arms embargo on Yemen imposed by resolution 2216 (2015) in regards to this incident.

⁴⁸ Confidential source from a member State of the Saudi Arabia-led coalition.

16. The Panel has consulted an independent naval weapons engineer.⁴⁹ His technical assessment is that the experience and skills necessary to adapt a ship based missile of the types at table 1 into a land deployable system would not be much beyond those necessary to maintain, service and operate it on the vessel. In which case, an ASM could have been taken from a naval vessel, or out of storage, and paired with the firing system by Houthi-Saleh personnel who gained experience with the system during their time in the Yemeni Navy.

17. It should be noted that in a 2 October 2016 speech, Abdulmalik Al-Houthi (YEi.004) praised the creativity and dedication of the missile force command, which was able to hit in the heart of the “invaders”.⁵⁰

18. If the Houthi and Saleh forces have access to ASM then this represents a significant increase in their technological and operational capability.

19. The damage to the vessel seen in the imagery at figures 13.2 to 13.5 are highly indicative of that caused by fire and not by an explosion. The damage to the starboard bow of the vessel was certainly caused by the impact of a missile, whilst that on the port amidships side of the vessel is highly indicative of the exit of a missile. The angle between the impact and entry point matches the known information relating to the vessels course and the most likely firing point (see figure 13.6 and later 13.7).

Figure 13.2
Impact point of ASM on Starboard Bow



Figure 13.3
Impact point of ASM on Starboard Bow



Figure 13.4
Exit point of ASM Port Midships



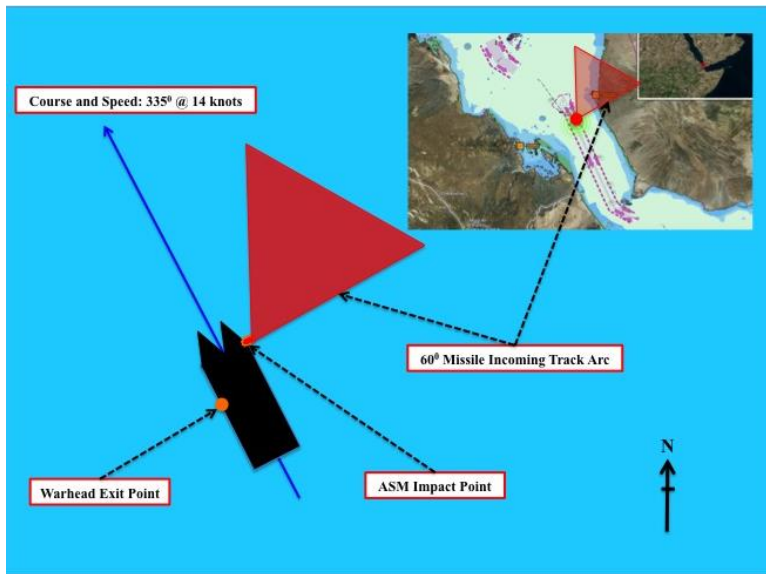
Figure 13.5
Fire damage to aluminium superstructure on Port Bow



⁴⁹ Lieutenant Commander (Retired) Colin Nicklas, BEng (Hons) MSc CEng MIET FCMI, Independent Engineering and Management Consultant.

⁵⁰ See <https://www.youtube.com/watch?v=6qFnJsvoskE>.

Figure 13.6
Triangulation of missile impact point, missile exit point, course of vessel and likely firing point area



20. There is no evidence of any warhead detonation or damage caused by high explosives on the SWIFT-1. The detonation of a typical ASM warhead of 165kg would have been devastating for this type of vessel. The vessel was hit after the missile had travelled approximately 20km; the range of a typical ASM being over 100km. This means that probably only 20% of the propellant of the rocket motor had been expended. On impact with the vessel, and penetration into the hull, the thin case of the rocket motor would have broken up distributing the remaining burning propellant widely throughout the deck level of impact. Such propellant burns fiercely, at a very high temperature, and would have been impossible to extinguish using the ship's limited damage control system. It would not have helped that the vessel, being constructed of aluminium, was not designed to mitigate against this sort of thermal event. In effect an uncontrollable fire was initiated which could only be effectively fought with external assistance.

21. The warhead component of the missile could well have been travelling at over 200m/s (445mph/720kph), (66% of missile maximum velocity), after initial penetration of the hull as the resistance provided by the aluminium hull would not significantly have impeded its progress. It may have been slightly deflected off course, but it is unlikely it collided with any significant obstacle within the vessel as such a collision would have meant the unexploded warhead remaining within the ship, and there would be no port exit hole. This explains why the incoming missile track arc at figure 13.6 is not centralized on the likely firing point.

Analysis of Houthi released video imagery

22. The Houthis have released video imagery⁵¹ that they claim shows the ASM missile launch, and the SWIFT-1 then burning. The imagery certainly shows a burning vessel at sea being filmed from a moving small boat. The imagery quality is poor, but the Panel assesses that much of this imagery is credible based on:

(a) The imagery of the radar screen at the commencement of the video shows the red-crosshair cursor been moved over a radar image at a vector of approximately 230° (figure 13.7). This would equate to the flight vector of a missile been fired from the area of Al Mukha against a target in the area of the last known position of the SWIFT

⁵¹ Al-Masirah TV.

(see figure 13.6). This level of detail is unlikely to have been included in the unsophisticated Houthi propaganda videos seen by the Panel to date;

Figure 13.7
Radar showing 220° vector



(b) The flight profile of the missile on launch, and immediately after, shows the initial climb and then reduction in altitude for sustained flight. This is an indicator of an ASM. Free flight rockets (FFR) or short-range ballistic missiles (SRBM) in the Houthi-Saleh forces arsenal do not have this distinctive flight profile. Thus it is unlikely to be stock Houthi footage of previous missile launches;

(c) The imagery of the missile launch shows what is almost certainly the launch booster motor been jettisoned and falling away from a missile. All of the ASM options at table 13.1 use a jettisoned launch booster motor. No other system known to have been in the possession of the Yemeni Armed Forces in March 2015 uses a jettisoned launch booster system; and

(d) A later segment shows a row of windows on the burning vessel that display very similar characteristics to those of the SWIFT-1, (figures 13.8 and 13.9).

Figure 13.8
SWIFT-1 windows and claimed Houthi image



Figure 13.9
Houthi image showing window of burning vessel



Probable sequence of events for the ASM attack

23. The probable sequence of events based on the evidence available to date is:

(a) Houthi and Saleh forces received advanced warning when the SWIFT-1 departed Aden. As the Aden-Assab transit is a routine voyage for the vessel, for which Houthi and Saleh intelligence could have worked out the transit time, then an arrival time in the target area could easily have been predicted;

(b) The vessel has limited courses that it can take, so an early warning vessel (dhow or rigid inflatable boat) could have been pre-deployed along the SWIFT-1's route;

(c) The early warning vessel sent a radio message to the launch platform when the vessel was in the target area;

(d) The ASM search radar could easily identify the vessel based on the information from an early-warning system;

(e) The ASM launcher was aligned on the correct azimuth (approximately 220° for a land launch), and a data algorithm then fed to the ASM from the launch platform as to the target vessel characteristics and approximate position;

(f) The ASM was launched. It climbed to approximately 50m altitude before separation of the booster rocket motor and then descended to a cruise altitude of approximately 20m to 30m above sea level. As it was probably programmed with a pre loaded target algorithm the ASM the terminal guidance seeker head in the ASM automatically searched for the target vessel;

(g) Once the terminal guidance seeker head acquired the target, the ASM descended to a height of between 5m to 7m above sea level for the terminal attack phase; then

(h) The ASM impacted on the target.

D. Relevant subsequent events

24. The SWIFT-1 attack triggered an immediate response from the US 5th Fleet, which deployed the 'Arleigh Burke' Class destroyers USS Mason (DDG-87) and USS Nitze (DDG-94) and the 'Austin Class' amphibious transport dock USS Ponce (AFSB 2015) to the area. These warships are able to monitor threats, protect shipping, and respond to any ASM attacks. As all these warships have an effective anti-ASM capability their deployment should improve the commercial maritime community's confidence in maritime security in the area.

25. On Sunday 9 October 2016 the USS Mason (DDG-87) was targeted by ASM⁵² in a location relatively close to the SWIFT-1 attack just north of the Strait of Bab al-Mandab. The Pentagon spokesperson initially stated that the USS Mason did not open fire to interdict the two inbound detected missiles and that the missiles crashed into the sea,⁵³ but subsequent reports suggest that defensive anti missile systems may have been used.⁵⁴ The USS Mason again detected an ASM launch on Wednesday 12 October 2016,⁵⁵ and a further launch may have taken place on Saturday 18 October 2016. The first two missile launches towards the USS Mason elicited a military response from the US Government, and three Tomahawk cruise missiles were launched from USS Nitze against radar stations on the Yemeni coast near Al Hudaydah,

⁵² Widely reported.

⁵³ <http://edition.cnn.com/2016/10/10/politics/yemen-us-navy-targeted/>.

⁵⁴ <https://news.usni.org/2016/10/11/uss-mason-fired-3-missiles-to-defend-from-yemen-cruise-missiles-attack>.

⁵⁵ 1) <http://www.defense.gov/News/News-Releases/News-Release-View/Article/971834/statement-by-pentagon-secretary-peter-cook-on-uss-mason>; and 2) <http://www.defense.gov/News/Article/Article/971904/uss-mason-responds-to-missile-threat-off-yemens-coast>.

Al Khawkah and Al Mukha on Thursday 13 October 2016.⁵⁶ The Panel has been unable to determine the post strike damage inflicted by these attacks.

26. The Panel has requested more specific technical information from the US Government on these ASM attacks and launches as it will help in the analysis of the SWIFT-1 attack, and thus the assessment of the threat to commercial shipping.

E. Conclusions

27. The Houthi and Saleh forces have demonstrated they had the technological capability to make a single attack on a large vessel in the area of Al Mukha and the Strait of al-Mandab. That technological capability will only last as long as:

(a) The Houthi and Saleh forces still have access to the old Yemeni naval stocks of missiles, supplied prior to the arms embargo. The dual missile attack against the USS Mason suggests they may; and

(b) The arms embargo is effective in ensuring there is no resupply of ASM to the Houthi and Saleh forces.

28. The Houthi-Saleh military alliance has potentially significantly increased the maritime threat to vessels transiting the Red Sea and Strait of Bab al-Mandab, or those delivering humanitarian aid to Yemen.

⁵⁶ 1) <http://www.defense.gov/News/Article/Article/972322/strikes-target-radar-sites-in-yemen>; and 2) <http://www.defense.gov/News/Article/Article/972852/us-responds-to-missile-attacks-targets-3-radar-sites-on-yemens-coast>.

Annex 14: Maritime attack against the MV Galicia Spirit
(STRICTLY CONFIDENTIAL)

Annex 15: The Families, Clans, and Tribe of Bayt al-Ahmar

1. Ali Abdullah Saleh (YEi.003) is from the village of Bayt al-Ahmar⁵⁷ and the family of Afaash, which is part of the Afaash clan of the Sanhan tribe.⁵⁸ The Sanhan tribe is part of the Hashid tribal confederation.

2. Although Ali Abdullah Saleh (YEi.003) is not the ‘Shaykh’ or head of the tribe, he is the most powerful figure within the tribe given the fact that he was Head of State. This allowed him to dispense favours within the tribe and provide jobs, particularly within the military to fellow tribesmen. This both helped the tribe and helped Ali Abdullah Saleh (YEi.003), as it allowed him to place trusted individuals in positions of power.

Table 15.1

Bayt al-Ahmar families, clans and tribe

<i>Group</i>	<i>Name</i>	<i>Remarks</i>
Tribal Confederation	Hashid	
Tribe	Sanhan	
Village	Bayt al-Ahmar	
Families	Afaash	Afaash al-Akwa Najar
	al-Qadhi	al-Qadhi al-Dhanayn Jaabr



⁵⁷ 15°07'35.7"N, 44°21'59.8"E.

⁵⁸ When Saleh's father, Abdullah, died, his mother, Nasiyyah, remarried Salih al-Ahmar, also from the Sanhan tribe.

Annex 16: Sons of Ali Abdullah Saleh (YEi.003)

(STRICTLY CONFIDENTIAL)

Annex 17: Nephews of Ali Abdullah Saleh (YEi.003)

(STRICTLY CONFIDENTIAL)

Annex 18: Wives of Ali Abdullah Saleh (YEi.003)

(STRICTLY CONFIDENTIAL)

Annex 19: Daughters of Ali Abdullah Saleh (YEi.003)

(STRICTLY CONFIDENTIAL)

Annex 20: Soldiers loyal to Ali Abdullah Saleh (YEi.003)

The following soldiers are known to have been killed fighting on the border between Saudi Arabia and Yemen during August 2016.⁵⁹

Table 20.1

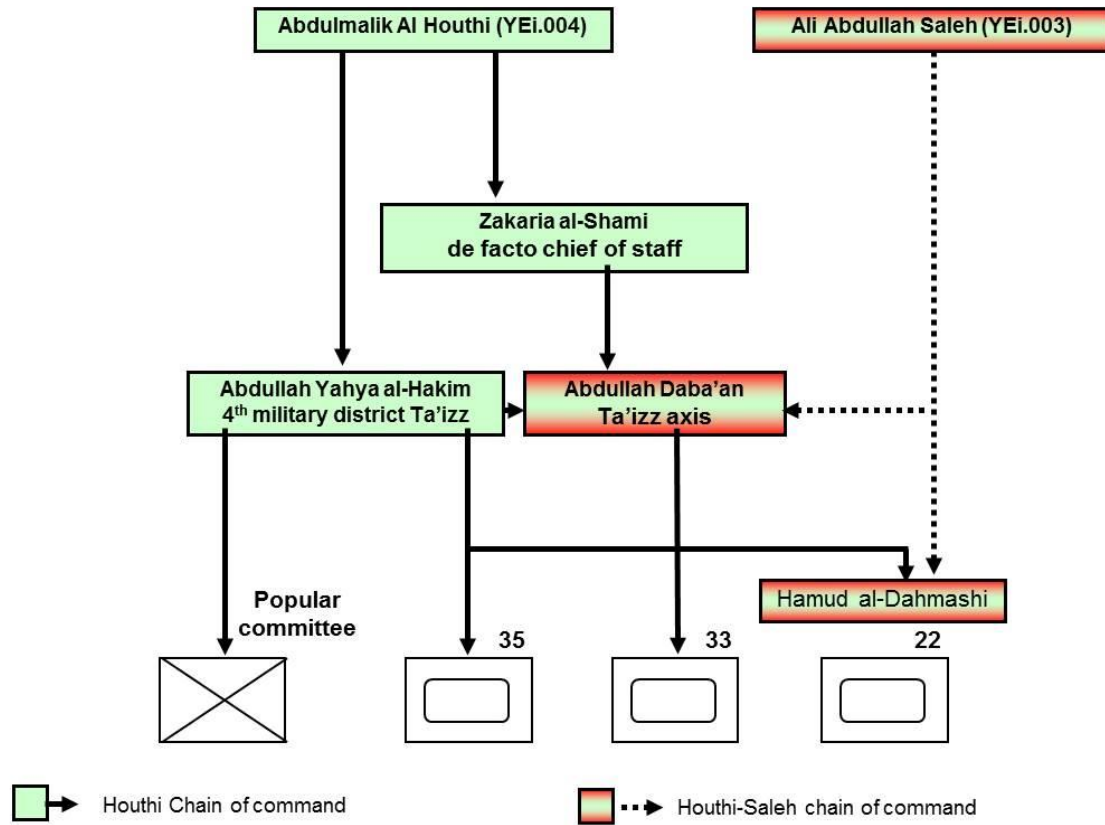
Deceased soldiers loyal to Ali Abdullah Saleh (YEi.003)

<i>Ser</i>	<i>Name</i>	<i>Village</i>	<i>Tribe</i>
1	Sharif Ahmad		Sanhan
2	Muhammad Ahmad 'Alwan	Dhabwa	Sanhan
3	Abd al-Wali Muhammad 'Amār	Al Sawad	Sanhan
4	Abd al-Salam al-Araj	Bilad al-Rus	Sanhan
5	Fuad Abd al-Rahman Dalhus		Sanhan
6	Bilad al-Salih Muhammad al-Haduri	Al Sawad	
7	Hamir Salih Hazim		Sanhan
8			Sanhan
9	Ahmad Muhammad Jabir	Dar Salim	Sanhan
10	Sami Ahmad Najad	Al Sawad	Sanhan
11	Amran Hassan Sarfah	Bilad al-Rus	Sanhan

⁵⁹ Due to the difficulties in collecting the names and tribal affiliations of fighters killed in conflict, this list does not claim to be comprehensive. However, all the soldiers listed here are either members of the republican guards or the special guards, both of which were under the control of Ali Abdullah Saleh (YEi.003).

Annex 21: Houthi-Saleh alliance military structure

Figure 21.1
Houthi-Saleh alliance military structure



Annex 22: Background on the Houthi movement

1. The Houthis, also known as Ansar Allah,⁶⁰ are a Zaydi⁶¹ revivalist group⁶² that formed in the 1980s as a response to perceived state-sponsored attempts at cultural and religious eradication. The Zaydi imamate⁶³ of north Yemen was overthrown in 1962, ending more than a millennium of rule by local *sayyids*, descendants of the Prophet Muhammad, who formed the ruling class.⁶⁴ In the aftermath of the 1962 civil war and the successive Republican regimes that followed, Zaydi *sayyids* were discriminated against to the point that many within the community felt they were on the verge of extinction. These tensions boiled over in 2004 in the first of what would come to be known as the “Houthi Wars,” in which the central Government in Sana’a, headed by Ali Abdullah Saleh (YEi.003), fought the Houthis and their local allies.⁶⁵ Five more rounds of conflict would follow over the next six years.⁶⁶

2. In the aftermath of the Arab spring and President Saleh’s negotiated resignation in early 2012, the Houthis moved to consolidate control in and around the Governorate of Sa’dah, where they were based. In late 2014, while President Hadi was juggling multiple challenges to his rule, the Houthis pushed into Sana’a and by January 2015 they had placed President Hadi under house arrest. Two months later, following President Hadi’s escape to Saudi Arabia via Aden, the Saudi Arabia-led coalition launched Operation Decisive Storm on 26 March 2015, with the stated goal of returning President Hadi to power.

⁶⁰ Literally, the Partisans of God.

⁶¹ Zaydis are a Shi’ite sect of Islam that is doctrinally distinct from the type of Shi’ism practiced in countries such as Iraq or Iran, which is often referred to as twelver Shi’ism. Zaydi Shi’ism, as it has historically been practiced in Yemen, is often referred to as “fiver Shi’ism.” Some scholars of Yemen also refer to Zaydism as the “fifth school of Sunni Islam,” highlighting the traditional middle ground it has occupied between Sunnis and Twelver Shi’a.

⁶² Zaydi revivalists denote those who adhere to the traditional practice of Zaydism. For example Abdulmalik al-Houthi (YEi.004) is a Zaydi by heritage and adheres to traditional teachings of Zaydism. He is a Zaydi revivalist. On the other hand, Ali Abdullah Saleh (YEi.003) is a Zaydi by heritage but not in practice, and therefore is not a revivalist.

⁶³ In Zaydism the imamate is a religious and political office that headed the theocratic state, which ruled northern Yemen, with varying degrees of success, from 893 - 1962.

⁶⁴ The Houthis are a *sayyid* family.

⁶⁵ The original leader of the Houthi armed group was Husayn Badr al-Din al-Houthi, a former member of parliament from the Hizb al-Haqq party and the older half-brother of Abdulmalik al-Houthi (YEi.004). Husayn Badr al-Din al-Houthi was killed in September 2004.

⁶⁶ The second leader of Houthi movement was Badr al-Din al-Houthi, the father of both Husayn and Abdulmalik. Badr al-Din al-Houthi was killed in 2010 by an AQAP suicide bomber.

Annex 23: Houthi family tree
(STRICTLY CONFIDENTIAL)

Annex 24: Houthi prisoners released in Ma'rib (September 2016)⁶⁷

Table 24.1

Houthi prisoners released in Ma'rib

<i>Ser</i>	<i>Name</i>	<i>District</i>	<i>Governorate</i>
1	Bilal Saleh Ali al-Rabahi	al-Rajim	al-Mawhit
2	Ali Hasan Ali Saleh al-Asfari	Malhan	al-Mawhit
3	Muhammad Ali Ali Saleh al-Dharasi	Mitam	Ibb
4	Muhammad Ali Fatah Allah al-Hamati	Hafash	al-Mawhit
5	Mansur Muhammad Hasan al-Muamari	al-Rajim	al-Mawhit
6	Abdullah Ali Shatir Shatir	al-Madina	Amran
7	Ali Abdullah Salim al-Raymi		Raymah
8	Muhammad Ali Ahmed Sad al-Din	Bani al-Harith	Sana'a
9	Muhammad Saleh	Bani Hashish	Sana'a
10	Az al-Din Abdullah Ahmed al-Shalali	Bani Balhul	Sana'a
11	Anwar Ahmed Haydar	Ta'izz	Ta'izz
12	Najad Muhsin Abdullah Muqna'a	Dhawran Anis	Dhamar

⁶⁷ The release took place on 1 September 2016. The Panel believes that the different governorates from which these fighters came illustrates how the Houthis move militia fighters throughout the territory under their control.

Annex 25: Houthi appointed military district commanders

Table 25.1

Houthi appointed military district commanders

<i>military district</i>	<i>Location</i>	<i>Name</i>
1	Sayyun	No known Houthi Commander
2	Mukalla	No known Houthi Commander
3	Ma'rib	Unknown ⁶⁸
4	Aden/Ta'izz	Abdullah Yahya al-Hakim (YEi.002)
5	Hudaydah	Muhammad Said al-Hariri
6	Amran / Sa'dah	Unknown ⁶⁹
7	Dhamar / Sana'a	Ali Al Arjah Hamid Mujahid Al Khurashi

⁶⁸ Previous Houthi commander, Mubarak al-Mishn al-Zayadi, was killed in the Saudi Arabia-led coalition strike on the Funeral Hall in Sana'a on 8 October 2016.

⁶⁹ Previous Houthi commander, Muhammad al-Hawari, was killed in the Saudi Arabia-led coalition strike on the Funeral Hall in Sana'a on 8 October 2016

Annex 26: Houthi appointees in Dhamar⁷⁰

Table 26.1

Houthi appointees Dhamar

<i>Ser</i>	<i>Name</i>	<i>Position</i>	<i>Village</i>
1	Muhammad Muhsin Muhammad Jalan	assistant director for security	
2	Abdu Saleh Muhammad Amar	assistant director of security, police affairs	
3	Ibrahim Ali Ahmed al-Kibsi	director, administration affairs	
4	Abd al-Aziz Muhammad Ali Khayran	deputy director, criminal investigations	
5	Muhammad Husayn al-Gharabani	deputy director, prison administration	
6	Muhammad Ali Muhammad Abbas	director, financial affairs	
7	Ahmed Qasim Ali al-Sharfi	deputy, administration of officer affairs	
8	Ismail Husayn al-Marwani	deputy director, civil defence	
9	Husayn Ismail Rawayah	deputy director, traffic	
10	Ahmed Muhammad Najum al-Din	deputy director, local affairs	
11	Muhammad Muhammad Abd al-Wahhab al-Daylami	deputy director, information and planning	
12	Adil Ali Yahya Mutahir Nayyib	director, public relations	
13	Husayn Abdullah Ali al-Sharfi	director, industrial works	
14	Ahmed Saleh al-Shaubi	director, department of investigations	
15	Muayyad Abd al-Salam al-Taus	deputy director, communications	
16	Abdullah Muhammad Ali al-Washali	deputy director, leadership and command	
17	Muhammad Yahya Muhammad al-Murtadhi	deputy director, support and insurance	
18	Abd al-Wahhab Abbas Muhammad al-Mushki	deputy director, training and qualifications	
19	Mutahir Abdullah Muhammad al-Nahari	deputy director, police	Jabal Sharq
20	Jihad Mutahir al-Marwani	deputy director, police	Jahran
21	Nasir Nasir Ali al-Bukhayti	deputy director, police	Dhawran
22	Ali Ali Husayn Mayis	deputy director, police	al-Manar
23	Saleh Ahmed Husayn al-Khalqi	deputy director, police	Atimah
24	Naji Muhammad Ali Saleh al-Khalali	deputy director, police	al-Huda
25	Yahya Abd al-Wahhab al-Daylami	deputy director, police	al-Miqa'ah
26	Abd al-Aziz Ismail al-Amdi	deputy director, police	Anis
27	Muhammad Abdullah Sharf Abu Talib	deputy director, police	Greater Wasab

⁷⁰ This table uses the Houthi appointees in one governorate, Dhamar, to illustrate how the Houthis take advantage of the existing bureaucratic structure, grafting a loyalist director or deputy director on to what is already in place. <http://www.almasdaronline.com/article/82943>.

Annex 27: Prominent AQAP figures⁷¹

Table 27.1
Prominent AQAP figures

<i>Ser</i>	<i>Name</i>	<i>Role</i>	<i>Remarks</i>
1	Qasim Yahya al-Raymi	Leader	(QDi.282)/ Yemeni
2	Ibrahim Asiri	Chief Engineer/Bombmaker (IED)	Saudi
3	Muhammad Abd al-Karim al-Ghazali	Financial Head	Yemeni
4	Khaled Umar Batarfi	Battle commander	Yemeni
5	Khamis Arfaj al-Marwani	Head of AQAP, al-Jawf	Yemeni
6	Muhammad Umar	Military Commander, al- Jawf	Yemeni
7	Wa'il Sayf (Abu Salim al-Adani)	Head of AQAP, Aden	Yemeni
8	Abu Yusif al-Lahji	Head of AQAP, Lahj	Yemeni
9	Ghalib al-Zayadi	AQAP leader, Ma'rib	Yemeni
10	Salim al-Najdi	Media figure	Saudi
11	Muhammad Abdullah Husayn Daramah	Judge on Shariah Council	
12	Ibrahim al-Quso	Propagandist	Former Guantanamo Detainee / Sudanese
13	al-Khadr Abdullah al-Walidi	Battle commander	
14	Khalid al-Daba	AQAP leader, Lahj	May be under arrest ⁷²
15	Muntasir Badi	Financial figure in Abyan	

⁷¹ This table has been compiled from a variety of sources, including confidential sources, interviews with individuals inside and outside of Yemen, open sources, news reports, and AQAP documents.

⁷² The Panel has received one report, which it has been unable to verify, that security forces loyal to President Hadi may have arrested Khalid al-Daba.

Annex 28: Summary of reported PBIED and SVIED attacks (2016)

Table 28.1
Summary of reported PBIED and SVIED attacks (2016)

<i>Ser</i>	<i>Date</i>	<i>Location</i>	<i>Device Type</i>	<i>Target</i>	<i>Civilian Fatalities</i> ⁷³	<i>Military Fatalities</i>	<i>Civilians Injured</i>	<i>Military Injured</i>	<i>Claimed by</i>	<i>Remarks</i>
1	5 Jan 2016	Aden	SVIED	General Shallal Shayae, Aden Police Chief	4	8	0	0	AQAP	SVIED
2	28 Jan 2016	Aden	SVIED	Presidential Residence	2	5	ISIL		ISIL	Perpetrator named as 'Abu Hanifa Al-Hollandi'.
3	29 Jan 2016	Aden	SVIED	Police CP ⁷⁴		7		7	ISIL	Perpetrator named as 'Oweis al Adani'.
4	17 Feb 2016	Aden	SVIED	Ras Abbas Military Camp		14		60	ISIL	Perpetrator named as 'Abu Isa Al-Ansari'.
5	29 Feb 2016	Aden	SVIED	Government forces in Sheikh Othman District	4	0	0	0	ISIL	
6	2 Mar 2016	Aden	SVIED	Brigadier General Adel Al-Halemi, Aden Security Chief	0	0	0	0	ISIL	Residence attacked.
7	25 Mar 2016	Aden	SVIED	CP in Shaab District					ISIL	
8	25 Mar 2016	Aden	SVIED	CP in Shaab District	17	10	NK	NK	ISIL	
9	25 Mar 2016	Aden	SVIED	CP in Mansura District					ISIL	Device in an ambulance
10	12 Apr 2016	Aden	PBIED	Government forces in Sheikh Othman District	4	0	7	2	ISIL	At bus stop
11	15 Apr 2016	Aden	SVIED	Foreign Ministry	0	0	0	0	ISIL	SVIED
12	17 Apr 2016	Aden	SVIED	CP near airport	4	2	0	0		SVIED

⁷³ Excluding the 'suicide' bomber.

⁷⁴ Check Point.

<i>Ser</i>	<i>Date</i>	<i>Location</i>	<i>Device Type</i>	<i>Target</i>	<i>Civilian Fatalities</i> ⁷³	<i>Military Fatalities</i>	<i>Civilians Injured</i>	<i>Military Injured</i>	<i>Claimed by</i>	<i>Remarks</i>
13	24 Apr 2016	Zinjibar	SVIED	Military convoy	7	14	0	0		
14	28 Apr 2016	Aden	SVIED	General Shallal Shayae, Aden Police Chief	0	2	0	0		SVIED
16	11 May 2016	Al-Qatan	SVIED	Major General Abdul-Rahman Al-Halili, Commander, 1 st Military District	6	2	5	0	AQAP	
17	12 May 2016	Mukalla	SVIED	Gate of Naval Base					ISIL	Perpetrator named as 'Hamza Al-Muhajir'.
18	12 May 2016	Mukalla	SVIED	Inside Naval Base	0	16	0	8	ISIL	
19	12 May 2016	Mukalla	SVIED	Major General Faraj Salmeen, Commander, 2 nd Military District					ISIL	HQ attacked.
20	15 May 2016	Mukalla	PBIED	Police Recruitment Centre, Fuwah District	41		60		ISIL	Perpetrator named as 'Abu Al-Bara Al-Ansari'.
21	15 May 2016	Mukalla	PBIED	Major General Mubarak Al-Oubthani, Hadramawt Security Chief	0	6	0	1	ISIL	
22	16 May 2016	Mukalla	PBIED	Police Recruitment Centre, Fuwah District	0	0	0	0	ISIL	
23	23 May 2016	Aden	SVIED	Military recruitment centre queue, Khor Maksar District	20	0	60	0	ISIL	Perpetrator named as 'Abu Ali Al-Adeni'.
24	23 May 2016	Aden	PBIED	Commanders residence, queue of recruits	25	0	NK	0	ISIL	

<i>Ser</i>	<i>Date</i>	<i>Location</i>	<i>Device Type</i>	<i>Target</i>	<i>Civilian Fatalities</i> ⁷³	<i>Military Fatalities</i>	<i>Civilians Injured</i>	<i>Military Injured</i>	<i>Claimed by</i>	<i>Remarks</i>
25	27 June 2016	Mukalla	PBIED	Intelligence Base	0	38	24	0	ISIL	
26	6 Jul 2016	Aden	SVIED	Solaban Military Base	14	10	0	0	AQAP	
27	18 Jul 2016	Mukalla	SVIED	Military CP	0	0	0	0	AQAP	
28	20 Jul 2016	Aden	IED	Aden	4	0	6	0	AQAP	
29	2 Aug 2016	Aden	SVIED	Military base	0	6	0	12		
30	2 Aug 2016	Aden	SVIED							
31	7 Aug 2016	Lahj	SVIED	Military patrol	0	10	18	0		
32	18 Aug 2016	Near Lawder, Abyan	SVIED	Military patrol	0	4	0	4	AQAP	
33	29 Aug 2016	Aden	SVIED	Military base	0	72	0	80	ISIL	
34	11 Sep 2016	Aden	SVIED		0	10	0	0		
35	11 Sep 2016	Abyan	SVIED	Military position	0	0	0	14		
36	1 Oct 2016	Aden	PBIED	Civilians	0	2	0	4		
37	27 Oct 2016	Lawder, Abyan	IED	Police patrol					AQAP	
38	29 Oct 2016	Aden	SVIED	Central Bank	0	0	5	0		
39	16 Nov 2016	Shabwah	SVIED	Governor	1		2			
40	10 Dec 2016	Aden	PBIED	Military base		48		29	ISIL	
41	18 Dec 2016	Aden	PBIED	Military base		40		50	ISIL	

Annex 29: US air and drone strikes in Yemen (2016)⁷⁵

Table 29.1
Summary of US air and drone strikes in Yemen (2016)

<i>Ser</i>	<i>Date</i>	<i>Location</i>	<i>Casualties</i>		<i>Remarks</i>
			<i>Fatal</i>	<i>Injured</i>	
1	3 Feb 2016	Shabwah	6		
2	29 Feb 2016	Hadramawt	3		
3	22 Mar 2016	Hadramawt	56		AQAP training camp
4	30 Mar 2016	Shabwah	2		
5	23 Apr 2016	Ma'rib	2		
6	25 Apr 2016	Shabwah	2		
7	25 Apr 2016	Abyan	2		
8	28 Apr 2016	Shabwah	4	1	
9	19 May 2016	Shabwah	4		
10	8 Jun 2016	Bayda'	2		
11	10 Jun 2016	Ma'rib	2		
12	12 Jun 2016	Shabwah	2	1	
13	1 Jul 2016	Shabwah	2		
14	4 Jul 2016	Shabwah	2		
15	8 Jul 2016	(Central Yemen)	1		
16	16 Jul 2016	(Central Yemen)	6	1	
17	4 Aug 2016	Shabwah	3		
18	24 Aug 2016	Shabwah	4		
19	30 Aug 2016	Shabwah	3		
20	4 Sep 2016	Shabwah	6	1	
21	20 Sep 2016	Ma'rib	2		
22	22 Sep 2016	Bayda'	2		
23	29 Sep 2016	Bayda'	1	1	
24	6 Oct 2016	Shabwah	2		
25	18 Oct 2016	Shabwah	6		
26	21 Oct 2016	Ma'rib	5		
27	20 Nov 2016	Bayda'	1		
28	24 Nov 2016	Bayda'	2		
29	30 Nov 2016	Hadramawt	3		
30	13 Dec 2016	Ma'rib	3		

⁷⁵ Information compiled from US Central Command.

Annex 30: Prominent ISIL figures⁷⁶

Figure 30.1

Prominent ISIL figures

<i>Serial</i>	<i>Name</i>	<i>Role</i>	<i>Remarks</i>
1	Muhammad Said Umar Bawazir (Abu Maali al-Qirshi)	An ISIL leader	
2	Nasir al-Ghaydani (Abu Bilal al-Harbi)	An ISIL leader	Saudi Arabian ⁷⁷
3	Khaled Abdullah al-Marfadi	Military commander	Yemeni ⁷⁸
4	(Abu Abd al-Rahman al-Muhajir) ⁷⁹	Shariah official	
5	(Abu Saleh) ⁸⁰	Military commander	
6	Khaled Umar al-Marfadi	Financial official	Yemeni ⁸¹

⁷⁶ This table has been compiled from a variety of sources, including confidential sources, interviews with individuals inside and outside of Yemen, open sources, and news reports. Names in parentheses indicate a *nom de guerre* or *kunya*.

⁷⁷ In the mid-term update the Panel reported that AQAP claimed that al-Harbi had been killed in Hadramawt when a hand grenade in a safe house detonated. The Panel has not been able to confirm this information.

⁷⁸ al-Marfadi is from Yafa'a.

⁷⁹ al-Muhajir reportedly also uses the *kunya*: Abu Muhammad al-Kanani.

⁸⁰ Abu Saleh reportedly also uses the *kunya*: Abu Husayn.

⁸¹ Also from Yafa'a.

Annex 31: Government appointed Military District commanders

Table 31.1
Government appointed Military District commanders.

<i>Military District</i>	<i>Area</i>	<i>Name</i>
1	Sayyun	Saleh Muhammad Tamis
2	Mukalla	Faraj Salamin al-Bahasani
3	Ma'rib	Adil Hashim al-Qaymiri ⁸²
4	Aden/Ta'izz	Fadhil Hasan al-Amri
5	Hudaydah	Tawfiq Muhammad Abdullah al-Qayz
6	Amran / Sa'dah	Amin al-Wa'ili
7	Dhamar / Sana'a	Ismail Hasan Zahjuh

⁸² Major General Adil Hashim Al-Qaymiri was appointed by Vice President and Head of the Government's Armed Forces, Ali Muhsin al-Ahmar, in October 2016 following the death of the previous Commander of the 3rd Military District, Major General Abd al-Rabb al-Shadadi, on 7 October 2016. Major General Adil Hashim al-Qaymiri is from Ta'izz. In 2011, when he was commander of the 125th Mechanised Brigade, he broke with then President Ali Abdullah Saleh (YEi.003) to support the protesters. In 2012, President Hadi appointed him as commander of the 125th Mechanized Infantry Brigade in al-Jawf, and later al-Qaymiri was named Axis Commander in al-Jawf. In 2015, President Hadi named him commander of the 5th Military District (Hudaydah).

Annex 32: Timeline of key security events concerning Yemen (2016)

Table 32.1

Timeline of key security events concerning Yemen (2016)

<i>Ser</i>	<i>Event</i>	<i>Location</i>	<i>Date (2016)</i>
1	Cessation of Hostilities Agreement	Yemen	10 April
2	Peace talks begin	Kuwait	20 April
3	AQAP withdrawal from Mukalla	Mukalla	25 April
4	Car bomb targeting Aden Governor, Aydrus al-Zubaydi	Aden	15 July
5	Houthi-Saleh Political Council announced	Sana'a	28 July
6	First soldier loyal to Saleh killed on border with Saudi Arabia	Border with Najran	31 July
7	Peace talks end	Kuwait	15 August
8	Houthi-Saleh Supreme Political Council formed	Sana'a	15 August
9	Houthi-Saleh Supreme Political Council issue 1 st Decree	Sana'a	15 August
10	Saudi-Arabia led coalition hits Abs hospital	Hajjah	15 August
11	USA announces reduction of staff in Joint Planning Cell	Saudi Arabia	19 August
12	ISIL suicide bombing, killing 54	Aden	29 August
13	Further reports of forced displacement of Northerners	Aden	27 September
14	Houthis attack UAE SWIFT vessel	Red Sea Coast	1 October
15	Abd al-Rab al-Shadadi, Government 3 rd Military District Commander killed	Ma'rib	7 October
16	Saudi Arabia-led coalition strike on funeral hall, killing 200+	Sana'a	8 October
17	Houthis fire anti shipping missiles towards two US Naval ships	Red Sea Coast	9 October
18	Houthis 'target' USS Mason with anti-shipping missiles	Red Sea Coast	12 October
19	US naval ship fires three Tomahawk cruise missiles at Houthi radar installations	Red Sea Coast	13 October
20	Mansur Mujahid Nimraan, Houthi Axis Commander in Hudaydah killed	Hudaydah	14 October
21	72-hours Cessation of Hostilities begins	Yemen	19 October
22	Cessation of Hostilities ends	Yemen	23 October
23	Houthi-Saleh Supreme Political Council announces formation of 42-person government	Sana'a	28 November

Annex 33: Active ‘battle fronts’ in Yemen (2016)

A. Ta’izz ‘front’

1. Ta’izz continues to witness heavy fighting between military units loyal to Ali Abdullah Saleh (YEi.003) and militias under the command of Houthi fighters, who are arrayed against local resistance forces, which have included Salafi fighters as well as AQAP members,⁸³ in addition to troops loyal to President Hadi. Both sides have engaged in the targeted destruction of homes, kidnappings, as well as indiscriminate shelling, which has claimed the lives of civilians. The humanitarian situation remains extremely dire.

2. The Panel has documented the following brigades taking part in the fighting: 17th Infantry Brigade, 22nd Armoured Brigade from the Republican Guards, 33rd Armoured Brigade, 35th Armoured Brigade and 170th Air Defence Brigade. Below is a brief sketch of the prominent figures in the conflict, which the Panel has identified, on the four sides: Houthis, Saleh, Government of Yemen, and local “resistance”.⁸⁴

Table 33.1

Prominent Houthi figures on the Ta’izz front

<i>Serial</i>	<i>Name</i>	<i>Position</i>	<i>Remarks</i>
1	Abdullah Yahya al-Hakim (Abu Ali)	Houthi commander, 4 th military district	(YEi.002)
2	Abdu Ali al-Janadi	Houthi-appointed governor of Ta’izz	Appointed 28 November 2015
3	Abd al-Hakim al-Junaid	Houthi commander	Brother of #4
4	Mahmoud al-Junaid	Houthi commander, al-Sarari area, near Mount Sabr	Brother of #3
5	Akram al-Junaid	Houthi commander, Eastern Ta’izz	Facilitated Houthi entry into Ta’izz
6	Hamud al-Hashidi	Houthi appointed director of intelligence	

⁸³ The Panel is aware of reports indicating that two high-level ISIL commanders were killed in the fighting in Ta’izz, but has been unable to independently verify these reports.

⁸⁴ The Panel has chosen to put “resistance” in quotes, because it realizes that not all locals in Ta’izz have sided with the “resistance.” Indeed, many have sided with the Houthis.

Table 33.2
Prominent figures loyal to Saleh on the Ta'izz front

<i>Ser</i>	<i>Name</i>	<i>Position</i>	<i>Remarks</i>
1	Abdullah Hizam Naji al-Dhaban ⁸⁵	Axis commander, Ta'izz	From Saleh's Sanhan tribe
2	Hamud Hasan al-Harithi	Brigadier General, commander of central security forces, Ta'izz	
3	Hamud al-Dahmashi	commander, 22 nd armoured brigade, republican guard	
4	Ali Numan Muhammad al-Saghir	Lieutenant Colonel, 33 rd armoured brigade	Artillery specialist under command of al-Dhaban
5	Amar Daghish	Lieutenant Colonel, 33 rd armoured brigade	Under command of al-Dhaban
6	Ahmed al-Araj	Lieutenant Colonel, 33 rd armoured brigade	Specialist in Katusha FFR, under command of al-Dhaban
7	Mansur Mujayayr	Commander of Khaled Camp for 35 th armoured brigade	
8	Zakariya al-Muta'a	republican guard commander	
9	Muhammad Abd al-Wasa al-Qahtan	Tribal Shaykh	Kidnapped on 9 November 2016 reportedly by forces operating under the command of Yusif al-Shiraji

Table 33.3
Prominent Government of Yemen figures on the Ta'izz front

<i>Ser</i>	<i>Name</i>	<i>Position</i>	<i>Remarks</i>
1	Fadhil Hasan al-Amri	Government Commander, 4 th Military District	
2	Khalid al-Fadhil	Axis Commander, Ta'izz	
3	Yusif Ali al-Shiraji ⁸⁶	Government Commander	
4	Adnan Muhammad Muhammad al-Hamadi	Government Commander, 35 th Armoured Brigade ⁸⁷	

⁸⁵ Staff Brigadier General Abdullah Hizam Naji al-Dhaban is also commander, 33rd armoured brigade, and has a history in Ta'izz. In 2011, Ali Abdullah Saleh (YEi.003) named al-Dhaban commander, 33rd armoured brigade (he was previously Commander, 107th Mechanised Brigade), where he reacted violently to protests against Saleh's rule. As a result, under President Hadi, the 33rd Armoured Brigade was transferred to Baydha'. However, on 6 June 2015 President Hadi fired al-Dhaban.

⁸⁶ The Panel is uncertain if al-Shiraji remains in Ta'izz. He was in the city as late as mid-November, but has since been named an 'adviser' to the Ministry of Defence and is no longer Axis Commander in Ta'izz, a position he took up on 15 January 2016.

⁸⁷ al-Hamadi does not have control over the entire brigade as it is split between forces loyal to President Hadi (35th Armoured Brigade) and forces loyal to the Houthis-Saleh alliance (35th armoured brigade).

<i>Ser</i>	<i>Name</i>	<i>Position</i>	<i>Remarks</i>
5	Sadiq al-Sarhan	Government Commander, 22 nd Armoured Brigade, Republican Guard ⁸⁸	President Hadi appointed.
6	Abd al-Rahman al-Shamsani	Commander, 17 th Infantry Brigade ⁸⁹	President Hadi appointed.
7	Abd al-Walid Sarhan	Official in the Political Security Organization	
8	Nabil al-Maqrani	Colonel, 35 th Armoured Brigade	

Table 33.4
Prominent “Popular Resistance” figures on the Ta’izz front⁹⁰

<i>Ser</i>	<i>Name</i>	<i>Position</i>	<i>Remarks</i>
1	Adil Abdu Farea (Abu al- Abbas) ⁹¹	Salafi commander	Most powerful Resistance figure.
2	Hamud Said al-Mikhlafi	Former Brigadier General in the Political Security Organization (PSO)	Has lost funding and power in 2016
3	Muhammad Ibrahim al- Mikhlafi	Head of Resistance Consultative Council, Mount Sabir	Deputy Director of Police, appointed 1 September 2016
4	Nail al-Adimi	Resistance leader	
5	Abd al-Qawi al-Mikhlafi	Resistance leader, associated with Islah	
6	Abdu Hamud al-Saghir	Resistance leader, western Ta’izz	
7	Nabil al-Wasili ⁹²	Salafi commander	
8	Abu al-Suduq ⁹³	Salafi commander	

⁸⁸ The majority of 22nd armoured brigade is loyal to Saleh.

⁸⁹ The brigade is split between those loyal to President Hadi (17th Infantry Brigade) and those loyal to the Houthis and Saleh (17th infantry brigade) .

⁹⁰ The Panel uses “resistance” to designate forces aligned against the Houthi-Saleh military alliance in Ta’izz. The “resistance” is a loose coalition of militias bound together only by a common enemy. In 2016, Salafis, particularly those under Abu al-Abbas, have become the most powerful individual component to this rather nebulous constellation of groups.

⁹¹ Abu Abbas is the most powerful resistance fighter in Ta’izz. The Panel has documented trips he has taken to Aden in the south, as well as reports of visits to foreign countries. Abu Abbas was born in Ta’izz in 1971. He studied at Dar al-Hadith in Sa’dah before returning to Ta’izz to take part in the fight against Houthi and Saleh forces there. He is a person of interest for the Panel. For more on his background see a two-part interview he gave to al-Medina al-An, which was published in late October 2016. http://www.alwahdawi.net/news_details.php?sid=16867 The Panel believes that it is Abu al-Abbas’ forces that have welcomed AQAP fighters into the conflict in Ta’izz.

⁹² Studied at Dar al-Hadith in Sa’dah.

⁹³ Like Abu al-Abbas and Nabil al-Wasili, Abu al-Suduq studied at Dar al-Hadith in Sa’dah. However, Abu al-Suduq’s fighters have clashed with Abu al-Abbas’ men.

B. Sirwah, Ma'rib

Fighting is also ongoing in Ma'rib, largely between Houthi forces on one side and so-called "popular resistance" forces and troops loyal to President Hadi on the other, including members of the 14th Armoured Brigade.⁹⁴ The fighting has ebbed and flowed throughout the period covered by this report, and on 1 September 2016, the Houthis and the resistance agreed to a prisoner exchange of 12 prisoners each.⁹⁵ The Houthi prisoners released came from several different governorates within Yemen, which illustrates how the group is moving fighters around the country. On 7 October 2016, Major General Abd al-Rabb al-Shadadi, the military commander for the 3rd Military District loyal to President Hadi, was killed.⁹⁶ He was replaced by Major General Adil Hashim al-Qaymiri.⁹⁷ Vice President Ali Muhsin al-Ahmar has also spent a significant amount of time in Ma'rib throughout the second half of 2016.

C. Saudi border

Elements of the Republican Guards loyal to Ali Abdullah Saleh (YEi.003) began fighting on the Saudi border with Jizan and Najran (Saudi Arabia) in late July and early August 2016. Fighting continues in this area, and Houthi-Saleh forces have also launched ballistic missiles into these regions (see annex 42).

D. Nihm, Sana'a

Throughout the period covered by this report, fighting has been ongoing in the Nihm region, just east of Sana'a. Militias loyal to Abdulmalik al-Houthi (YEi.004) and troops loyal to Ali Abdullah Saleh (YEi.003), including the 62nd mechanised infantry brigade from the republican guards,⁹⁸ are allied against militias loyal to President Hadi as well as against regular troops. Much of the fighting has centred on the taking and re-taking of mountains and other strategic points in the region. Additionally, the Saudi Arabia-led coalition continues to strike targets inside the city of Sana'a.

E Other areas

The Panel has also noted fighting in Hajjah, particularly in Midi,⁹⁹ continued clashes in Jawf, and periodic raids and reprisals in Bayda'a. The Saudi Arabia -led coalition continues to strike targets throughout areas held by the Houthis. Abyan, Aden and Hadramawt continue to suffer under AQAP and ISIL attacks.¹⁰⁰

⁹⁴ On 8 September 2016, the Commander of the 14th Armoured Brigade, which used to be part of the Republican Guards, Staff Brigadier General Muhsin al-Daari, was wounded in the fighting. See: <http://www.yemenakhbar.com/yemen-news/490041.html> Most of the 14th Armoured Brigade has sided with President Hadi.

⁹⁵ See annex 24 for a list of the Houthi prisoners exchanged. The panel was unable to confirm the identities of the resistance fighters released.

⁹⁶ At al-Shadadi's funeral, held on 14 October 2016, six days after the Saudi-led coalition attack on Ali al-Rowayshan's funeral in Sana'a, two bombs went off, killing al-Shadadi's older brother, Salim Qasim al-Shadadi, and Lieutenant Muhammad Nasir Murshid Shurif, the Guard Commander for the governorate of Sana'a. See: <http://www.alkhaleej.ae/alkhaleej/page/d50574bd-be7e-4b1c-b5cf-c49b5d9b2ec4>.

⁹⁷ For the Government of Yemen's Military Commanders see annex 31. al-Qaymiri's previous position had been as Inspector General for Yemen's Armed Forces.

⁹⁸ The 62nd mechanised infantry brigade from the republican guards under the command of Major Murad al-Awbali, which is based in Amran, participated in the fighting in Nihm. Al-Awbali is now commander of the Republican Guards, replacing Brigadier General Ali bin Ali al-Ja'ifi, who died on 10 October 2016, from wounds sustained two days earlier in the Saudi Arabia-led coalition attack on a community hall in Sana'a.

⁹⁹ The Panel has received information that Abd al-Khaliq al-Houthi (YEi.001) is leading Houthi forces in this area and that they are fighting alongside elements of the republican guard. Another prominent Houthi figure, Yusif al-Madani, who is married to the daughter of Husayn al-Houthi (deceased 2004) is reportedly active on this front as well.

¹⁰⁰ For a list of major security events in 2016 see annex 32.

Annex 34: Battlefield captured weapons in Houthi or AQAP use (2016)

1. The Panel has identified a number of weapons that were in the possession of individual fighters affiliated with either the Houthis or AQAP. The weapons had been either captured after combat between Saudi Arabia-led coalition and the Houthis or AQAP, or after misdirected air resupply drops by the Saudi Arabia-led coalition. In the longer term the majority of these weapons will be of little use to Houthi or Saleh forces as the ammunition needed does not match the proliferation of weapons captured from the Yemeni national stockpile and now in the possession of Houthi and Saleh forces.

Table 34.1

Summary of tracing requests for weapons identified in possession of Houthi fighters

<i>Weapon Type</i>	<i>Manufacturer State¹⁰¹</i>	<i>User State</i>	<i>Notes / result of tracing request</i>
Glock 19 Gen 4 9 x 19mm self loading pistol	USA		Manufacturer confirmed supply to Yemen.
Instanza, C-90-CR-RB anti-armour rocket launchers	Spain	Saudi Arabia	Manufacturer confirmed supply to Saudi Arabia. No response from Saudi Arabia to Panel enquiry. ¹⁰²
66mm Light Anti Tank Weapon (LAW)	USA	Saudi Arabia	No tracing request sent as: 1) Saudi Arabia known to be a user of this weapon type; and 2) over ten years old.
LRT-3 SWS 12.7mm sniper rifle	Canada	Saudi Arabia	Manufacturer confirmed supply to Saudi Arabia. No response from Saudi Arabia to Panel enquiry.
SSTI Kinetics, AR 80 5.56mm Assault Rifle	Singapore		The weapon with this serial number was initially supplied to Yugoslavia in December 1990, but this is not that weapon, it is a copy. ¹⁰³
Steyr AUG 5.56mm Assault Rifle	Austria	Saudi Arabia	No tracing request sent as: 1) Saudi Arabia known to be a user; and 2) no serial number visible.

¹⁰¹ The Panel is not implying that for this enquiry that any of these Member States have acted in violation of the targeted arms embargo on Yemen imposed by resolution 2216 (2015). The Panel's tracing requests were aimed at better understanding how weapons are being smuggled into Yemen for the benefit of individuals listed by the Security Council Committee established pursuant to resolution 2140 (2014) or by other individuals subject to the targeted arms embargo.

¹⁰² Panel requests to the Permanent Mission of Saudi Arabia dated 17 June, 8 July and 24 August 2016.

¹⁰³ Letter from Permanent Mission of Singapore dated 17 October 2016.

Table 34.2
Summary of tracing requests for weapons identified in possession of AQAP fighters

<i>Weapon Type</i>	<i>Manufacturer State</i> ¹⁰⁴	<i>User State</i>	<i>Result of tracing request</i>
RPG-32 <i>Nashshab</i> Rocket Launcher	Jordan	Jordan	No response to Panel enquiry. ¹⁰⁵

Figure 34.1
AR80 5.56mm assault rifle (copy)



Figure 34.2
Instanza C-90-CR-RB rocket launcher¹⁰⁶



Figure 34.3
LRT-3 SWS 12.7mm anti-material rifle



Figure 34.4
Glock 19 Gen 4 9 x 19mm Pistol



¹⁰⁴ The Panel is not implying that for this enquiry that any of these Member States have acted in violation of the targeted arms embargo on Yemen imposed by resolution 2216 (2015).

¹⁰⁵ Panel requests to Permanent Mission of 11 April and 8 July 2016.

¹⁰⁶ The manufacturer, Instanzla S.A confirmed that they had supplied this ammunition to a member State of the Saudi Arabia-led coalition. The possession by the Houthi is as a result of a misdirected airdrop by the Saudi Arabia-led coalition.

Figure 34.5
Steyr AUG Assault Rifle¹⁰⁷



Figure 34.6
RPG-32 'Nashshab'¹⁰⁸



Figure 34.7
66mm LAW



¹⁰⁷ Confidential source.

¹⁰⁸ Hoplite Report. *Ansar-al-Sharia with RPG-32 rocket launcher in Yemen*. Armament Research Services (ARES). 30 March 2016. <http://armamentresearch.com/tag/hashim/>.

Annex 35: Images of maritime seizures

A. FV Nasir (25 Sep 2015)¹⁰⁹

Figure 35.1
9M113 Konkurs ATGW



Figure 35.2
9M113 Konkurs ATGW



B. FV Samer (27 Feb 2016)¹¹⁰

Figure 35.3
SA93 Assault Rifle



Figure 35.4
Type 56 variant Assault Rifle



Figure 35.5
RPG 7 variant



Figure 35.6
AIM Assault Rifle



¹⁰⁹ Imagery from Government of Australia.

¹¹⁰ Ibid.

Figure 35.7
AKM Assault Rifle



Figure 35.8
PKM Machine Gun



C. Unnamed dhow (20 Mar 2016)¹¹¹

Figure 35.10
AKM variant Assault Rifle



Figure 35.11
Dragunov variant Sniper Rifle



Figure 35.12
9M133 Kornet or Dehlayvah variant ATGW



D. FV Adris (28 Mar 2016)

No images as yet supplied by the US Government.

¹¹¹ Images from confidential sources.

Annex 36: Land route smuggling seizures

A. Weapon types in Houthi possession

Weapons that were known to be not part of the Yemen national stockpile,¹¹² or on issue to the Yemen Armed Forces at the onset of conflict, have been identified as being used by the Houthis. The Panel considers that those weapons summarised in Table 36.1 originated in Iran, but as yet has no details of the supply chain used. (See annex 38 for further details).

Table 36.1
Summary of Iranian origin weapons types

<i>Weapon Type</i>	<i>Original Supplier to Iran¹¹³</i>	<i>Result of tracing request</i>
Type 73 General Purpose Machine Gun	DPRK ¹¹⁴	No response to Panel enquiry. ¹¹⁵
AM-50 anti-material rifle (AMR) ¹¹⁶	Iran manufacture	No response to Panel enquiry. ¹¹⁷

B. Seizure of smuggled weapons in transit to Houthi-Saleh alliance controlled areas

The Panel has identified a range of weapons (table 36.2) seized, mostly on Omani registered vehicles that on traffic routes leading to Houthi-Saleh alliance controlled territory. The Panel considers that the weapons were destined for Houthi or Saleh forces, as there would be no other credible end user in their respective territory.

Table 36.2
Summary of seizures of smuggled weapons in transit to Houthi-Saleh alliance controlled areas

<i>Date</i>	<i>Location</i>	<i>Seizure</i>	<i>Vehicle registration</i>
19 Jul 2015	Thamoud, Hadramawt	36 vehicle radios 360 personal radios	Yemeni plate 590/11
Sep 2016	Safgir, Ma'rib	RPG 27 variant ¹¹⁸	
18 Sep 2016	Ma'rib	Ammunition type not known	Omani licence plates
28 Sep 2016	Ma'rib	ATGW and 122mm FFR	Omani licence plates
8 Oct 2016	Lahj	Ammunition type not known	
18 Oct 2016	Shehn, Ma'rib	24+ x ATGW	

¹¹² Sources: 1) Janes' Weapons; 2) Janes' Military; 3) UN Conventional Arms Register; 4) SIPRI Annual Military Expenditure reports.

¹¹³ The Panel is not implying that for this enquiry any of these Member States have acted in violation of the targeted arms embargo on Yemen imposed by resolution 2216 (2015). The Panel's tracing requests were aimed at better understanding how weapons are being smuggled into Yemen for the benefit of individuals listed by the Security Council Committee established pursuant to resolution 2140 (2014) or by other individuals subject to the targeted arms embargo.

¹¹⁴ Democratic Peoples Republic of Korea.

¹¹⁵ Panel requests to Permanent Mission of DPRK of 23 May and 8 July 2016.

¹¹⁶ This weapon is an unlicensed copy of the Austrian Steyr HS 12.7mm AMR. Steyr supplied 800 weapons to Iran in 2005, after which unlicensed copies began to be manufactured by Defence Industries of Iran (DIO). The weapon has been positively identified as an AM50 as opposed to a Steyr by the unfluted barrel.

¹¹⁷ Panel requests to the Permanent Mission of the Islamic Republic of Iran of 23 May, 8 July and 2 November 2016.

¹¹⁸ Member State confirmed seizure on 28 November 2016.

Figure 36.1
RPG-27, Ma'rib (Sep 2016)



Figure 36.2
'Kornet' or 'Dehlayvak', Ma'rib (28 Sep 2016)



Figure 36.3
Shehn, Ma'rib seizure (18 Oct 2016) – TBC



C. Concealment in transit

Weapon shipments on the land main supply routes identified by the Panel are now well concealed in an attempt to avoid detection. Hidden compartments are being engineered in to the structure of the trailer (see figures 36.4 to 36.6), whilst other simpler concealment methods involve the use of livestock (see figure 36.8). The time taken to load such vehicles suggests that the weapons would more likely be loaded prior to the goods been used to disguise them; this avoids double handling and reduces detection risks.

Figure 36.4
Shehn, Ma'rib (18 Oct 2016)



Figure 36.5
Shehn, Ma'rib (18 Oct 2016)



Figure 36.6
Shehn, Ma'rib (18 Oct 2016)



Figure 36.7
Shehn, Ma'rib (18 Oct 2016)



Annex 37: Use or seizures of ATGW

A. 9M113 ‘Konkurs’ or ‘Tosan’ ATGW

The Panel has investigated seizures of, and identified the use, of Russian manufactured 9M113 ‘Konkurs’ or Iranian manufactured copies, the ‘Tosan’ ATGW as shown in the following imagery.

Figure 37.1
Jizan use (25 Aug 2015) – ‘Konkurs or Tosan’¹¹⁹



Figure 37.2
FV Nasir seizure (24 Sep 2015) – ‘Konkurs’ (Centre Ground)



Figure 37.3
Jizan use (11 Dec 2015) – ‘Konkurs or Tosan’¹²⁰



B. Toophan’ ATGW

The Panel has investigated the seizures of an Iranian manufactured ‘Toophan’ ATGW as shown in the following imagery. This is a copy of the US TOW system.

Figure 37.4
FV Nasir seizure (24 Sep 2015) – ‘Toophan’ (Foreground)



¹¹⁹ Source: https://www.youtube.com/watch?v=R_RUgRtpUKc.

¹²⁰ Source: 151211 VID-16151211-WA0029 1-29.

C. 9M133 ‘Kornet’ or ‘Dehlavyah’ ATGW

The Panel has investigated seizures, or identified the use, of Russian manufactured 9M122 ‘Kornet’ or Iranian manufactured copies, the ‘Dehlavyah’ ATGW as shown in the following imagery.

Figure 37.5
Ta’izz seizure (29 Nov 2015) – ‘Kornet’ or ‘Dehlavyah’



Figure 37.6
FV No Name seizure (20 Mar 2016) – ‘Kornet’ or ‘Dehlavyah’



Figure 37.7
Ma’rib seizure (28 Sep 2016) – ‘Kornet’ or ‘Dehlavyah’



Figure 37.8
Shehn, Ma’rib seizure (18 Oct 2016) – TBC



Annex 38: Weapons of Iranian origin in Houthi use

A. Type 73 General Purpose Machine Gun

1. The Panel has identified from imagery a weapon with characteristics similar to the Democratic Peoples Republic of Korea (DPKR) manufactured Type 73 General Purpose Machine Gun (GPMG) being used by Houthi fighters in Yemen.

2. The Type 73 GPMG is a relatively rare weapon outside the manufacturing country. Only Iran is known to have received exports of the weapon (in the 1970s and 1980s). Since then the weapon has been observed in the possession of the Iraqi Shi'a militias (Badr Brigade forces), the al-Imam Ali Brigade and the Christian Babylon Brigades. The Type 73 has also been documented in the hands of the Syrian Arab Army operating near Palmyra, Syria.¹²¹

Figure 38.1

Type 63 GPMG with Houthi fighter¹²²



B. AM-50 Anti Material Rifle

2. The Panel has observed footage of an Iranian manufactured AM-50 anti-material rifle (AMR)¹²³ being used by Houthi fighters in Yemen.

Figure 38.2

AM50 AMR with Houthi fighter¹²⁴



¹²¹ <http://armamentresearch.com/2016/03/>.

¹²² Ibid.

¹²³ This weapon is an unlicensed copy of the Austrian Steyr HS 12.7mm AMR. Steyr supplied 800 weapons to Iran in 2005, after which unlicensed copies began to be manufactured by Defence Industries of Iran (DIO). The weapon has been positively identified as an AM50 as opposed to a Steyr by the unfluted barrel.

¹²⁴ ARES Hoplite. <http://armamentresearch.com/iranian-am50-anti-materiel-rifle-documented-in-yemen/>.

3. A further example of an AM-50 AMR in Houthi hands was provided by a Member State¹²⁵ (figures 38.3 and 38.4).

Figure 38.3
Captured AM50 AMR (Serial 2200076)



Figure 38.4
Captured AM50 AMR (Serial 2200076)



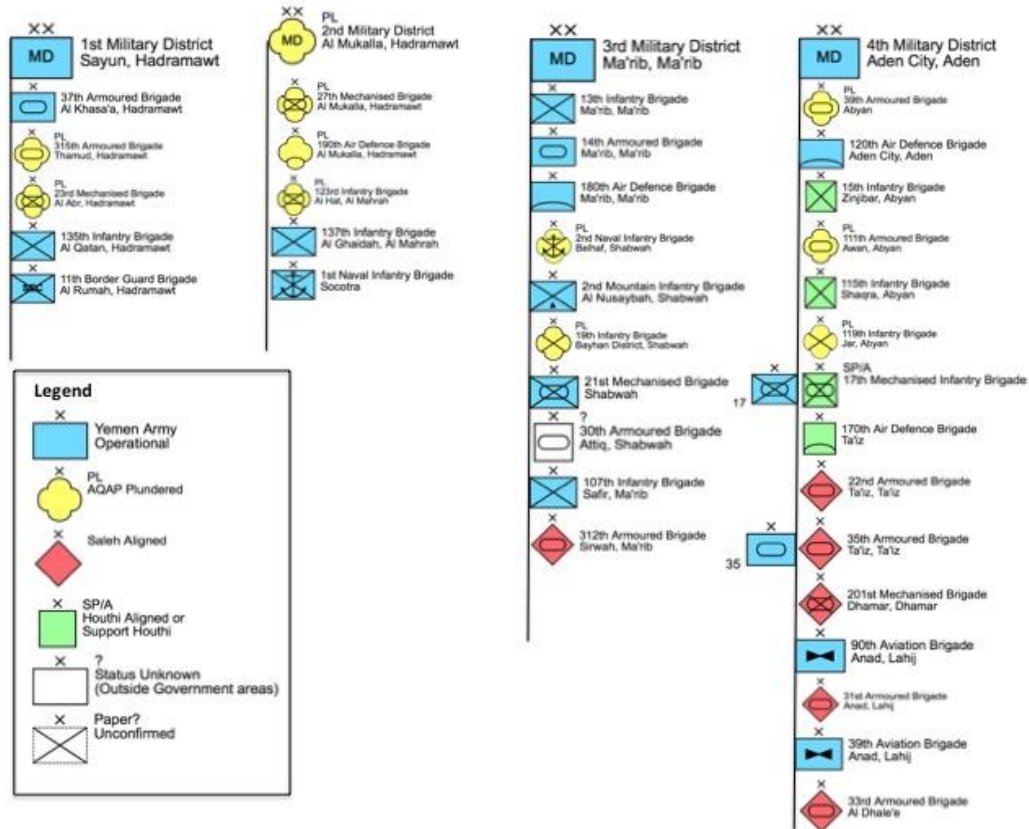
4. Although these weapons are undoubtedly of Iranian origin, the Panel has no evidence to date that they have been supplied post the imposition of the arms embargo on 14 April 2015. Tracing requests were submitted to Iran¹²⁶ and responses are still awaited.

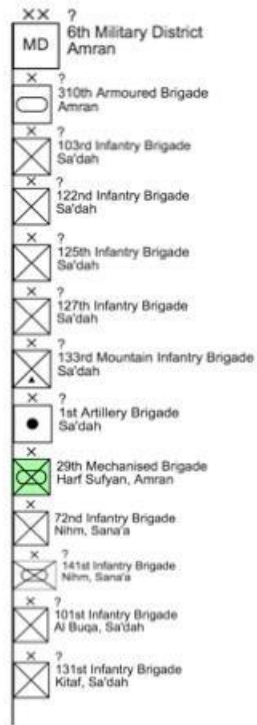
¹²⁵ Confidential source.

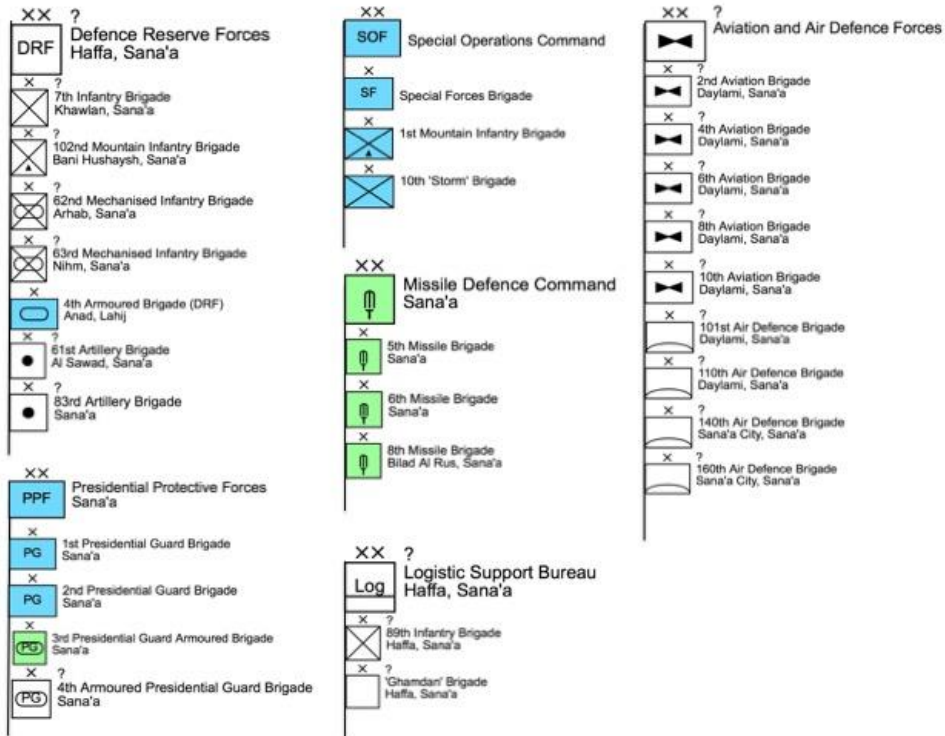
¹²⁶ Panel letters to Permanent Mission of Iran of 11 May, 8 July and 2 November 2016. Panel letters to Permanent Mission of DPRK of 23 May and 8 July 2016.

Annex 39: Possible ORBAT of Yemen Army (as at 30 June 2016) and summary of status of military units

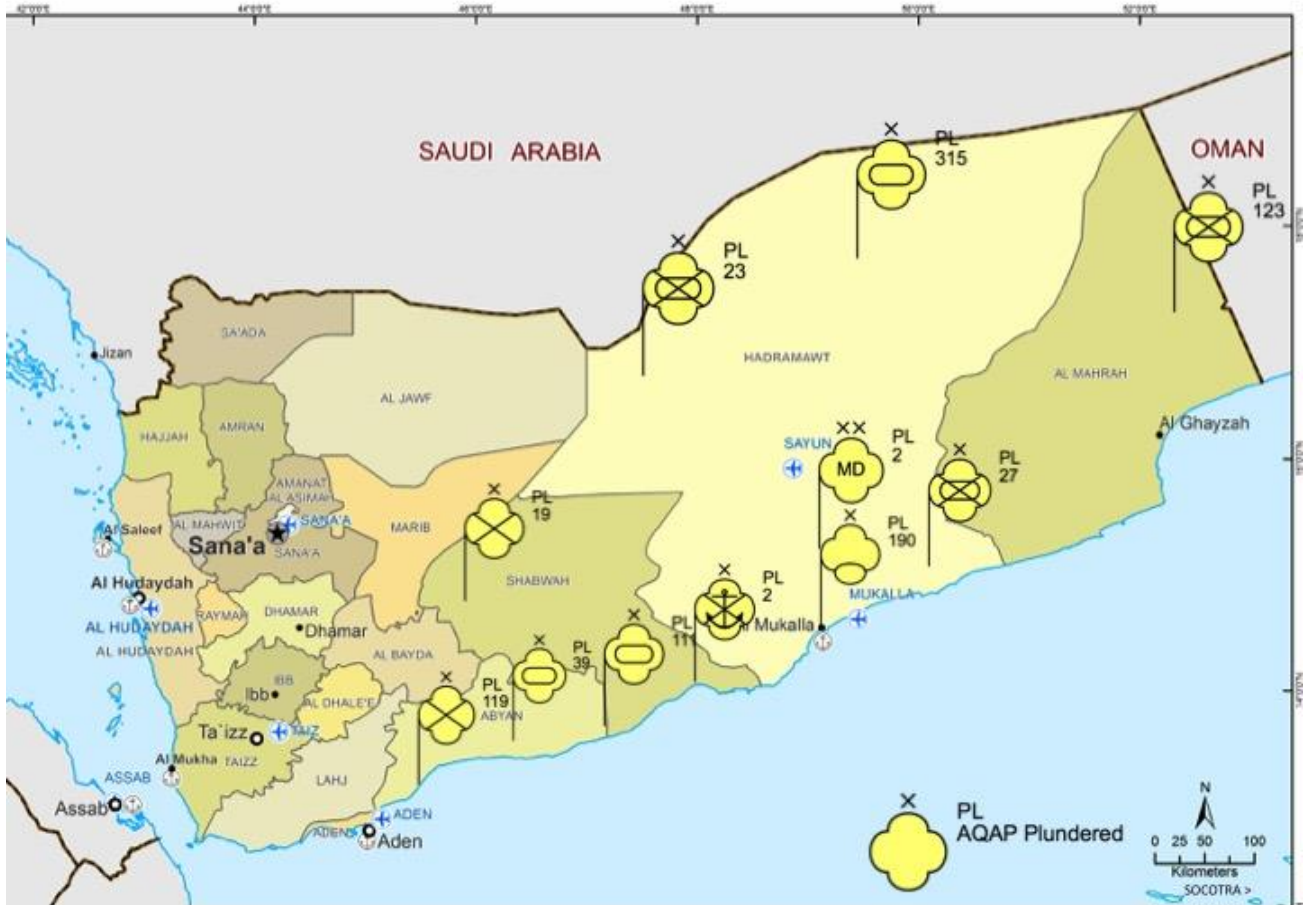
A. Military units by Military District and location



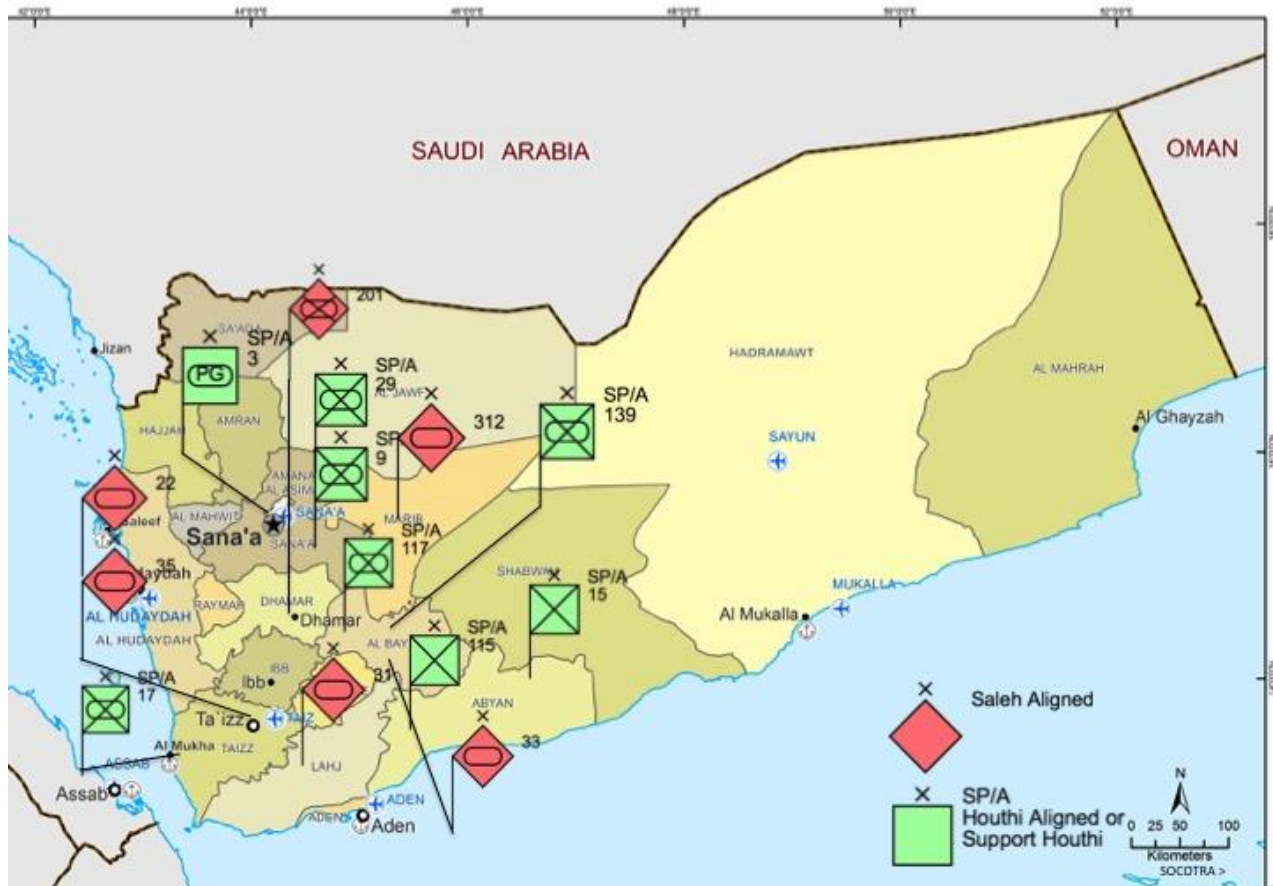




















B. AQAP plundered units



C. AQAP/Houthi plundered units













D. Summary of status of Yemen Armed Force units ¹²⁷

Ser	Probable Status	Unit Type and Quantity															
		HQ Military District 	Mountain Infantry Brigade 	Naval Infantry Brigade 	Presidential Guard Brigade 	Presidential Guard Brigade Amoured 	Border Guard Brigade 	Armoured Brigade 	Mechanised Brigade 	Mechanised Infantry Brigade 	Infantry Brigade 	Special Forces Brigade 	Storm Brigade 	Artillery Brigade 	Missile Brigade 	Air Defence Brigade 	Aviation Brigade 
1	Operational	3	2	1	2		1	3.5	1	0.5	4	1	1			2	2
2	Non-operational (equipment plundered by Houthi) Non-operational (equipment plundered by AQAP)	1	1	1				3	2	0	4					1	
3	Fighting for Houthi-Saleh Alliance					1		4.5	2	3.5	2				3	2	
4	Not Known	3				1	1	2	1	4	12			4		4	5
5	TOTALS	7	3	2	2	2	2	15	6	8	22	1	1	4	3	9	8

¹²⁷ The brigades 'loyal' to both sides are allocated as 0.5.

E. Summary of units¹²⁸ aligned to Saleh, Houthi or plundered by Houthi or AQAP

<i>Probable Status</i>	<i>Unit Type and Quantity</i>									
	<i>HQ Military District</i>	<i>Presidential Guard Brigade</i>	<i>Mountain Infantry Brigade</i>	<i>Naval Infantry Brigade</i>	<i>Armoured Brigade</i>	<i>Mechanised Brigade</i>	<i>Mechanised Infantry Brigade</i>	<i>Infantry Brigade</i>	<i>Artillery Brigade</i>	<i>Missile Brigade</i>
										
Saleh aligned					4	1				
Houthi Aligned		1				1	3	2		
Houthi Plundered							1			
AQAP Plundered	1			1	3	2		3		3
TOTALS	1	1		1	7	4	4	5		3

¹²⁸ This includes the units loyal to both sides.

Annex 40: Summary of black market small arms ammunition prices

Figure 40.1
Graph of Black Market prices (Yemen) (2015 – 2016)

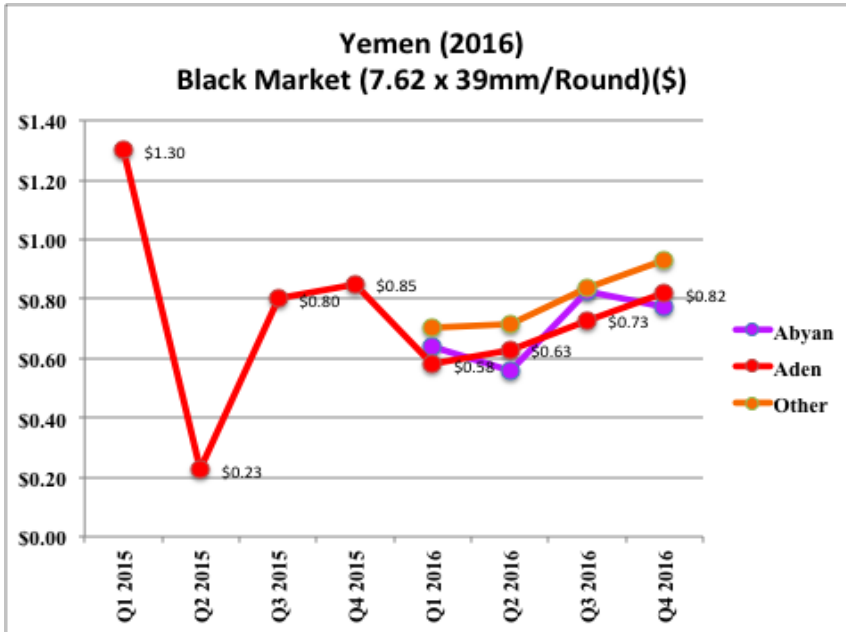


Figure 40.2
Graph of Black Market prices (Aden) (2016)

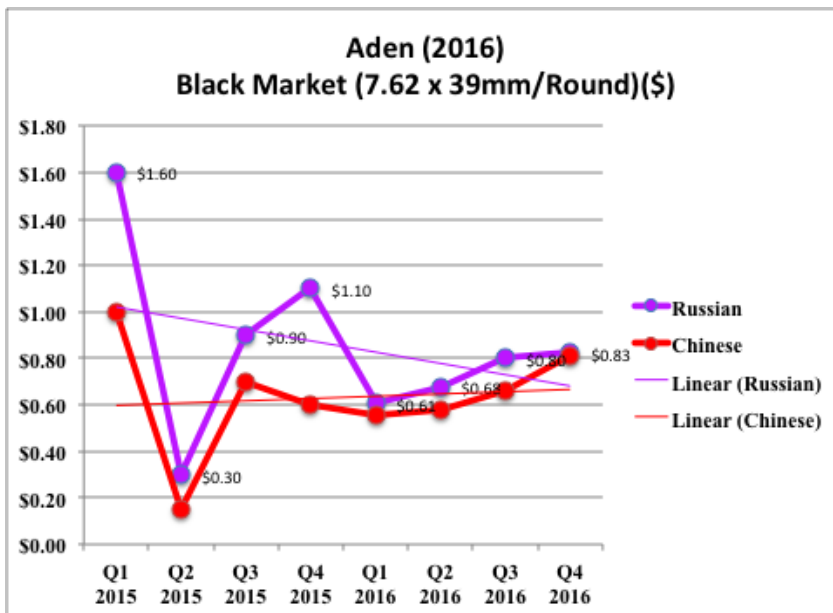


Figure 40.3
 Graph of Black Market prices (Abyan) (2016)

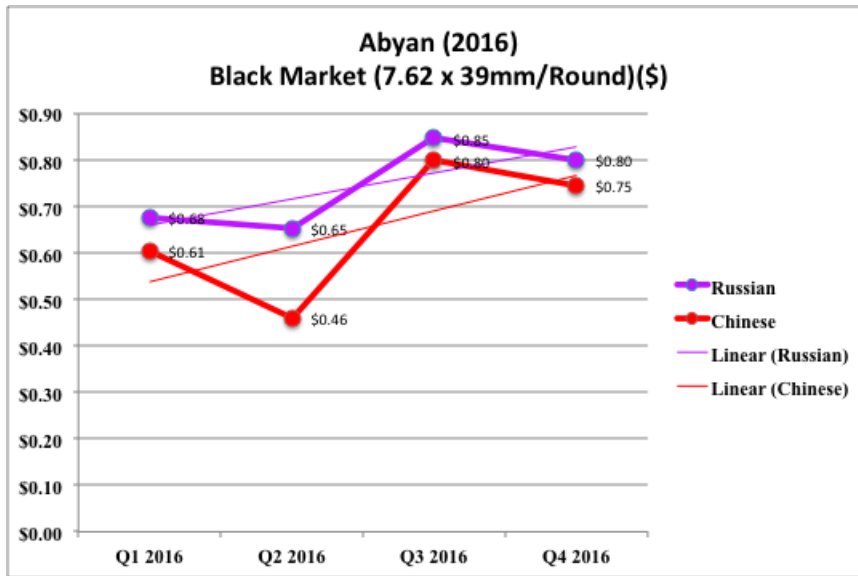
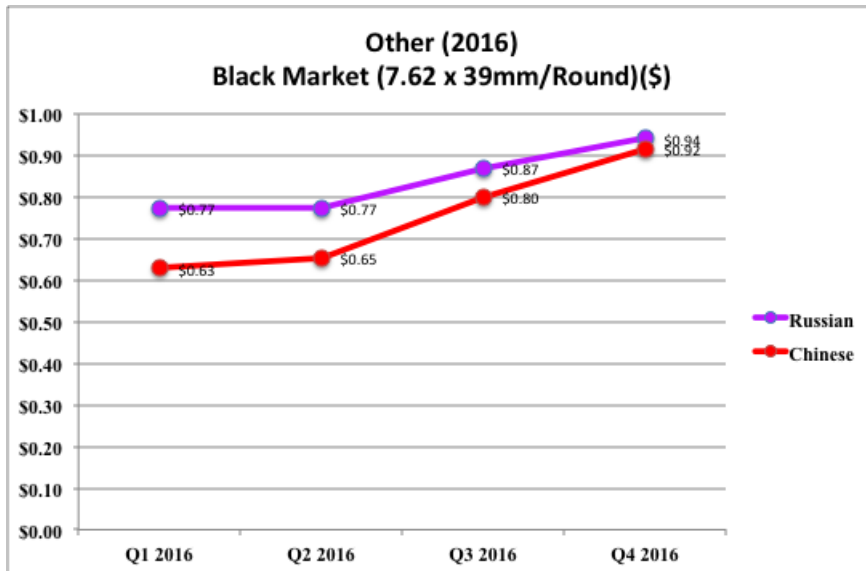


Figure 40.4
 Graph of Black Market prices (Other) (2016)



Annex 41: Transfer of Taurus pistols and revolvers

1. The Panel was provided with initial information¹²⁹ about this arms transfer, and the subsequent investigation has resulted in the Panel obtaining evidence from authorities, organizations or individuals in six countries to date.

2. Negotiations for the sale of 8,000 pistols by Forjas Taurus S.A of Brazil to, supposedly, the Ministry of Defence of Djibouti began before November 2012, when the Chief of the Military Cabinet of the Presidency initially issued an end use certificate.¹³⁰ The Brazilian authorities issued an initial export licence in October 2013, after which funds were transferred to pay for the weapons. The final Brazilian export licences were issued by February 2015.¹³¹ Resolution 2216 (2015) of 14 April 2015 imposed the arms embargo on designated individuals, which is before these weapons were physically shipped on 3 July 2015. Had Taurus Forjas S.A exercised due diligence then they would have identified aspects of this arms purchase that were suspicious in relation to the targeted arms embargo on Yemen (see below), and could have stopped the shipment.

3. The Mediterranean Shipping Company S.A acted as the shipper for 3,000 of the above 8,000 Taurus pistols and revolvers, loaded in Container Number TTNU3603161 on the MV MSC Cadiz (IMO 9480203), which sailed from Santos, Brazil (BRSSZ) on 3 July 2015 destined for Djibouti.

4. On, or about, 24 July 2015 the port authorities of Gioia Tauro, Italy (ITGIT) discovered 3,000 Taurus Pistols in Container Number TTNU3603161. The Italian authorities delayed the onward movement of this ISO-container, as the transit of the cargo had not been notified to the appropriate Italian authorities. Once this issue had been resolved, Container Number TTNU3603161 then departed Gioia Tauro on 27 October 2015, loaded on the MV MSC Savona (IMO 9460356), bound for King Abdullah Port, Saudi Arabia (SAKAC). The Saudi Arabian authorities then seized the shipment under the authority of 'High Decision 51145/2015 of the Council of Political and Security Affairs' as they suspected that the shipment was actually bound for the Houthis via Itkan Assaid Al Mahdoua (Precise Fishing Limited, Djibouti).¹³² Saudi Arabia failed to report this seizure to the Committee as required by paragraph 17 of resolution 2216 (2015).

5. Subsequent investigation by the Panel established that the company actually used for the purchase from Taurus was the Itkan Corporation for General Trading, Yemen (Itkan), owned by Adeeb Mana'a,¹³³ a son of a designated individual Fares Mohammed Hassan Mana'a (SOi.008).¹³⁴ Fares Mohammed Hassan Mana'a is a close associate of Ali Abdullah Saleh (YEi.003),¹³⁵ and a known arms trafficker who was listed by the Security Council Committee pursuant to resolutions 751 (1992) and 1907 (2009) concerning Somalia and Eritrea for directly or indirectly supplying, selling or transferring arms or related material to Somalia in violation of the arms embargo. On 26 March 2011 Fares Mohammed Hassan Mana'a was appointed by Abdulmalik al-Houthi and the Houthi political leadership as the as the Governor of

¹²⁹ Confidential source.

¹³⁰ All documentary evidence and references for this section are contained within the timeline at appendix A.

¹³¹ Detailed timeline is at appendix A.

¹³² The smuggling of Taurus Pistols to Yemen via Djibouti may have precedence. In October 2013 8,000 Taurus weapons were allegedly sent to Al Sharq Fishing and Fish. The shipment was arranged by a designated individual Fares Mohammed Hassan Mana'a (SOi.008) (see paragraph 75 to the Panel's final report S/2016/73 and following footnote). This allegation is the subject of an ongoing court case in Porto Alegre, Brazil against two former employees of Taurus (Eduardo Pezzuol and Leonardo Sperry). The Prosecutors have not charged the company itself. (Sources: Reuters, 5 September 2016, and confidential source in Brazil).

¹³³ Although the Taurus internal Purchase Check List names Hussain Said Khaireh, Director General of Security, Djibouti first, on the same line it also includes Adeeb Mana'a, with a Yemeni E-mail and telephone number.

¹³⁴ Listed under authority of paragraph 8 to resolution 1844 (2008) on 12 April 2010 by the Security Council Committee pursuant to resolutions 751 (1992) and 1907 (2009) concerning Somalia and Eritrea.

¹³⁵ He was the Head of Ali Abdullah Saleh's 'presidential committee' until late January 2010, when Yemeni authorities arrested him.

Sa'dah,¹³⁶ a post he held until December 2014. He is currently a minister in the new '28 November government' of the Houthi-Salah alliance.

6. The Panel identified a number of indicators that are inconsistent with this particular arms transfer being a legitimate arms transfer to the Government of Djibouti:

(a) An end user certificate was issued to support the transfer of 80,000 pistols to the Djibouti Ministry of Defence, yet the Djiboutian Armed Forces, which includes the National Gendarmerie, only consists of 16,000 active personnel and 9,500 reservists.¹³⁷ This is an unusually high number of weapons for such a force level;

(b) The end user certificate authorised the Matrix company, headed by Abddurabuhguhqd Sale Abdo, to import the weapons. Neither the name of this company, nor its head, appear on any other documentation (shipping, financial or legal) relating to this arms transfer. All the relevant documentation refers to the Itkan company and Adeeb Mana'a;

(c) The address used for the Itkan company, Trading Avenue, Djibouti, could not be found in Djibouti. A request to the Government of Djibouti for the registered details of both the Matrix and Itkan companies and their associated bank accounts, has not yet been responded to.¹³⁸ The Government of Djibouti did respond to a previous enquiry from the Panel and confirmed the validity of the end use certification;¹³⁹

(d) On 21 January 2015 Fares Mohammed Hassan Mana'a (SOi.008) entered Brazil at the invitation of Eduardo Pezzuol of Forjas Taurus S.A in relation to arms purchases.¹⁴⁰ This visit is also a violation of paragraph 1 of resolution 1844 (2008) and details have been passed to the Somalia and Eritrea Monitoring Group (SEMG) for their consideration;

(e) There is no logical or reasonable reason that the Government of Djibouti would need to use a Yemeni broker for the supply of weapons to their armed forces. Particularly a broker with close family ties to a designated individual; and

(f) There were unexplained inconsistencies in the detail and dates of the Bill of Lading and the end use certification for this arms transfer (see appendix A for details).

7. The detailed timeline for this arms transfer is at appendix A together with the references of all relevant documentation in the possession of the Panel.

8. The Panel finds it unlikely that this arms transfer was destined for Houthi-Saleh forces due to the types of weapons involved. Pistols and revolvers are personal protection type weapons, which are not generally used in combat. They are very attractive though to the black market in Yemen and elsewhere, where individuals can buy unlicensed weapons for self-protection. They are also ideal for using in criminal acts such as the protection of drug traffickers or armed holdups of banks etc as they are easily concealable.

9. The involvement of Fares Mohammed Hassan Mana'a (SOi.008) and his known relationship to the Houthis makes it possible that the financial aspects of the transfers may have been to the benefit of listed individuals, and the Panel will continue to investigate this aspect.

¹³⁶ <http://yemenpost.net/Detail123456789.aspx?ID=3&SubID=3336>.

¹³⁷ Force level data from <https://janes.ihs.com/Janes/Display/1319215> and others.

¹³⁸ Panel letter to the Permanent Mission of 14 October 2016.

¹³⁹ Letter from the Permanent Mission of 26 September 2016.

¹⁴⁰ Confidential sources. The Federal Court of Brazil has issued a legal notice of proceedings against this individual for this action (Notice 710002418415, Criminal Action: 5033103-42,2015.4.04.7100/RS).

10. The modus operandi of the transfer, using his son Adeeb Mana'a and a Djibouti end user, was designed to circumvent normal security and customs controls. The transfer was only prevented by the diligence of the Saudi Arabian authorities.

Appendix A to Annex 41: Timeline of Forjas Taurus S.A. (Brazil) export of pistols and revolvers

Table 41.A.1
Transfer timelines

<i>Date</i>	<i>Activity</i>	<i>Reference</i> ¹⁴¹	<i>Responsible</i>	<i>Remarks</i>
3 Nov 2012	EUC issued for 80,000 (Eighty Thousand) pistols and revolvers	123/PRE/CMPR	Chief of the Military Cabinet, Djibouti	
4 Nov 2012	EUC issued for 80,000 pistols and revolvers	123/PRE/CMPR	Chief of the Military Cabinet, Djibouti	Correction of calibre of one weapon type. Specifies import agent as Abddurabuhgad Sale Abdo of Matrix company. Expired 31 Dec 13
14 Oct 2013	Brazilian Export Licence issued for 1,000 Taurus PT 24/7 G2 9mm 17t Tenox Pistols	788/2013-October	MOD Brazil	MOD Brazil export process 200.414.2013 Expired before shipment
14 Oct 2013	Brazilian Export Licence issued for 1,000 Taurus PT 24/7 G2 9mm 17t Individual Pistols	788/2013-October	MOD Brazil	MOD Brazil export process 200.414.2013 Expired before shipment
14 Oct 2013	Brazilian Export Licence issued for 500 Taurus PT 24/7 G2 Compact 9mm 17t Tenox Pistols	788/2013-October	MOD Brazil	MOD Brazil export process 200.414.2013 Expired before shipment
14 Oct 2013	Brazilian Export Licence issued for 500 Taurus PT 24/7 G2 Compact 9mm 17t Individual Pistols	788/2013-October	MOD Brazil	MOD Brazil export process 200.414.2013 Expired before shipment
14 Oct 2013	Brazilian Export Licence issued for 2,000 Taurus Model 85s 0.38" SPL Revolvers	788/2013-October	MOD Brazil	MOD Brazil export process 200.414.2013 Broker named as Adeeb Mana'a, Itkhan Company for Hunting Expired before shipment
14 Oct 2013	Initial Brazilian Export Licence issued for 1,000 Taurus Model 939 0.22" LR Revolvers	788/2013-October	MOD Brazil	MOD Brazil export process 200.414.2013 Broker named as Adeeb Mana'a, Itkhan Company for Hunting Expired before shipment

¹⁴¹ Copies of all referenced documents are in the possession of the Panel and available for inspection by Member States on request.

<i>Date</i>	<i>Activity</i>	<i>Reference</i>	<i>Responsible</i>	<i>Remarks</i>
18 Nov 2013	US\$ 45,960 transferred from International Commercial Bank Djibouti (Account: 000010200451761) to Citibank, New York (Account 36942067)		Itkhan Corporation	Origin bank account in name of Itkhan Corporation for General Trading and Hunting, Trading Avenue, Djibouti Receiving bank in name of Forjas Taurus S.A
18 Nov 2013	US\$ 247,950 transferred from International Commercial Bank Djibouti (Account: 000010200451761) to Citibank, New York (Account 36942067)		Itkhan Corporation	Origin bank account in name of Itkhan Corporation for General Trading and Hunting, Trading Avenue, Djibouti Receiving bank in name of Forjas Taurus S.A
3 Dec 2013	US\$ 249,950 transferred from International Commercial Bank Djibouti (Account: 000010200451761) to Citibank, New York (Account 36942067)		Itkhan Corporation	Origin bank account in name of Itkhan Corporation for General Trading and Hunting, Trading Avenue, Djibouti Receiving bank in name of Forjas Taurus S.A
23 Dec 2013	Invoice issued by Taurus for 1,000 PT 24/7 G2 9mm CAL17S Pistols (Black Tenifer with additional magazines)	200411	Forjas Taurus S.A.	USD 290,430.60 Made out to Djibouti Ministry of Defence
23 Dec 2013	Invoice issued by Taurus for 1,000 Model 959CH 22L Revolvers	200415	Forjas Taurus S.A.	USD 227,565.00 Made out to Djibouti Ministry of Defence
23 Dec 2013	Invoice issued by Taurus for 1,000 PT 24/7 G2 Compact 9mm 13S Pistols (Black Tenifer and Matt with additional magazines)	200416	Forjas Taurus S.A.	USD 288,901.85 Made out to Djibouti Ministry of Defence
26 Dec 2013	Brazilian Export Licence issued for 1,000 Taurus Model 939 0.22LR Revolvers	1010/2013-December	MOD Brazil	MOD Brazil export process 200.415.2014
26 Dec 2013	Brazilian Export Licence issued for 2,000 Taurus Rev .85S 0.38: Special Revolvers	1012/2013-December	MOD Brazil	MOD Brazil export process 200.413.2014
26 Dec 2013	Brazilian Export Licence issued for 1,000 Taurus PT 24/7 G2 9mm 17t Carbono Tenox Pistols	1013/2013-December	MOD Brazil	MOD Brazil export process 200.414.2014
26 Dec 2013	Brazilian Export Licence issued for 1,000 Taurus PT 24/7 Pistols	1015/2013-December	MOD Brazil	MOD Brazil export process 200.414.2014

<i>Date</i>	<i>Activity</i>	<i>Reference</i>	<i>Responsible</i>	<i>Remarks</i>
Undated	Extension for EUC for 80,000 pistols and revolvers granted	123/PRE/CMPR	Chief of the Military Cabinet, Djibouti	Valid until 31 Dec 15
14 Jan 2014	US\$ 144,950 transferred from International Commercial Bank Djibouti (Account: 000010200451761) to Citibank, New York (Account 36942067)		Itkhan Corporation	Origin bank account in name of Itkhan Corporation for General Trading and Hunting, Trading Avenue, Djibouti Receiving bank in name of Forjas Taurus S.A
13 Mar 2014	34 boxes of weapons leave Brazil on Emirates Airlines air cargo. 1,000 x PT 24/7 G2 9mm CAL 17s Black Tenifer Pistols	Embarkation Certificate 4224 Airway Bill 176 8071 1680	Amazon Logistics	ETA Djibouti 15 Mar 14
13 Mar 2014	34 boxes of weapons leave Brazil on Emirates Airlines air cargo. 1,000 x PT 24/7 G2 9mm CAL 17s Black Tenifer Pistols	Embarkation Certificate 4224 Airway Bill 176 0343 3210	Amazon Logistics	ETA Djibouti 15 Mar 14
16 Apr 2014	34 boxes of weapons leave Brazil on Emirates Airlines air cargo. 1,000 x PT 24/7 Pistols	Embarkation Certificate 4272	Amazon Logistics	ETA Djibouti 22 Apr 14
21 Jan 2015	Fares Mohamed Hassan Mana'a (SOi.008) enters Brazil at invitation of Eduardo Pezzuol of Forjas Taurus S.A.	Confidential source		Referred to the 751(1992) Committee Monitoring Group as a potential violation of a travel ban.
28 Jan 2015	Brazilian Export Licence issued for 2,000 Taurus Model 85s 0.38" Pistols (Serial Numbers GZ75481 to GZ77480)	040/2015-January	MOD Brazil	MOD Brazil export process 200.414.2013 Replaced 14 Oct 13 export authority
27 Feb 2015	Brazilian Export Licence issued for 1,000 Taurus Model 939 0.22" Pistols (Serial Numbers GZ72481 to GZ73480)	072/2015-February	MOD Brazil	MOD Brazil export process 200.414.2013 Replaced 14 Oct 13 export authority
27 Jun 2015	Bill of Lading issued for 40 boxes of revolvers for Container TTNU3603361	MSCUZS275155	MSC S.A	Issued in Gioia Tauro prior to vessel leaving Brazil
4 Jul 2015	MSC Cadiz (IMO 9480203) departs Santos, Brazil (BRSSZ) with Container TTNU3603161			

<i>Date</i>	<i>Activity</i>	<i>Reference</i>	<i>Responsible</i>	<i>Remarks</i>
24 Jul 2015	Second Bill of Lading issued for 40 items	MSCUZS275155	Mediterranean Shipping do Brazil	Retrospectively by MSC Brazilian Agent For 1 x 20' ISO – No mention of weapons
24 Jul 2015	MSC Cadiz offloads Container TTNU3603161 in Port Gioia Tauro, Italy (ITGIT)		Italian Customs	
25 Jul 2015	Italian Customs Agency and Guardia Finanzia confiscate Container TTNU3603161 pending investigation	Criminal procedure 2249/2015 mod.21	Italian Customs	Transit of weapons had not been notified to the competent agency
9 Oct 2015	Djibouti MOD declaration to Italian Customs that the shipment is for MOD Djibouti		Chief of the Military Cabinet	
27 Oct 2015	MSC Savana (IMO 9460356) departs Port Gioia Tauro, Italy with Container TTNU3603161		MSC	
1 Nov 2015	MSC Savana arrives Port King Abdullah, Saudi Arabia (SAKAC)		MSC	
1 Nov 2015	Saudi authorities seize Container TTNU3603161 pending investigation	DG Intelligence High Decision 51145	Saudi Arabia	Weapons remain in Saudi custody
4 Nov 2015	Brazilian authorities seize hardware and documentation from Taurus.		Brazilian Federal Police	
9 May 2016	Federal Court in Brazil issue a legal notice of proceedings against Eduardo Pezzuol and Fares Mohamed Hassan Mana'a (SOi.008) 24 Jul 15.	Notice 710002418415 Criminal Action: 5033103-42,2015.4.04.7100/RS	Brazil Federal Court	Case ongoing

Annex 42: Summary of Houthi¹⁴² short-range ballistic missile (SRBM) or free flight rockets (FFR)

A. QAHER-1 FFR

1. Houthi engineers have successfully modified stocks of (S-75 'Dvina') (SA-2 'Guideline') Surface to Air (SAM) missiles, converting them into a rudimentary, improvised long range FFR.¹⁴³ The Panel considers that two factors determined this activity:

(a) The stockpile¹⁴⁴ of SCUD-B and SCUD-C variant (HWASONG-6) SRBM captured by the Houthi around Sana'a was relatively small. It could soon be used up, or destroyed by retaliatory Saudi Arabia-led coalition air strikes; and

(b) The Houthi realized that the S-75 SAM systems were ineffective against the advanced aircraft of the Saudi Arabia-led coalition air forces and could be converted for surface-to-surface use as FFR.¹⁴⁵

2. The standard guidance system fitted to the S-75 consists of a ground based tracking radar and radio guidance system, which sends radio signals to the guidance computer on the missile. The guidance computer then sends the necessary adjustments to the guidance surfaces (fins), which then move to alter the course of the missile towards the aerial target. It is highly unlikely that this guidance system has been modified for use in a surface-to-surface role or that a new guidance system has been fitted. The missile is almost certainly being used as a FFR, and the accuracy thus been totally dependent on ballistic calculations, launch parameters and meteorological effects.

3. The ranges of free flight rockets are calculated from complex ballistic equations, combined with extensive test and evaluation to develop a set of range tables. The Panel has seen no evidence that the Houthis have undertaken such research, and thus it must be considered that the accuracy of the QAHER-1 system will be inherently very poor from just the design perspective.

B. SCUD-B SRBM

4. The Panel has confirmed that Yemen was supplied with an unknown quantity of SCUD-B and at least 90 HWASONG-5 (a SCUD-B) copy.¹⁴⁶ There have been no claimed 'SCUD' attacks since 9 October 2016. The Panel will continue to monitor the 'SCUD' threat.

C. Houthi 'ZELZAL-3' SRBM

5. The Houthis have claimed to have designed and manufactured a missile they refer to as the ZELZAL-3 ("earthquake") missile.¹⁴⁷ The Houthis claim this missile is 6m in length, 1,300kg mass and has a range of up to 65km. If this data is correct, then such a missile would have performance characteristics similar to the battlefield free flight rocket the OTR-21 Tochka, known to be in service in Yemen. It would not have the range to threaten the Saudi Arabian cities that the Houthis have claimed to have struck with ZELZAL-3 missiles.

¹⁴² Although a Houthi-Saleh military alliance, it is only the Houthi component that has claimed responsibility for any missile or rocket attacks. Hence this annex refers to Houthi armed groups only.

¹⁴³ They can not be considered as SRBM, as they have no guidance system and their range is less than the 300km to 1,000 km required to be considered a ballistic missile.

¹⁴⁴ The stockpile also included an unknown number of OTR-21 Tochka (NATO SS-21 Scarab) tactical ballistic missiles. As these only have a range of 70km – 185km they do not have the range to attack Saudi Arabia from the Sana'a area. They have been used to attack Saudi-Arabia-led coalition forces within Yemen.

¹⁴⁵ <http://www.tasnimnews.com/en/news/2015/12/22/950631/yemen-adapts-surface-to-air-missile-to-hit-ground-targets>.

¹⁴⁶ Source: Jane's Defence databases.

¹⁴⁷ Al Masdar Online of 11 July 2016 and others.

6. The imagery released by the Houthis though (figure 42.1) does not correlate to their claims in terms of even dimensions. Photogrammetry suggests that the missile in figure 42.1 is no longer than 3m and is similar in design to the 333mm Iranian designed and manufactured Shahin 1 heavy artillery rocket system (HARS) (figure 42.2), which has not been reported as ever exported.

Figure 42.1
Houthi released image of ZELZAL-3¹⁴⁸



Figure 42.2
Image of Shahin 1¹⁴⁹



7. Further analysis of other imagery of this rocket suggests that it is a ‘mock up’ only as there are no indications of any nozzle, or fuze being fitted. The fins appear to have been spot welded to the missile main body, rather than been free to move to enable flight ballistic adjustments.

8. The Iranian Defence Industries Organization (DIO) produce a FFR system called the ZELZAL-3, which is of a significantly different design to that at figure 42.4. The Panel finds it most likely that the Houthi are using the name ZELZAL-3 for the missile displayed for propaganda purposes only.

D. Iranian ZELZAL-3 SRBM

9. There have been some indicators to suggest that the Houthi claim to have this missile type may have some truth in them:

(a) In a letter to the President of the Security Council (S/2016/786) the Kingdom of Saudi Arabia alleged violations of resolution 2216 (2015) by Iran and demanded that the Council take appropriate and necessary measures against those who have violated the relevant resolutions. These allegations included the use of ZELZAL-3 SRBM on 31 August 2016 against the City of Najran. The Panel requested access¹⁵⁰ to any evidence or imagery the Government of Saudi Arabia may have to support this particular allegation, and to date no response has been received. The allegations were also firmly rejected as being “pure fabrications and unsubstantiated allegations” in a response by the Permanent Representative of Iran to the President of the Security Council (S/2016/187);

¹⁴⁸ Jonothan Azaziah. *All Hail Ansarullah's Ingenuity: Zelzal-3 Ballistic Missile is Crushing Saudi Forces*. Mouqawama. 11 July 2016. <http://mouqawamahmusic.net/all-hail-ansarullahs-ingenuity-new-zelzal-3-ballistic-missile-is-crushing-saudi-forces/>.

¹⁴⁹ Janes' Weapons.

¹⁵⁰ Panel letter of 3 October 2016.

(b) Missile attacks on Saudi Arabia on 31 August and 4 October were specifically referred to by the Houthis as being by ZELZAL-3 SRBM. Previously they had attributed attacks to either SCUD or QAHER-1.

10. If the Houthis have gained access to ZELZAL-3 then this would likely have been a violation of the targeted arms embargo, as no missile types of this type were known to have been in the pre-conflict stockpile of the Yemeni Armed Forces Missile Brigades.

11. Notwithstanding this analysis though, the Panel believes that it is more likely that they do not possess the missiles, but want the people to believe they have this capability, as such a technical threat would maintain the strategic pressure being exerted on Saudi Arabia by the Houthi ‘missile campaign’. Figure 42.3 shows a missile claimed to be a ZELZAL-3 by the Houthis, whereas figure 42.4 shows a real Iranian version.

Figure 42.3
Houthi released image of ZELZAL-3¹⁵¹



Figure 42.4
Iranian ZELZAL-3¹⁵²



E. SOMOD FFR

12. The Houthis have also claimed to have manufactured and designed a missile they refer to as the SOMOD (a.k.a SOMOUD) (“Steadfastness”). Imagery though shows a rocket very similar to that they claim as the ZELZAL-3 (see section C).

¹⁵¹ Jonothan Azaziah. *All Hail Ansarullah's Ingenuity: Zelzal-3 Ballistic Missile is Crushing Saud Forces*. Mouqawama. 11 July 2016. <http://mouqawamahmusic.net/all-hail-ansarullahs-ingenuity-new-zelzal-3-ballistic-missile-is-crushing-saudi-forces/>.

¹⁵² Janes' Weapons.

Figure 42.5
Houthi released image of SOMOD



Figure 42.6
Houthi released image of SOMOD



13. Analysis of the imagery of this rocket leads the Panel to the same conclusions as made for the Houthi claimed 'ZELAL-3'. It is a 'mock up' only as there are no indications of any nozzle, or fuze being fitted. The fins appear to have been spot welded to the missile main body, rather than been free to move to enable flight ballistic adjustments. The nose appears possibly to have been blackened by the addition of plastic adhesive tape.

14. The Panel made some ballistic estimates for the range of such a rocket (see appendix A), which used 'best case' data and still the maximum likely range would be no more than 44km.

F. Systems accuracy for the free flight rockets

15. The Circular Error Probability (CEP) is a measure of a weapon system's precision or accuracy. It is defined as the radius of a circle, centred about the mean, whose boundary is expected to include the landing points of 50 per cent of the warheads. Thus theoretically 50% of munitions will land within one CEP, 93.7% within two CEP and 99.8% within three CEP. In reality the CEP is an elliptical confidence region for indirect fire weapons such as FFR, and accuracy thus even more difficult to predict.¹⁵³ The CEP is heavily influenced by the missile guidance system for guided weapons. Accuracy will be further degraded by operational factors such as: 1) wind strength and direction along flight path; 2) mis-alignment or mis-orientation of the launcher from the target; 3) propellant age and degradation within the missiles; 4) launcher vibration; and 5) thrust misalignment due to damage to the rocket.

G. International humanitarian law aspects

16. FFR are specifically designed to be an area weapon, as precision accuracy cannot be guaranteed. Since the blast and fragmentation danger areas are primarily based on the size and design of the explosive warhead, its likely impact on civilians is often foreseeable, especially when directed at a civilian populated areas.¹⁵⁴ Its effects, depending on the circumstances, may violate IHL principles relating to the prohibition on indiscriminate attacks.¹⁵⁵

H. Summary of technical data for Houthi possible missile and rocket types

Table 42.1 also includes explosives engineering analysis that predicts the blast danger areas for humans. Many more fatalities and injuries from fragmentation effects can be expected at far greater ranges though.

¹⁵³ More detailed information on CEP and accuracy of free flight rocket systems may be found in *Cross K et al. Explosive Weapons in Populated Areas – Technical considerations relevant to their use and effects.* pp.28–34. Armament Research Services. Australia. May 2016.

¹⁵⁴ OCHA Report "Protecting Civilians from the Use of Explosive Weapons in Populated Areas" at https://docs.unocha.org/sites/dms/Documents/EWIPA_Fact_Sheet_-_Latest.pdf.

¹⁵⁵ See ICRC Customary IHL Study Rule 11 and 12.

Table 42.1:
Summary of possible Houthi missile types

<i>FFR/SRBM type</i>	<i>Length (m)</i>	<i>Diameter (m)</i>	<i>Range (km)</i>	<i>Warhead NEQ¹⁵⁶ (kg)</i>	<i>CEP (m)</i>	<i>Permanent hearing damage (m) (@34.5kPa)</i>	<i>99% fatalities (m) (@1,380kPa)</i>	<i>Remarks</i>
QAHER-1	10.84	0.50	250	190	NK	8.2	10.5	Modification of S-75 "Dvina". Unmodified maximum range is 56km.¹⁵⁷
Tochka 9K79 OTR-21	6.4	0.65	185	482	150	73.7	14.4	
SCUD-B	11.25	0.88	300	985	450	93.5	18.2	
Hwasong 5	10.94	0.88	300	985	450	93.5	18.2	DPRK SCUD-B copy 90 supplied to Yemen
<i>Shahab 1</i>	<i>10.94</i>	<i>0.88</i>	<i>300</i>	<i>985</i>	<i>450</i>	<i>93.5</i>	<i>18.2</i>	<i>Iran Hwasong 5 copy Not confirmed if any supplied to Yemen</i>
SCUD-C	11.25	0.88	700	600	600	79.9	15.5	
<i>Hwasong 6</i>	<i>10.94</i>	<i>0.88</i>	<i>500</i>	<i>770</i>	<i>1,000</i>	<i>86.3</i>	<i>16.8</i>	<i>DPRK SCUD-C copy Not confirmed if any supplied to Yemen</i>
<i>Rodong 1</i>	<i>15.60</i>	<i>1.25</i>	<i>1000+</i>	<i>770</i>	<i>1,000</i>	<i>86.3</i>	<i>16.8</i>	<i>DPRK SCUD-C copy See Shabab 3</i>
<i>Shabab 2</i>	<i>10.94</i>	<i>0.88</i>	<i>500</i>	<i>770</i>	<i>700</i>	<i>86.3</i>	<i>16.8</i>	<i>Iran Hwasong 6copy Not confirmed if any supplied to Yemen</i>
<i>Shabab 3</i>	<i>15.60</i>	<i>1.25</i>	<i>1000+</i>	<i>770</i>	<i>1,000</i>	<i>86.3</i>	<i>16.8</i>	<i>Iran Rodong-1 copy Not confirmed if any supplied to Yemen</i>
SCUD-D	12.29	0.88	700	985	50	93.5	18.2	
Borkan-1 (Volcano)	12.50	0.88	800	500		74.6	14.5	
ZELZAL-3 (Iranian)	9.60	0.61	250	600	1,300	79.9	15.5	Reported warhead NEQ, but not confirmed
ZELZAL-3 (Houthi)	6.00		65		300			
SOMOUD	4.00	0.56	38	300		63.0	12.3	Reported but not confirmed

¹⁵⁶ Net Explosive Quantity.

¹⁵⁷ Letter from Permanent Mission of the Russian Federation of 29 December 2016.

I. Summary of reported Houthi SRBM and FFR attacks against Saudi Arabia

Table 42.2 is a summary of reported Houthi forces SRBM or free flight rocket FFR attacks against Saudi Arabia. The Government of Saudi Arabia has confirmed those shown in bold text.

Table 42.2:
Summary of reported Houthi missile and FFR attacks against Saudi Arabia

Date	Missile type claimed	Target Area			Launch Point (LP) in Yemen			Comments
		Location	Latitude	Longitude	Location	Latitude	Longitude	
16 Jun 2015	SCUD (Borkan-1)							Reported as intercepted and destroyed in flight
26 Aug 2015	SCUD (Borkan-1)	Jazan	16°53'47"N	44°33'26"E				Reported as intercepted and destroyed in flight
26 Aug 2015	QAHER-1	Jazan	16°53'47"N	44°33'26"E	Al Sabeen, Sana'a	15°18'05" N	44°12'54" E	Intercepted and destroyed in flight @30km from Intercept Weapon System (IWS)
15 Oct 2015	SCUD (Borkan-1)	Khamis Mushayt Airport	18°18'19"N	42°44'43"E				
4 Dec 2015	QAHER-1	Jazan Airport	16°53'59"N	44°35'01"E				
9 Dec 2015	QAHER-1	Jazan	16°53'47"N	44°33'26"E				Al-Ain Al-Harreh military base
9 Dec 2015	QAHER-1	Jazan	16°53'47"N	44°33'26"E				Al-Saleh military base
11 Dec 2015	QAHER-1	Al-Jamarak						
13 Dec 2015	QAHER-1	Khamis Mushayt	18°18'17"N	42°43'54"E	Tussen Huthen Sada'a	16°25'40" N	44°08'08" E	KSA confirmed
18 Dec 2015	QAHER-1	Najran	17°33'19"N	44°14'33"E				Impacted east of town
19 Dec 2015	QAHER-1	Najran	17°33'19"N	44°14'33"E				Impacted near museum
19 Dec 2015	QAHER-1	Al-Wawal	16°30'41"N	42°58'24"E		15°23'41" N	44°10'10" E	Border crossing point
20 Dec 2015	QAHER-1	Khamis Mushayt Airport	18°18'19"N	42°44'43"E				
21 Dec 2015	QAHER-1	Jazan	16°53'47"N	44°33'26"E	Geraf, Sana'a	15°23'41" N	44°10'10" E	Intercepted and destroyed in flight @35km from IWS
21 Dec 2015	QAHER-1	Jazan Airport	16°53'59"N	44°35'01"E	NE of Pilots City, Sana'a	15°24'48" N	44°13'05" E	Intercepted and destroyed in flight @20km from IWS
22 Dec 2015	QAHER-1	Jazan Aramco Facility						
23 Dec 2015	QAHER-1	Khamis Mushayt	18°18'19"N	42°44'43"E	Tussen Huthen Sada'a	16°26'05" N	44°03'55" E	KSA confirmed
26 Dec 2015	QAHER-1	Najran	17°33'19"N	44°14'33"E	Al Genadib	15°50'48" N	44°14'05" E	Intercepted and destroyed in flight @21km from IWS
27 Dec 2015	SCUD (Borkan-1)	Najran	17°33'19"N	44°14'33"E				Reported as intercepted and destroyed in flight
27 Dec 2015	QAHER-1	Jazan	16°53'47"N	44°33'26"E				
28 Dec 2015	QAHER-1	Najran	17°33'19"N	44°14'33"E				Reported as intercepted and destroyed in flight
30 Dec 2015	QAHER-1	Jazan Aramco Facility	16°53'47"N	44°33'26"E				Reported as intercepted and destroyed in flight
31 Dec 2015	QAHER-1							Reported as intercepted and destroyed in flight
1 Jan 2016	QAHER-1	Khamis Mushayt	18°18'17"N	42°43'54"E	Dabbaj Valley	16°41'43" N	43°51'51" E	KSA confirmed
7 Jan 2016	QAHER-1	Jazan	16°53'47"N	44°33'26"E		15°00'08" N	44°13'35" E	Intercepted and destroyed in flight @25km from IWS

Date	Missile type claimed	Target Area			Launch Point (LP) in Yemen			Comments
		Location	Latitude	Longitude	Location	Latitude	Longitude	
8 Feb 2016	QAHHER-1	Khamis Mushayt Airport	18°18'19"N	42°44'43"E				
8 Feb 2016	QAHHER-1	Abha	18°14'22"N	42°31'33"E	Tussen Hutn Sada'a	16°25'39" N	44°08'34" E	Reported as intercepted and destroyed in flight
9 Feb 2016	QAHHER-1	Jazan Airport	16°53'59"N	44°35'01"E	East of Sana'a	15°20'50" N	44°02'33" E	Intercepted and destroyed in flight @56km from IWS
13 Feb 2016	QAHHER-1	Abha Airport	18°14'10"N	42°39'29"E	NE of Al Hazm	16°24'23" N	44°04'51" E	Intercepted and destroyed in flight @18km from IES
9 May 2016	QAHHER-1	Khamis Mushayt	18°18'19"N	42°44'43"E	Dabbaj Valley	16°23'52" N	44°05'01" E	Intercepted and destroyed in flight @32km from IWS
9 May 2016	QAHHER-1	Abha	18°14'22"N	42°31'33"E	Tussen Hutn Sada'a	16°40'05" N	43°50'53" E	Intercepted and destroyed in flight @17km from IWS
13 May 2016	QAHHER-1	Jazan	16°53'47"N	44°33'26"E				
20 May 2016	QAHHER-1	Jazan	16°53'47"N	44°33'26"E				
31 May 2016	QAHHER-1							Reported as intercepted and destroyed in flight
06 Jun 2016	SCUD (Borkan-1)	King Khalid Airbase	18°18'23"N	42°47'38"E				Intercepted and destroyed in flight by Patriot PAC-3.
3 Jul 2016	QAHHER-1	Abha	18°14'22"N	42°31'33"E				Reported as intercepted and destroyed in flight
23 Jul 2016	QAHHER-1	Najran	17°33'19"N	44°14'33"E				Reported as intercepted and destroyed in flight
23 Jul 2016	QAHHER-1	Najran	17°33'19"N	44°14'33"E				1 x young female injured, Possible Tochka missile
10 Aug 2016	QAHHER-1	Military Base TBC						Reported as intercepted and destroyed in flight
10 Aug 2016	QAHHER-1	TBC						Reported as intercepted and destroyed in flight
16 Aug 2016	QAHHER-1	Najran	17°33'19"N	44°14'33"E				7 civilians died
19 Aug 2016	QAHHER-1	Khamis Mushayt	18°18'19"N	42°44'43"E				Intercepted and destroyed in flight.
26 Aug 2016	SCUD (Borkan-1)	Jizan Hamiyeh Power Plant ¹⁵⁸	16°52'55"N	42°32'44"E				
31 Aug 2016	Zelzal 3	Najran	17°33'19"N	44°14'33"E				
2 Sep 2016	SCUD (Borkan-1)	King Fahid Airbase	21°28'58"N	40°32'39"E				
10 Sep 2016	SCUD (Borkan-1)	Asir Province						
10 Sep 2016 ¹⁵⁹	SCUD (Borkan-1)	Al Shqaiqh Water Plant	17°39'46"N	42°03'44"E				
12 Sep 2016	SCUD (Borkan-1)	King Khalid Airbase	18°18'23"N	42°47'38"E				Intercepted and destroyed in flight by Patriot PAC-3.
3 Oct 2016	Not Known	Zahrán						
4 Oct 2016	Zelzal 3	Al Montazah						Military base.
8 Oct 2016	QAHHER-1	Khamis Mushayt	18°18'17"N	42°43'54"E				

¹⁵⁸ Alleged launch video at <https://www.youtube.com/watch?v=7BjOgyvwCZc>.

¹⁵⁹ Reported as the fifth SCUD-C attack. <http://www.yemenpress.org/yemen/scud-missile-at-electricity-station-and-water-desalination-in-jazan.html>.

<i>Date</i>	<i>Missile type claimed</i>	<i>Target Area</i>			<i>Launch Point (LP) in Yemen</i>			<i>Comments</i>
		<i>Location</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Location</i>	<i>Latitude</i>	<i>Longitude</i>	
9 Oct 2016	SCUD (Borkan-1)	Taif	21°28'52"N	40°33'07"E				Reported as intercepted and destroyed in flight
20 Oct 2016	Not Known	Jazan	16°53'47"N	44°33'26"E				
20 Oct 2016	Not Known	Najran	17°33'19"N	44°14'33"E				
28 Oct 2016	Not Known	Jeddah or Mecca	21°25'27"N	39°49'35"E				Reported as intercepted and destroyed in flight 65km from target, which is in dispute. Longest range attack to date.
1 Nov 2016	Not Known	Jazan	16°53'47"N	44°33'26"E				
1 Nov 2016	Not Known	Najran	17°33'19"N	44°14'33"E				
1 Nov 2016	Not Known	Asir province						
15 Nov 2016	OTR-21 Tochka	Najran x 2	17°33'19"N	44°14'33"E				Reported as intercepted and destroyed in flight
26 Nov 2016	Not Known	Khamis Mushayt	18°18'17"N	42°43'54"E				Reported as intercepted and destroyed in flight

Appendix A to Annex 42: Ballistic estimates for Houthi 'ZELZAL-3' and 'SOMOD' rockets

Drag Equation				$D = C_d * ((\rho * V * V) / 2) * A$
Cd	Drag Coefficient	No Unit	0.45	ESTIMATE
ρ	Air Density	kg/m ³	1.225	
V	Velocity	m/s	1568.5	From ESTIMATE
V	Velocity	m/s	1737.9	From EXHAUST VELOCITY
A	Cross-sectional Area	m ²	0.2420	
	Calibre	mm	555	
D	Drag	N	164059.16	
Ideal Rocket Equation				
M	Mass Rocket	kg	1000	
Mf	Mass Full Rocket Motor	kg	1000	
Me	Mass Empty Rocket Motor	kg	499	
Mp	Mass Propellant	kg	501	
MR	Propellant Mass Ratio	No Unit	2.004008016	
In MR	Log MR		0.695149183	
SI	Specific Impulse		230	ESTIMATE
SI	Specific Impulse		254.841998	From Exhaust Velocity
t	time	sec	1	
F	Thrust	kg.m.s	1	
Ve _q	Engine Exhaust Velocity		2500	ESTIMATE
g	Gravity	m/s ²	9.81	
V	Velocity	m/s	1568.5	From ESTIMATE
V	Velocity	m/s	1737.9	From EXHAUST VELOCITY
Terminal Velocity				$V_t = (2 * M / (C_d * \rho * A))^{0.5}$
M	Mass Rocket (Burnt Out)	kg	499	
Cd	Drag Coefficient	No Unit	0.45	ESTIMATE
ρ	Air Density	kg/m ³	1.225	
A	Cross-sectional Area	m ²	0.2420	
V _t	Terminal Velocity	m/s	86.5	
V _t	Terminal Velocity	kph	311.4	
Range (with Drag)				$R = (V(0) * V_t * \cos\theta) / g$
V(0)	Initial Velocity	m/s	1568.5	ESTIMATE
V(0)	Initial Velocity	m/s	1737.9	FROM EXHAUST VELOCITY
V _t	Terminal Velocity	M/S	311.4	

θ	Launch Angle	Deg	37	
θ	Launch Angle	RAD	0.645771823	
g	Gravity	m/s ²	9.81	
R	Range (with Drag)	m	39763.2	ESTIMATE
R	Range (with Drag)	m	44058.0	FROM EXHAUST VELOCITY

Annex 43: Improvised explosive device technology

A. Technology

1. Explosive types and commercial detonators

1. Tri-nitro-toluene (TNT) in cast, ground or flake form as the main filling of IEDs is replacing ammonium nitrate - fuel oil (ANFO), although recovered explosive remnants of war (ERW) are still also been utilized as the main charge. The use of TNT as a main filling by AQAP means that it is almost certain that they have developed an industrial process for the recovery of TNT, from captured or abandoned high explosive military ammunition.

2. Armed groups now have access to commercial electric detonators,¹⁶⁰ which has significantly increased their operational capability as the reliability of such detonators far exceeds the reliability of the traditional AQAP tri-acetone tri-peroxide (TATP) filled improvised detonators. Commercial electric detonators are now routinely recovered from failed or neutralised improvised explosive devices (IEDs). These commercial detonators provide armed groups with the capability to implement a sustained IED campaign.

2. IED technology transfer

3. 2016 has seen the introduction of new, to Yemen, IED technology and tactics. This includes explosively formed projectiles (EFP): first seen been used by the Red Army Faction in Germany (1989), then by Hezbollah in Lebanon (1990>) and then on a massive scale in Iraq (2003>). For example, the Quds Force of the Iranian Islamic Republican Guard Corps (IRGC) supplied and instructed insurgents in Iraq on the tandem use of EFP with Passive Infra Red (PIR) initiation systems.¹⁶¹ This IRGC influence has now transferred to Yemen, which is demonstrated by the use of three digit identification or batch codes been written onto EFP IEDs (figure 43.1) and the recovery of PIR systems (figure 43.2).¹⁶² Although the Panel has no evidence of the direct training of belligerents in the use of IEDs by the IRGC there are indicators as to their influence in the design and manufacture of these PIR IED (figure 43.2):

- (a) Method of camouflage of the main charge;
- (b) The shrink-wrap protection for the electronic components;
- (c) The use and configuration of the stub helical antennae; and
- (d) The use of BNC¹⁶³ type connectors.

4. Improvised radio controlled directionally focused fragmentation charges (DFFC) have now been identified from imagery of recovered IEDs in both Abyan and Al Mukalla.

5. Minimal metal pressure pads (MMPP) for victim operated IEDs (VOIED) have become much more widespread in 2016, with the emergence of a “standard” design. This suggests a degree of industrialization in the manufacture of such components, such as that used by ISIL in Iraq.

¹⁶⁰ Identified from a wide range of imagery. See later.

¹⁶¹ Confidential source.

¹⁶² All imagery in this annex from confidential sources.

¹⁶³ Bayonet Neill–Concelman.

Figure 43.1:
Probable Explosively Formed Projectile (EFP) IED,
Ma'rib (12 Feb 2016).
Note: Batch/Lot Number (931).



Figure 43.2
'Rock' IED with possible Passive Infra Red (PIR) initiator,
Saleh, Ma'rib (30 Oct 2016)



Figure 43.3
"Rock" IED, Ta'izz (16 Mar2016)



Figure 43.4
"Rock" IED, Ta'izz (16 Mar2016)



Figure 43.5
EFP Radio-Controlled IED (RCIED),
Al Mukalla (16 May 2016)



Figure 43.6
Directional Focused Fragmentation Charge (DFFC) component
for IED, Al Mukalla (16 May 2016)



Figure 43.7
IED Factory, Dar Saad, Aden (21 May 2016)



Figure 43.9
RCIED with improvised fragmentation
Khanfar, Abyan (18 Jun 2016)

NOTE: The red components are Dual Tone Multi Frequency (DTMF) circuits for decoding cell phone attack frequencies.¹⁶⁴



Figure 43.11
Under Vehicle IED (UVIED), Aden (7 Aug 2016)



Figure 43.8
“Rock” IED with Minimal Metal Pressure Plate,
Location TBC (10 Jun 2016)



Figure 43.10
Suicide Vest IED (PBIED) components,
Al Mukalla (27 Jun 2016)¹⁶⁵



Figure 43.12
DFFC and RCIED Find, Ibb (Aug 2016)



¹⁶⁴ In this IED the audio output from the cell phone appears to be fed via the black 3.5mm audio jack into the input of the DTMF decoder firing switch. The decoder is probably configured for a single numeric firing signal ('9' on the one on the centre and '7' on the one on the right). Control of the DTMF decoder is normally via a PIC microprocessor on the same circuit board. The washing machine timer provides a delay to arming switch - a common technique previously used by IRGC trained terrorist and insurgent groups in Iraq.

¹⁶⁵ On 13 November 2016, 28 explosive vests/belts were seized from a bus entering Aden.

Figure 43.13
 'Rock' IED and EFP IED, Location TBC (25 Oct 2016)



Figure 43.14
 Breeze Block container for disguised IED, Ta'izz (Nov 2016)



6. The most recent example of technological and tactical transfer of IED knowledge is that of the use of a grenade fuze directly onto detonating cord by the suicide bomber¹⁶⁶ in Aden on 18 December 2016. This technique has been seen in Libya, Syria and Iraq and is a departure from the more normal electrical initiation system.

Figure 43.15
 Suicide IED using grenade fuze, Aden (18 Dec 2016)



B. Future IED clearance challenges

7. There is now an ever more significant threat to explosive ordnance disposal (EOD) personnel than that last reported in 2013.¹⁶⁷ The few EOD teams that do exist have inadequate equipment and insufficient training to safely deal with such a high technical and tactical threat. Perhaps more importantly, the only organization with a base level of knowledge that could be built on to develop a credible IED Disposal (IEDD) capability is the UNDP supported Yemen Mine Action Centre (YEMAC),¹⁶⁸ but their direct involvement in IEDD during conflict could jeopardize their neutrality and primary humanitarian mission of mine action.

¹⁶⁶ Abu Hashim al-Radfani.

¹⁶⁷ Restricted UNDP Report – February 2013.

¹⁶⁸ A pilot IEDD course was run by UNDP for YEMAC in 2014, but the training team had to be withdrawn after threats were made against them.

8. The post conflict environment will provide further challenges for YEMAC humanitarian mine clearance as IEDs have been used in tandem with the anti-personnel minefields already present to form a defensive belt around belligerent positions. The safe clearance of these defensive integrated IED/mine belts will require the development of new operating procedures and protocols for the mine clearance teams, whom will require the direct support of IEDD teams.

Annex 44: ERW, mines and UXO summary

A. Mines and UXO

1. Use of mines in IEDs by Houthi and Saleh forces

1. The Panel continues to receive evidence of the use of mines by Houthi and Saleh forces, and the use of integrated mine and IED barrier belts by AQAP, and more recently the Houthi and Saleh forces. This often includes the use of abandoned unexploded ordnance (AXO), such as landmines or HE artillery shells, as the main charges of an IED.

2. Figures 44.1 to 44.6¹⁶⁹ show the removal of Houthi deployed IEDs, with anti-tank mines as main charges, from Kamb, Saleh Directorate, Ta'izz on 24 November 2016. This was part of a clearance operation by 'popular resistance' forces. The area was forcibly cleared of civilians by the Houthi in July 2015 and then used as part of a mine and IED barrier belt defensive position. This effectively prevented the return of civilians until the EOD threat had been cleared.¹⁷⁰

Figure 44.1

**Render Safe of IED (anti-tank (AT) mine main charge),
Ta'izz, November 2016**



Figure 44.2

**Render Safe of IED (AT mine main charge),
Ta'izz, November 2016**



¹⁶⁹ From confidential source.

¹⁷⁰ On 11 August 2016, official sources reported one civilian death and two injuries in this area from explosive remnants of war (ERW).

Figure 44.3
Removal of AT mine main charge from IED,
Ta'izz, November 2016



Figure 44.4
Removal of AT mine main charge from IED,
Ta'izz, November 2016



Figure 44.5
Render safe of IED,¹⁷¹
Ta'izz, November 2016



Figure 44.6
Location of integrated Mine/IED belt,
Ta'izz, November 2016



3. Displaced persons have a right to voluntary return in safety to their homes or places of habitual residence as soon as the reasons for their displacement cease to exist.¹⁷² IHL requires that all parties must take the necessary measures to ensure the safe return of those displaced.¹⁷³

4. The Panel also received reports of more traditional mine laying by the Houthi near Mukalla during 2016. Figure 44.7 shows the hand drawn mine map of this area, whereas figure 44.8 shows the anti-tank mines being prepared for laying.

¹⁷¹ The image shows either: 1) a tripwire; 2) a pull link to a switch; or 3) a pressure release wire, being cut. NOTE the probable detonating cord looped over the wall.

¹⁷² ICRC Customary IHL Study Rule (CIHLR) 132.

¹⁷³ Ibid.

Figure 44.7
Houthi Mine Map (Sketch), near al Mukha, 2016¹⁷⁴

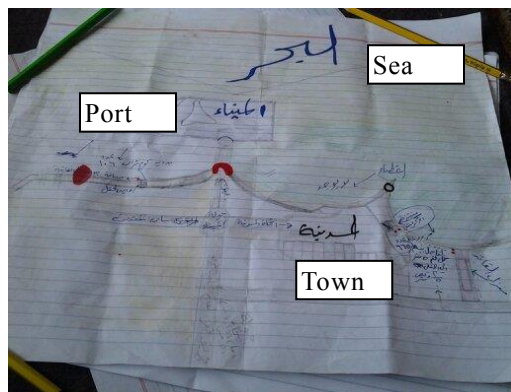


Figure 44.8
Anti-tank mines, prepared for laying, Mukalla, 2016



2. Mines 'new' to Yemen

1. The Panel has identified APM types that have never been recorded as ever in the possession of the Yemeni Armed Forces. Yemen, as a signatory to the Mine Ban Treaty (1997), completed the destruction of its stockpile of APM on 27 April 2002. Whereas Yemen retained 4,000 APM for training and research purposes, none of these were of the type seen below.

2. As the possible deployment of these APM might be by an entity acting on behalf of individuals listed by the Committee, and/or the weapon might have been used in violation of IHL, the Panel was interested in establishing whether the presence of these APMs result from inappropriate deployment, illegal diversion, black market purchase or capture during military operations.

Figure 44.9
PRB M35 APM, Bab al-Mandab, October 2015¹⁷⁵



Figure 44.10
GYATA APM, Najran, December 2015¹⁷⁶



¹⁷⁴ Sketch drawn by Houthi engineer involved with the task via confidential source.

¹⁷⁵ Source: Confidential. The Government of Belgium confirmed to the Panel that this APM was manufactured by PRB, but regretted that they could not provide further assistance as to the end user, as their national legislation only commits them to maintaining export records for 5 years.

¹⁷⁶ Source: NGO individual. The Panel submitted a tracing request to the Government of Hungary and a response is still awaited.

Figure 44.11
PSM-1 APM, Ma'rib, March 2016¹⁷⁷



Figure 44.12
PPM2 APM, Ma'rib, 9 April 2016¹⁷⁸



Figure 44.13
Projector Area Defence type APM,
Lowder, Abyan, 25 May 2016¹⁷⁹



Figure 44.14
Projector Area Defence type APM,
Buraida, Aden, 21 July 2016¹⁸⁰



B. Cluster munitions¹⁸¹

1. The Panel has either obtained or verified evidence that cluster munitions have been used by the Saudi Arabia-led coalition during the conflict. The Panel has analysed imagery¹⁸² and consulted with credible sources¹⁸³ within Yemen

¹⁷⁷ Source: HRW. The Government of Bulgaria confirmed to the Panel that this APM was manufactured by Arsenal J.S.Co, Kazanluk in 1989 and was sold to the Ministry of Defence of Bulgaria in 1990. The Government of Bulgaria regretted that they could not provide further assistance as to the end user, as their national legislation only commits them to maintaining export records for 10 years.

¹⁷⁸ Confidential sources. The Panel requested more details on this seizure from the Governments of Saudi Arabia and the UAE to allow for submission of tracing requests to appropriate Member States. No response has been received yet from either government.

¹⁷⁹ Source: Yemen Mine Action Centre (YEMAC). The Panel initially assessed that this may be a Chinese APM. China stated in a letter to the Panel of 9 December 2016 that this particular mine was not of Chinese manufacture.

¹⁸⁰ Confidential source. The Panel initially assessed that this may be a Chinese APM. China stated in a letter to the Panel of 9 December 2016 that this particular mine was not of Chinese manufacture.

¹⁸¹ From a wide range of credible and confidential sources unless otherwise referenced.

¹⁸² Original imagery of media and NGO sources.

¹⁸³ Confidential sources with knowledge of mine action in Yemen.

about the BL-755 cluster munition debris and unexploded bomblets received from Al-Khadra¹⁸⁴ on 18 January 2016. The Panel is unconvinced by claims¹⁸⁵ from the Saudi Arabia-led coalition, or other stakeholders with an interest, that all the debris and unexploded bomblets were as the result of previous campaigns. The Panel identified the following evidence as key to their findings:

(a) There was insufficient weathering, caused by the sand erosion of paint etc, of the unexploded bomblets and debris for them to have been on the ground for any lengthy period of time;

(b) Civilian casualties in the area that the debris and unexploded bomblets were recovered from only started to occur post March 2015;

(c) A highly credible and confidential source with access to the International Management System for Mine Action (IMSMA) data for Yemen confirmed that the areas where the debris and unexploded bomblets were recovered from were not recorded as a Suspected Hazardous Area (SHA); the closest SHA was nearly 20km away;

(d) The comprehensive Landmine Impact Survey (LIS) completed in July 2000 showed no indication of a SHA close to the recently discovered cluster munition strike areas;

(e) The Yemen Mine Action Centre (YEMAC) has been conducting mine and UXO clearance operations in the region for the last ten years. They would undoubtedly have had legacy cluster bomblet impacted areas, or casualties from such an area, reported to them during this time. No reports were received; and

(f) The Director of YEMAC, Ahmed Alawi, confirmed in an interview with ITN (shown on 26 October 2016) that these were not legacy strikes. The Panel also consulted with previous senior YEMAC staff who verified that they had never seen any evidence of cluster munition use in this area, and that had it been previously used it would have been reported to their field teams.

2. The Panel has examined the evidence presented in an Amnesty International report¹⁸⁶ on the issue in detail, in addition to other independently obtained evidence, and finds the content and conclusions of the report as accurate, highly credible and compelling.

¹⁸⁴ 16°21'10.0"N 42°58'16.2"E (approximate location of al-Khadra Village).

¹⁸⁵ Widely reported. For example AFP, 10 January 2016. <https://www.yahoo.com/news/saudi-led-coalition-denies-using-cluster-bombs-yemen-075855238.html?ref=gs>, or ITN News, 3 November 2016. <http://www.itv.com/news/2016-11-03/saudi-arabia-deny-using-british-cluster-bombs-in-the-war-in-yemen/>.

¹⁸⁶ <https://amnesty.app.box.com/s/yx7xrh9g5cz2qj4fro6ozi2ygpmpfvxj>.

Figure 44.15¹⁸⁷
BL-755 cluster munition unit recovered in Al-Khadra¹⁸⁸
(18 January 2016)



Figure 44.16¹⁸⁹
BL-755 cluster munition unit recovered from Al-Khadra to YEMAC explosive storehouse

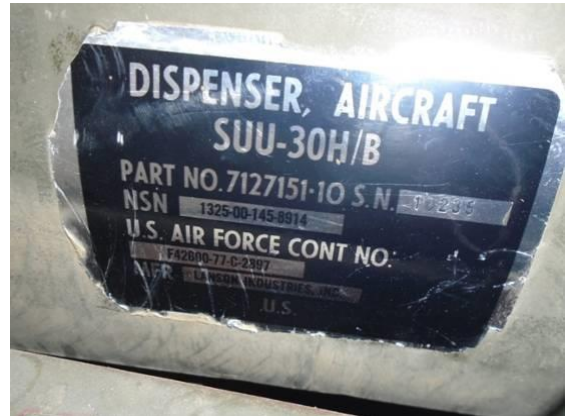


3. The Panel has also obtained evidence of the use of cluster munitions by the Saudi Arabia-led coalition in other areas (see figures 44.17 to 44.20). The available evidence and the lack of weathering all strongly indicate the recent use of the cluster munitions and refute claims of them being legacy munitions.

Figure 44.17
CBU 58A /B cluster munition recovered in Sana'a
(16 January 2016)



Figure 44.18
CBU 58/A cluster munition recovered in Sana'a
(16 January 2016)



¹⁸⁷ Source: Amnesty International.

¹⁸⁸ 16°21'10.0"N, 42°58'16.2"E (approximate location of al-Khadra Village).

¹⁸⁹ Source: Amnesty International.

Figure 44.19
**CBU 58A /B cluster munition recovered Mastaba
 (27 March 2016)**¹⁹⁰



Figure 44.20
**CBU 58A /B cluster munition recovered Mastaba
 (27 March 2016)**



C. Abandoned explosive ordnance (AXO) in civilian areas

1. In March and April 2016 a demining team found a cache of 34 items of abandoned unexploded ordnance in Ta'izz university. This included mines, artillery shells and TNT blocks (figure 44.21 and 44.22).

Figure 44.21
AXO, Ta'izz University (April 2016)



Figure 44.22
AXO, Ta'izz University (April 2016)



2. In storing ammunition within the university premises, these forces may also have been attempting to shield the military objects from attack. IHL also requires that parties to take all feasible precautions to protect the civilian population and civilian objects under their control against the effects of attacks.¹⁹¹ It is possible that by storing ammunition in the University, the Houthi forces increased the likelihood of attacks against this civilian infrastructure.

¹⁹⁰ 16°13'40.80"N, 43°14'40.80"E.

¹⁹¹ CIHLR 22.

D. Use of inert aircraft bombs

1. The Panel has identified the recent use of Mark 83 1,000lb inert concrete-filled aircraft bombs fitted with precision guidance units.¹⁹² Although not strictly UXO, the issue has been included as they can have similar disruptive effects to daily life as they look like UXO.

2. The use of inert bombs is a deliberate tactic, although one not widely known, which has been used before in other conflicts¹⁹³ to attack high value targets (HVT) in built up areas where collateral damage is unacceptable. The theory being that the damage caused is limited to that imparted by the kinetic energy of the weapon,¹⁹⁴ as being non-explosive there is no blast, and a much reduced fragmentation danger area.¹⁹⁵ Two incidents, involving multiple inert bombs, have been identified to date (table 44.1 and figures 44.23 and 44.25). The protocols surrounding the preparation and loading of weapons are stringent and thus it is highly unlikely that these inert bombs were loaded onto an aircraft and then dropped by mistake.

Table 44.1
Incidents of inert A/C bombs

<i>Date</i>	<i>Location</i>	<i>Type</i>	<i>Quantity</i>	<i>Target</i>
1 Sep 2016	Tahir Square, Sana'a	Mark 82 Inert		
20 Sep 2016	Old City, Sana'a	Mark 82 Inert ¹⁹⁶	>5	NSB Office

Figure 44.23
Tahir Square, Sana'a (1 Sep 2016)



Figure 44.24
Tahir Square, Sana'a (1 Sep 2016)



¹⁹² Clearly identified from engraved markings: NSN 1325 2015 20150-5824, EMPTY BOMB MK83, P/N V3682600_22KH NCAGE A4447?.

¹⁹³ Northern Iraq (1999), Iraq (2003), Libya (2011), Gaza and Syria.

¹⁹⁴ The Panel has estimated by calculation that the kinetic energy of an inert Mark 82 A/C bomb is equivalent to that of 56 one tonne vehicles travelling at 100mph.

¹⁹⁵ On 24 August 2007 a patent application was filed with the US Patent Office for a purpose designed Reduced Collateral Damage Bomb (RCDB). US Patent 7992498 granted on 9 August 2011. <http://patents.com/us-7992498.html>.

¹⁹⁶ The manufacturer was traced from the Commercial and Government Entity (CAGE) Code A4447 engraved on the bomb to RWM Italia S.p.A, Via Industriale 8/D, 25016 Ghedi, Italy.

Figure 44.25
Old City, Sana'a (20 Sep 2016)



Figure 44.26
Old City, Sana'a (20 Sep 2016)



3. The Panel is also interested in the deliberate use of inert aircraft bombs as it may demonstrate a new tactic been introduced by the Saudi Arabia-led coalition designed to reduce the collateral damage during some air strikes. It may provide evidence of improved consideration of Collateral Damage Estimates as required under IHL. In these two particular incidents, however, there is still insufficient information to assess if the inert aircraft bombs were aimed at a legitimate military target. If not dropped on a specific and legitimate military objective, then their use is still a violation of IHL.

Figure 44.27
Old City, Sana'a (20 Sep 2016)



E. IHL aspects

1. IHL requires that when explosive ordnance, including landmines, is used, particular care must be taken to minimize their indiscriminate effects.¹⁹⁷ In the case at paragraph C.2, and in many others, the Panel is not convinced that the Houthi forces took the relevant precautions to prevent their effects on civilians. Such precautions, at a minimum, would normally include the delineation and marking of minefields from all exterior approaches, and a mine awareness programme.

F. ERW casualties and survivors

1. The Panel received multiple reports of people injured from ERW. For example, Human Rights Watch documents five ERW incidents, which killed six and wounded nine.¹⁹⁸ Mwatana Organization documented ten incidents of ERW explosions, which killed 32 civilians and injured 23.¹⁹⁹ This is only a fraction of that reported to YEMAC throughout Yemen, and has been included for illustrative purposes only at table 44.2.

Table 44.2
ERW casualties in Ta'izz area (2016)

<i>Ser</i>	<i>Date</i>	<i>Location</i>	<i>District</i>	<i>Governorate</i>	<i>Fatal</i>	<i>Injured</i>	<i>Consequences</i>
1	25 Jan 2016	Al-Nashamah	Al-Maafer	Tai'zz	3		Civilians on a motorbike returning home.
2	10 Mar 2016	al-Qua'a	Al-Baidha	Al-Baidha	1		1 dead child.
3	22 Mar 2016	Haida area	Hareeb	Ma'rib	1	1	Children.
4	23 Apr 2016	Al-Turbah		Tai'zz	8	8	Bus. Includes 1 dead and 4 injured children
5	17 May 2016	Al-Qalao'a	Al-Burairiq	Aden	2	1	1 child injured
6	19 May 2016	Wadi al-Helan	Majzr	Ma'rib	3	2	Includes 3 dead and 1 injured children
7	21 May 2016	Shaab al-Hafa'a,	Hareeb	Ma'rib	2	1	1 child injured
8	24 May 2016	Hareeb	Nihm	Sana'a	1	1	1 dead child and 1 injured female
9	9 Aug 2016	Wadi Hana	Al-Wazeeiah	Tai'zz	10	9	Includes 6 dead and 4 injured children
10	9 Aug 2016	Sabr district		Lahj	1		Truck

¹⁹⁷ CIHLR 81.

¹⁹⁸ <https://www.hrw.org/news/2016/09/08/yemen-houthi-landmines-claim-civilian-victims>.

¹⁹⁹ Information provided to the Panel.

Annex 45: Houthi illegal taxation

1. The Panel established that the Houthis are collecting tax from the Yemeni Red Sea Corporation on weekly basis. The following evidence shows that the Houthis are asking for the collection of a tax to be collected by the Yemeni Red Sea Corporation, to be transferred on a weekly basis to Hudaydah post office.

Figure 45.1:
Houthi “tax demand”



Panel Translation

Following the outcomes of the meeting of the administrative commission of the local council of al-Hudaydah Governorate of 10 October 2016 related to the support of the Central Bank, which is an important national responsibility of the Yemeni people and primarily businessmen and entrepreneurs.

Therefore, 100,000 Yemeni Riyal shall be contributed, for the support of the Central Bank, by each ship entering the port of al-Hudaydah apart from those carrying oil products. The payment in cash and not with checks shall be collected the Yemeni Red Sea ports and transferred on a weekly basis to the account at the Yemeni central post service of al ha-Hudaydah for the support of the Central Bank.

Annex 46: Houthi proxies and affiliates

(STRICTLY CONFIDENTIAL)

Annex 47: Saleh proxies and affiliates

(STRICTLY CONFIDENTIAL)

Annex 48: Financial activities of Khaled Ali Abdullah Saleh

1. This annex contains the supporting documentary evidence to demonstrate that Khaled Ali Abdullah Saleh has been acting on behalf of his father Ali Abdullah Saleh (YEi.003).

2. The Panel obtained information from confidential sources that Khaled Ali Abdullah Saleh has managed a financial structure comprising seven offshore companies, three acquired from his father and four more likely transferred from his brother according to indicators and bank accounts in Singapore and UAE. The Panel analysed accounts owned directly or indirectly by Khaled Ali Abdullah Saleh (XX010, XX011, XX013, XX014, XX018, XX021, XX024, XX025, XX032, XX324, XX352) during the period from January 2014 to July 2016 (table 1 below).

Table 48.1

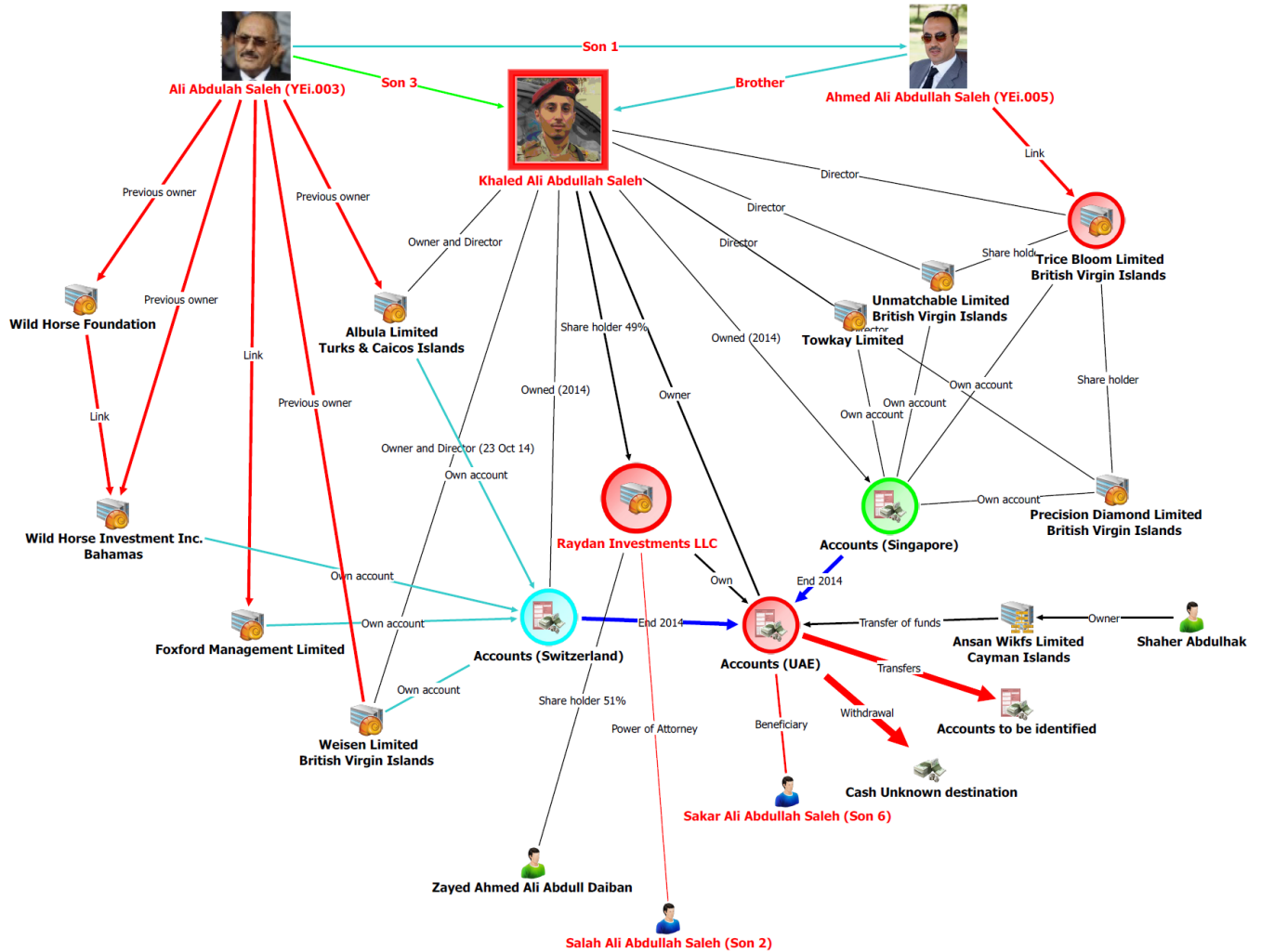
Monthly transactions equivalent to US\$ 100,000 plus

<i>Month</i>	<i>Number of major transactions</i>	<i>Total monthly debit major transactions US\$ equivalent</i>	<i>Total monthly credit major transactions US\$ equivalent</i>	<i>Remarks</i>
Jan 2014	7	-1,604,913.72	0.00	
Feb 2014	14	-6,022,101.52	43,950,192.92	
Mar 2014	1	-1,989,396.00	0.00	
Apr 2014	7	0.00	9,188,396.33	
May 2014	4	0.00	22,085,925.04	
Jun 2014	6	0.00	19,123,305.64	
Jul 2014		-615,037.31	0.00	
Aug 2014	4	-307,511.57	386,711.57	
Sep 2014	4	-1,326,109.26	415,593.00	
Oct 2014	8	0.00	34,770,278.46	
7 Nov 2014				Listing of Ali Abdullah Saleh (YEi.003)
Nov 2014	6	-281,513.16	53,628,109.07	
Dec 2014	35	-263,714,684.43	181,638,247.05	
Jan 2015		0	0	
Feb 2015	4	0	573,614.81	
Mar 2015	6	0	1,005,774.85	
14 Apr 2015				Listing of Ahmed Ali Abdullah Saleh (YEi.005)
Apr 2015	5	-2,039,658.62	545,040.00	
May 2015	3	-113,967.86	344,351.64	
Jun 2015	11	-5,827,225.39	628,608.26	
Jul 2015	6	-1,716,732.93	81,749.19	
Aug 2015	4	-818,755.00	1,106,431.20	
Sep 2015	2	-1,107.37	0	
Oct 2015	0	0	0	
Dec 2015	3	20151,630.95	200,165.94	
Jan 2016		0	0	
Feb 2016	3	-194,960.81	194,851.80	

<i>Month</i>	<i>Number of major transactions</i>	<i>Total monthly debit major transactions US\$ equivalent</i>	<i>Total monthly credit major transactions US\$ equivalent</i>	<i>Remarks</i>
28 Feb 2016				Publication of the Panel's Final Report 2015
Mar 2016	5	-2,083,042.87	2,182,874.03	
Apr 2016	1	0	150,124.46	
May 2016	1	-135,615.49	0	
Jun 2016	2	0	1,519,299.00	
Jul 2016	1	0	14,080.29	
Total	153	-288,943,964.26	373,733,724.53	

3. The Panel noted peaks in the amount of funds transferred during the designation periods, and following the publication of the Panel 2015 report, which for the first time had identified the structure used by Ali Abdullah Saleh (YEi.003). This is likely an indicator that other funds have moved to Khaled's accounts. The Panel continues to investigate.

Figure 48.1
 Link of Khaled Ali Abdullah Saleh and his assets with listed individuals



Appendix A to Annex 48: Timeline of company transfers

Table 48.A.1

Timeline of company transfer

<i>Event</i>	<i>Albula Limited</i> <i>(Turk and Caicos Islands</i> <i>(E29459))</i>	<i>Weisen Limited</i> <i>(British Virgin Islands</i> <i>(395883))</i>
Directors Resolution	23 October 2014	23 October 2014
Khaled Ali Abdullah Saleh entered in Register of Members and Share Ledger	23 October 2014	23 October 2014
Register of Members and Share Ledger printed	24 October 2014	24 October 2014
Register of Members and Share Ledger signed	28 October 2014	28 October 2014
Ali Abdullah Saleh (YEi.003) designated	7 November 2014	
Certificate of Incumbency ²⁰⁰ signed by Newhaven Corporate Services Limited (BVI)		14 November 2014
Certificate of Incumbency signed by Unicorn Administration Limited (Turk and Caicos Islands)	18 November 2014	
Certificate of Incumbency certified as a true copy by Supreeya Tacouri of NWT Management S.A	3 December 2014	3 December 2014
Certificate of Incumbency certified as a true copy by George Sarkis (position and company unknown)	6 December 2014	6 December 2014

²⁰⁰ A Certificate of Incumbency lists individuals who have the authority to contract on behalf of the company or enter into legally binding agreements on behalf of the company. Until it is signed and deposited with the national authority responsible for company registration those individuals listed do not have authority to enter the company into any legally binding contracts.

Appendix B to Annex 48: Funds transfers 1

Evidence that Khaled Ali Abdullah Saleh received US\$ 33,471,993.37 and Euro 734,786.49 from **Albula Limited, Foxford Management Limited and Weisen Limited** companies, which he acquired from his father Ali Abdullah Saleh (YEi.003) during the period around his designation on 7 November 2014.

Image 48.B.1

Confidential bank source

Dear Sir,

After greetings,

However, Mr. Khaled Ali Abdullah Saleh maintained accounts with [redacted] (Account no. [redacted]) and in October 2014 there were inward remittances of USD 33,471,993.37 and Euro 734,786.49 into this account, as tabulated below;

Originators	Transfer Date	Incoming Transfers	
		(in EUR)	(in USD)
Albula Limited	24 Oct 2014	425,033.89	11,768,517.90
	29 Oct 2014	-	1,240,000.00
Foxford Management Limited	24 Oct 2014	-	10,466,515.22
Weisen Limited	24 Oct 2014	309,752.60	8,936,966.25
	29 Oct 2014	-	1,060,000.00
Total		734,786.49	33,471,993.37

We wish to advise that the originators of the transactions are not listed as designated entities.

Appendix C to Annex 48: Trice Bloom Limited

Figure 48.C.1

Shareholders of Trice Bloom Limited – Precision Diamond Limited and Unmatchable Limited

Name of Company TRICE BLOOM LIMITED

Company Number 1706337

REGISTER OF MEMBERS

Full Name		Occupation		Corporation		Date Entered as a Member		27 April 2012						
Address		P.O. Box 957, Offshore Incorporations Centre, Road Town, Tortola, British Virgin Islands		Date of Ceasing to be Member										
Date	Certificate Number	Distinctive Nos.		No. of Shares	Consideration Paid	No. of Transfer Deed	Certificate Number	Distinctive Nos.		No. of Shares	Consideration Paid	Total Shares Held	Remarks	Entry Made By
		From	To					From	To					
27 April 2012	1	-	-	-2,916-	US\$2,916.00							-2,916-	Allotment	
<p>Full Name: UNMATCHABLE LIMITED, Occupation: Corporation, Date Entered as a Member: 27 April 2012</p> <p>Address: P.O. Box 957, Offshore Incorporations Centre, Road Town, Tortola, British Virgin Islands</p> <p>Date of Ceasing to be Member:</p>														
Date	Certificate Number	Distinctive Nos.		No. of Shares	Consideration Paid	No. of Transfer Deed	Certificate Number	Distinctive Nos.		No. of Shares	Consideration Paid	Total Shares Held	Remarks	Entry Made By
		From	To					From	To					
27 April 2012	2	-	-	-1,250-	US\$1,250.00							-1,250-	Allotment	

CERTIFIED TRUE COPY
 27 APR 2012
 MARY LYNNIE JAM
 ADVOCATE & REGISTRAR

Page No. 1 Class of Share ORD Per Value For Share US\$1.00 PLEASE NOTE: THE ORIGINAL OR COPY OF THIS REGISTER MUST BE KEPT AT THE OFFICE OF THE COMPANY'S REGISTERED AGENT. IF A COPY THEN PLEASE NOTIFY THE REGISTERED AGENT IN WRITING OF THE PHYSICAL ADDRESS OF THE ORIGINAL. BV206

Figure 48.C.2

Khaled Ali Abdullah Saleh – Sole shareholder of Unmatchable Limited

Name of Company UNMATCHABLE LIMITED

Company Number 1706369

REGISTER OF MEMBERS

Full Name		Occupation		Businessman		Date Entered as a Member		26 April 2012						
Address		36 Study Meter Road Sana'a Yemen		Date of Ceasing to be Member										
Date	Certificate Number	Distinctive Nos.		No. of Shares	Consideration Paid	No. of Transfer Deed	Certificate Number	Distinctive Nos.		No. of Shares	Consideration Paid	Total Shares Held	Remarks	Entry Made By
		From	To					From	To					
26 April 2012	1	-	-	-1,250-	US\$1,250.00							-1,250-	Allotment	

27 APR 2012
 SY

Figure 48.C.3
Khaled Ali Abdullah Saleh – Sole shareholder of Precision Diamond Limited

Name of Company PRECISION DIAMOND LIMITED
 Company Number 1706232

REGISTER OF MEMBERS

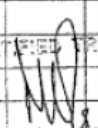
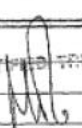
Full Name		Occupation		Businessman		Date Entered as a Member		26 April 2012				
Address		26 Sixty Meter Road Sana'a Yemen				Date of Ceasing to be Member						
Date	Certificate Number	Shares Acquired		No. of Shares	Consideration Paid	No. of Transfer Deed	Certificate Number	Shares Transferred		Total Shares Held	Remarks	Entry Made By
		Distinctive Nos. From	To					Distinctive Nos. From	To			
26 April 2012	1	-	-	-2,916-	US\$2,916.00					-2,916-	Allotment	
CERTIFIED TRUE COPY  27 APR 2012												

Figure 48.C.4
Khaled Ali Abdullah Saleh – Sole Director of Trice Bloom Limited

Name of Company TRICE BLOOM LIMITED
 Company Number 1706337

REGISTER OF DIRECTORS

Date of Appointment	Full Name (Any Former Names or Alias)	Nationality and ID/PPT No.	Residential Address (or Registered Office Address)	Business Occupation or Other Directorship	Date of Ceasing to Act	Entry Made By
27 April 2012	KHALED ALI ABDULLAH SALEH	Yemeni 00013939	26 Sixty Meter Road Sana'a Yemen	Businessman		
CERTIFIED TRUE COPY  27 APR 2012						

Sources: Confidential

Figure 48.C.5

Ahmed Ali Abdullah Saleh (YEi.005) appointed by Khaled Ali Abdullah Saleh as an authorized signatory to the accounts maintained by Trice Bloom on 13 December 2013.

TRICE BLOOM LIMITED
(the "Company")
(Incorporated in the British Virgin Islands)

MEMORANDUM IN WRITING BY THE DIRECTOR OF THE COMPANY PURSUANT TO THE ARTICLES OF ASSOCIATION OF THE COMPANY

CHANGE OF AUTHORISED SIGNATORIES

RESOLVED:

1. THAT the following person be appointed as new signatory to the accounts maintained by the Company with Branch (the "Bank"):

Name
Ahmed Ali Abdulla Saleh

Passport No.
00000017


Specimen Signature



2. THAT the Accounts be operated by either one of the authorized signatories:

Khaled Ali Abdullah Saleh
Ahmed Ali Abdulla Saleh
3. THAT save for the aforesaid amendments, all instructions previously given to the Bank shall remain in full force.
4. THAT this resolution be communicated to the Bank and remained in force until an amending resolution is received by the Bank.

Date: 13 DEC 2013



Khaled Ali Abdullah Saleh
Director

Source: Confidential

Appendix D to Annex 48: Towkay Limited

Figure 48.D.1
Khaled Ali Abdullah Saleh – Sole shareholder of Towkay Limited

Name of Company TOWKAY LIMITED
Company Number 1706334

REGISTER OF MEMBERS

Full Name		Occupation		Businessman		Date Entered as a Member		Date of Ceasing to be Member						
Address														
Date	Certificate Number	Distinctive Nos.		No. of Shares	Consideration Paid	No. of Transfer Deed	Certificate Number	Distinctive Nos.		No. of Shares	Consideration Paid	Total Shares Held	Remarks	Entry Made By
		From	To					From	To					
26 April 2012	1	-	-	-5,834	US\$5,834.00							-5,834	Allotment	

27 APR 2012

Figure 48.D.2
Towkay Limited transfer of AED 1,128,400 to Raydan Investments Limited (20 August 2014)

DEBIT.ACCT.NO:1:1	██████████	Inward SWIFT-Telex Payment
CURRENCY.MKT.DR:1:1	1	██████████
DEBIT.CURRENCY:1:1	AED	Currency Market
DEBIT.AMOUNT:1:1	1128400.00	UAE DIRHAM
DEBIT.VALUE.DATE:1:1	20140820	
DEBIT.THEIR.REF:1:1	██████████	
CREDIT.ACCT.NO:1:1	██████████	RAYDAN INVESTMENTS LI
CURRENCY.MKT.CR:1:1	1	Currency Market
CREDIT.CURRENCY:1:1	AED	UAE DIRHAM
CREDIT.VALUE.DATE:1:1	20140820	
PROCESSING.DATE:1:1	20140820	
ORDERING.CUST:1:1	TOWKAY LIMITED	
ORDERING.CUST:2:1	P.O.BOX 957, OFFSHORE INC	
ORDERING.CUST:3:1	CENTRE, ROAD TOWN TORT	
ORDERING.CUST:4:1	BRITISH VIRGIN ISLANDS	
IN.ORDERING.CUS:1:1	TOWKAY LIMITED	
IN.ORDERING.CUS:2:1	P.O.BOX 957, OFFSHORE INC	
IN.ORDERING.CUS:3:1	CENTRE, ROAD TOWN TORT	
IN.ORDERING.CUS:4:1	BRITISH VIRGIN ISLANDS	
ORDERING.BANK:1:1	---	

Sources: Confidential

Appendix E to Annex 48: Funds transfers 2

Table 48.E.1

Summary of funds transfers through the UAE dormant account of Khaled Ali Abdullah Saleh

<i>Date</i>	<i>Amount (AED)</i>	<i>Equivalent (US\$)</i>	<i>Transaction type</i>	<i>Account balance</i>
5 Jan 2014	290,000.00	78,952.50	Deposit	20,996.99
8 Dec 2014	3,324,541.47	905,106.42	Transfer	3,345,538.46
9 Dec 2014	36,700,000.00	9,991,575.00	Transfer	40,045,538.46
11 Dec 2014	10,000,000.00	2,722,500.00	Cash withdrawal	30,045,538.46
11 Dec 2014	26,700,000.00	7,269,075.00	Cash withdrawal	30,016,808.46
15 Dec 2014	36,700,000.00	9,991,575.00	Transfer	40,016,808.46
15 Dec 2014	37,000,000.00	10,073,250.00	Cash withdrawal	3,016,808.46
17 Dec 2014	55,000,000.00	14,973,750.00	Cash withdrawal	-51,943,191.54
17 Dec 2014	55,050,000.00	14,987,362.50	Transfer	3,066,808.46
25 Dec 2014	55,000,000.00	14,973,750.00	Cash withdrawal	51,943,191.54
25 Dec 2014	68,181,260.00	18,562,348.04	Transfer	16,238,068.46
28 Dec 2014	66,000,000.00	17,968,500.00	Cash withdrawal	-49,761,931.08
28 Dec 2014	122,032,162.62	33,223,256.27	Transfer	72,270,231.08
28 Dec 2014	13,200,000.00	3,593,700.00	Transfer	59,070,231.08
30 Dec 2014	110,000.00	29,947.50	Transfer	68,960,181.08
30 Dec 2014	58,960,181.08	16,051,909.30	Cash withdrawal	0.00
Total	308,660,181.08	84,032,734.30		

* Based on average exchange rate 1 AED = 0.27225 US\$ (2013-2016)

Source: Confidential

Figure 48.E.1
UAE bank statement (account XXX-01-04)

ACCOUNT NO: [REDACTED] P-01-4		CURRENCY: UAE DIRHAM STATEMENT PERIOD: 01 JAN 2014 TO 31 JUL 2015				
TRAN. DATE	VAL. DATE	DESCRIPTION	CHK. NO	DR. AMT	CR. AMT	BALANCE
BALANCE B/F						178,875.58
10 SEP 14	10 SEP 14	Outward Telex Charges		80.00-		178,795.58
25 SEP 14	25 SEP 14	Transfer			101,000.00	279,795.58
01 OCT 14	01 OCT 14	Credit Card Payment CRM		166,337.83-		113,457.75
14 OCT 14	14 OCT 14	Cheque Deposit	016311		310,000.00	423,457.75
05 NOV 14	05 NOV 14	Cheque Deposit				397,559.57
20 NOV 14	20 NOV 14	Credit Card Direct Debit		25,098.18-		112,470.57
01 DEC 14	01 DEC 14	Cheque	187486	285,089.00-		112,390.57
01 DEC 14	01 DEC 14	Cheque		80.00-		110,271.69
06 DEC 14	06 DEC 14	Outward Telex Charges				20,996.99
08 DEC 14	08 DEC 14	Telex transfer		2,118.88-		3,345,538.46
09 DEC 14	09 DEC 14	Telex Transfer		89,274.70-		3,345,538.46
09 DEC 14	09 DEC 14	Credit Card Direct Debit			3,324,541.47	40,045,538.46
09 DEC 14	09 DEC 14	Inward Telex Transfer			36,700,000.00	30,045,538.46
11 DEC 14	11 DEC 14	Inward Telex Transfer				30,016,808.46
11 DEC 14	11 DEC 14	Cash Withdrawal		10,000,000.00-		3,316,808.46
15 DEC 14	15 DEC 14	Cash Withdrawal				40,016,808.46
15 DEC 14	15 DEC 14	Cheque	187487	28,730.00-		3,016,808.46
15 DEC 14	15 DEC 14	Cash Withdrawal		26,700,000.00-		3,016,808.46
17 DEC 14	17 DEC 14	Cash Withdrawal			36,700,000.00	51,983,191.54-
17 DEC 14	17 DEC 14	Cash Withdrawal		37,000,000.00-		
17 DEC 14	17 DEC 14	Cash Withdrawal		55,000,000.00-		

ACCOUNT NO: [REDACTED] 01-4		CURRENCY: UAE DIRHAM STATEMENT PERIOD: 01 JAN 2014 TO 31 JUL 2015				
TRAN. DATE	VAL. DATE	DESCRIPTION	CHK. NO	DR. AMT	CR. AMT	BALANCE
BALANCE B/F						51,983,191.54-
17 DEC 14	17 DEC 14	Transfer				3,066,808.46
22 DEC 14	22 DEC 14	Transfer			55,050,000.00	3,056,808.46
25 DEC 14	25 DEC 14	Cash Withdrawal		10,000.00-		51,943,191.54-
25 DEC 14	25 DEC 14	Cash Withdrawal		55,000,000.00-		16,238,068.46
28 DEC 14	28 DEC 14	Cash Withdrawal			68,181,260.00	49,761,931.54-
28 DEC 14	28 DEC 14	Transfer		66,000,000.00-		72,270,231.08
28 DEC 14	28 DEC 14	Transfer			122,032,162.62	59,070,231.08
30 DEC 14	30 DEC 14	Transfer				59,070,181.08
30 DEC 14	30 DEC 14	LTR DTD 28DEC14		13,200,000.00-		58,960,181.08
30 DEC 14	30 DEC 14	Outward Telex Charges		50.00-		0.00
30 DEC 14	30 DEC 14	Telex transfer				100.00
30 DEC 14	30 DEC 14	Telex Transfer		110,000.00-		
30 DEC 14	30 DEC 14	Cash Withdrawal		58,960,181.08-		
30 DEC 14	30 DEC 14	Cash Withdrawal				
30 DEC 14	30 DEC 14	ATM Cash Deposit				
31 DEC 14	31 DEC 14	SDM			100.00	
31 DEC 14	31 DEC 14	Account Closing Fees		100.00-		
CLOSING CHARGES FOR CHARGEABLE AMT :100						0.00
BALANCE AT PERIOD END						

Figure 48.E.2
UAE bank statement (account XXX-02-05)

ACCOUNT NO: [REDACTED] 02-5

CURRENCY: US Dollar Dollar US
STATEMENT PERIOD: 01 JAN 2014 TO 31 JUL 2015

TRAN.DATE	VAL.DATE	DESCRIPTION	CHK.NO	DR.AMT	CR.AMT	BALANCE
		BALANCE B/F				0.00
18 AUG 14	18 AUG 14	Cash Deposit				
		Cash Deposit			79,200.00	79,200.00
10 SEP 14	10 SEP 14	Telex transfer				
		Telex Transfer		79,200.00-		0.00
04 DEC 14	04 DEC 14	Inward Telex Transfer				
		Inward Telex Transfer			85,251,228.22	85,251,228.22
09 DEC 14	09 DEC 14	Transfer				
		LTR DTD 09DEC14		10,000,000.00-		75,251,228.22
15 DEC 14	15 DEC 14	Transfer				
		LTR DTD 15DEC14		10,000,000.00-		65,251,228.22
17 DEC 14	17 DEC 14	Transfer				
		LTR DTD 17DEC14		15,000,000.00-		50,251,228.22
17 DEC 14	17 DEC 14	Inward Telex Transfer				
		Inward Telex Transfer			1,578,042.25	51,829,270.47
25 DEC 14	25 DEC 14	Transfer				
		LTR DTD 25DEC14		18,578,000.00-		33,251,270.47
28 DEC 14	28 DEC 14	Transfer				
		LTR DTD 28DEC14		33,251,270.47-		0.00
		BALANCE AT PERIOD END				0.00

Sources: Confidential

Figure 48.E.3
UAE bank letter

Dear Sir,

After greetings,

With reference to your Notice No. 189/2015, we wish to inform you that we did not receive any financial transfer for an amount of US 34 Million from Singapore in the name of Khaled Ali Abdullah Saleh in December 2014.

However, we have received two remittances in December 2014 with the following details:

Name of Remitter	Date of Transfer	Amount-USD
Khaled Ali Abdullah Saleh	04-December-2014	85,251,228.22
Khaled Ali Abdullah Saleh	17-December-2014	1,578,042.25

Further, we would like to inform you that the account of Khaled Ali Abdullah Saleh was closed in December 2014.

In case you require any further details we would be happy to provide you the same.

Thanking you,
Yours faithfully,

Source: Confidential

Appendix F to Annex 48: Funds transfer from Trice Bloom Limited to Raydan Investments Limited

Image.48.F.1

Trice Bloom Limited funds to Raydan Investments Limited

Transaction Summary - Trice Bloom Limited			
FD account		Significant Activities	
28-May-14		Transfer US20m to Raydan Investments LLC (FGB HO)	
27-Nov-14		Interest transfer to Mr Khaled Account in	181,610.47
27-Nov-14		Transfer of Principal to Mr Khaled Account in Singapore	51,538,896.50

Source: Confidential

Appendix G to Annex 48: Raydan Investments Limited UAE commercial licence and documentation

Image.48.G.1

Raydan Investments Limited UAE commercial licence

																			
Commercial License		رخصة تجارية																	
License No	GN-1514132	رقم الرخصة																	
Unified ID for ADCCI	316454	الرقم الموحد للعضوية المرفقة																	
Legal Form	Limited Liability Company	الشكل القانوني	شركة ذات مسؤولية محدودة																
Trade Name	RAYDAN INVESTMENTS L.L.C.	الاسم التجاري	ريدان للاستثمارات ذ.م.م																
Issue Place	Abu Dhabi	مكان الإصدار	أبو ظبي																
Establishment Date	07/07/2013	تاريخ تأسيس المؤسسة																	
Issue Date	03/09/2014	تاريخ الإصدار																	
Expiry Date	02/09/2015	تاريخ الانتهاء																	
<table border="0"> <tr> <td>شريك</td> <td>الإمارات العربية المتحدة</td> <td>20043315</td> <td>زيد احمد على عبدالله نيمان</td> </tr> <tr> <td>Partner</td> <td>United Arab Emirates</td> <td></td> <td></td> </tr> <tr> <td>شريك</td> <td>اليمن</td> <td>41246693</td> <td>خالد علي عبدالله صالح</td> </tr> <tr> <td>Partner</td> <td>Yemen</td> <td></td> <td>Khaled Ali Abdullah Saleh</td> </tr> </table>				شريك	الإمارات العربية المتحدة	20043315	زيد احمد على عبدالله نيمان	Partner	United Arab Emirates			شريك	اليمن	41246693	خالد علي عبدالله صالح	Partner	Yemen		Khaled Ali Abdullah Saleh
شريك	الإمارات العربية المتحدة	20043315	زيد احمد على عبدالله نيمان																
Partner	United Arab Emirates																		
شريك	اليمن	41246693	خالد علي عبدالله صالح																
Partner	Yemen		Khaled Ali Abdullah Saleh																
Commercial Activities		الأنشطة التجارية																	
- Commercial Enterprises Investment, Institution And Management - Real Estate Enterprises Investment, Development, Institution And Management - Onshore And Offshore Oil And Gas Fields And Facilities Services		- الاستثمار في المشروعات التجارية وتأسيسها وإدارتها - استثمار وتطوير المشروعات العقارية وتأسيسها وإدارتها - خدمات حقول ومشاريع النفط والغاز البرية والبحرية																	
Address	USED ONLY FOR LBO 2K14/002	العنوان	جزيرة أبوظبي، البطين، بناية - سمو الشيخة / لقطعه بنت مبارك																

Image.48.G.2

Raydan Investments Limited UAE bank documentation

Dear Sirs,

Subject: Opening a call/current account for firm/company under formation.

Please arrange to open a call/current account in dirhams in the name of Raydan Investment LLC under formation and arrange to issue the paid up capital certificate in favor of Department of Economic Development –Abu Dhabi s per attached Articles of Association .

Below are the details:

S.No.	Name of Partner/Shareholder	Amount (AED)	Share (%)
1	Zayed Ahmed Ali Abdulla Daiban	76,500.00	51%
2	Khaled Ali Abdullah Saieh	73,500.00	49%
	Total		

The paid-up capital amount will be deposited with you into the account of the firm/company to be opened.

Kindly consider this as an authorization letter to block/freeze the paid-up capital amount in full in the bank's favour until the following documents are submitted to you:

- Trade License
- Chamber of Commerce Certificate
- Registration Certificate

After above documents are presented to the bank, you are kindly requested to release any amounts of the paid-up capital only to the authorized persons to manage the account.

Yours faithfully,



Authorized Signatory



Source: Confidential

Image.48.G.3

Raydan Investments Limited UAE legal relationship details**Legal Relationship Details**

Date : 14-07-2016

CIF No 8035250131 Corporate Name RAYDAN INVESTMENTS LLC

Legal Relationship Holder for RAYDAN INVESTMENTS LLC

CIF No	Name	Issue Date	Expiry Date	Relationship	Contact No	Ownership %	Civil ID	Nationality
***	SALAH ALI ABDULLAHSALEH	09/07/2015	31/12/9999	POA Holder	971-2- 9999999	0.0	***	YEMEN
8035207087	KHALED ALI ABDULLAH SALEH	31/05/2015	31/12/9999	POA Holder	***	0.0	***	YEMEN

RAYDAN INVESTMENTS LLC Acting As Legal Relationship for Other Cif's

CIF No	Name	Issue Date	Expiry Date	Relationship	Contact No	Ownership %	Civil ID	Nationality
No Data Found								

Source: Confidential

Appendix H to Annex 48: Ansan Wikfs Investment Limited UAE commercial licence

Image.48.H.1

Ansan Wikfs Investments Limited UAE commercial licence

License Details		تفاصيل الرخصة	
License No.	92286	رقم الرخصة	92286
Licensee	Ansan Wikfs Investments Limited	صاحب الرخصة	انسان ويكفس انستيمنتس لميتد
Operating Name	Ansan Wikfs Investments Limited	الاسم التجاري	انسان ويكفس انستيمنتس لميتد
Legal Status	Branch of a Foreign Company	النسكل القانوني	فرع لشركة اجنبية
Business Unit	Energy and Environment Park	قطاع العمل	مجمع الطاقة والبيئة
First Issue Date	30 June 2014	تاريخ الإصدار الأول	٣٠ يونيو ٢٠١٤
Current Issue Date	30 June 2014	تاريخ الإصدار الحالي	٣٠ يونيو ٢٠١٤
Expiry Date	29 June 2015	تاريخ الإنهاء	٢٩ يونيو ٢٠١٥
Manager		المدير	
Yousif Mohamedahmed Mohamed Elshlekh		يوسف محمد احمد محمد الشيخ	
Address		العنوان	
Premises: 2801 Floor: 28 Building: Shatha Tower Dubai, United Arab Emirates		المقر: ٢٨٠١ الطابق: ٢٨ المبنى: الشذى تاور دبي، الإمارات العربية المتحدة	
Segments - Activities		القطاعات - النشاطات	
Regional Head Quarters • Representative Office			

Appendix I to Annex 48: Ownership of Ansan Wikfs Investment Limited

Image.48.I.1

Shaher Abdulhak as owner of Ansan Wikfs Investment Limited

REGISTER OF MEMBERS OF ANSAN WIKFS INVESTMENTS LIMITED

NAME OF MEMBER	ADDRESS	DATE OF ENTRY AS MEMBER	CERT. NO ISSUED	SHARES ISSUED	CLASS OF SHARE	SOURCE OF SHARES	AMOUNT PAID THEREON	DATE OF TRANSFER OF SHARES	TRANSFEREE	NO OF SHARES OUT
[REDACTED]	P.O. Box 309 Uglind House South Church Street George Town Grand Cayman KY-1104 Cayman Islands	17 Apr 1991	No cert	1	ordinary	original issue	in full	3 Sep 1991	Beater	1
Balance of Shares										ordinary 0
[REDACTED]	P.O. Box 107 Uglind House South Church Street George Town, Grand Cayman, Cayman Islands	17 Apr 1991	No cert	1	ordinary	original issue	in full	3 Sep 1991	Beater	1
Balance of Shares										ordinary 0
[REDACTED]	Sancti Spiritus 621 San Jeronimo, Mexico City D.F. 06400 Mexico	3 Sep 1991	601	100	beater	2 from Subscribers 98 original issue	in full	10 Apr 2002	Connected to Registered Share	100
Balance of Shares										ordinary 0
Shaher Abdulhak	P.O. Box 78 Santa Yvonne Arab Republic	10 Apr 2002	602	100	ordinary	Share Cert. 001 1	in full			ordinary 0
Balance of Shares										ordinary 100

I, Audrey C. Santamaría, a Notary Public in and for the Cayman Islands hereby certify this document to be a true and correct copy of the original this 25 day of November 2014.

Audrey C. Santamaría
 (My commission expires on 31st January, 2014)

11/25/2014
Notary

Maples Corporate Services Limited
 4th Floor, Cricket Square, Cayman Islands
 Tel: (345) 949-7400
 Fax: (345) 949-7401

Source: Confidential

Appendix J to Annex 48: Transfers from Ansan Wikfs Investment Limited to Raydan Investment Limited

Image.48.J.1

Summary of funds transfers from Ansan Wikfs Investment Limited to Raydan Investment Limited

<i>Date</i>	<i>Amount (AED)</i>	<i>Equivalent (US\$)*</i>	
17 Sep 2014	3,050,478.00	830,492.64	Account Khaled XX11
30 Oct 2014	2,067,711.00	562,934.32	Account Khaled XX11
24 Feb 2015	1,230,254.00	334,936.65	Account Raydan XX18
3 Mar 2015	761,603.00	207,346.42	Account Raydan XX18
30 May 2015	763,583.00	207,885.47	Account Raydan XX24
9 Jun 2015	975,125.00	265,477.78	Account Raydan XX24
16 Jun 2015	975,125.00	265,477.78	Account Raydan XX24
12 Dec 2015	734,500.00	199,967.63	Account Raydan XX24
24 Apr 2016	550,875.00	149,975.72	Account Raydan XX24
Total based on evidence	11,109,254.00	3,024,494.41	
Total since listing of Ali Abdullah Saleh (YEi.003)	5,991,065.00	1,631,067.45	

Based on average exchange rate 1 AED = 0.27225 USD (2013-2016)

Source: Confidential

Annex 49: Air strikes affecting civilians and civilian infrastructure (2016)

1. This annex contains four case studies²⁰¹ relating to ten investigations undertaken by the Panel on air strikes that impacted on civilians and civilian infrastructure. These air strikes are attributed to the Saudi Arabia-led coalition. The following is a summary of the ten case studies:

Table 49.1

Air strikes affecting civilians and civilian infrastructure

<i>Ser</i>	<i>Date</i>	<i>Location</i>	<i>Type of EO</i>	<i>Civilian fatalities</i>	<i>Civilian injured</i>	<i>Effect on civilian objects</i>
1	15 Mar 2016	Al Khamees market, Mastaba	Mk 83 Bomb / Paveway	116	40+	Infrastructure damaged.
2	25 Mar 2016	T'baisha, Ta'izz	Not confirmed	10	0	Civilian house destroyed.
3	25 May 2016	Al Mahala, Lahj	Mk 82 Bomb / Paveway	6	3	Civilian house destroyed.
4	25 May 2016	Appendix A: Al Mahala, Lahj	Mk 82 Bomb / Paveway	0	2	Water bottling factory destroyed.
5	9 Aug 2016	Nahda, Sana'a	High Explosive aircraft bomb	10	13	Snack factory destroyed.
6	15 Aug 2016	Abs, Hajjah	GBU-12 ' Paveway II	19	24	MSF hospital severely damaged.
7	13 Sep 2016	Ban al-Hareth, Sana'a	Mk 82 Bomb / Paveway IV	0	0	Alsonidar factory complex severely damaged.
8	22 Sep 2016	Ban al-Hareth, Sana'a	GBU-24 / Paveway IV	0	0	Alsonidar factory complex severely damaged.
9	24 Sep 2016	Mafraq Jiblah, Ibb	Mk 82 Bomb / Paveway	9	7	Civilian house destroyed.
10	8 Oct 2016	al-Sala al-Kubra, Sana'a	GBU-12 ' Paveway II	132	695	Community hall destroyed.

2. The Panel adopted a stringent methodology to ensure that its investigations met the highest possible evidentiary standards, despite it being prevented from accessing Yemen. See annex 2 on IHL methodology.

3. Based on its analysis of the ten strikes, the Panel further finds that given the regular occurrence of incidents of the nature described in the above mentioned incidents:

(a) Those responsible for planning, deciding upon, or executing²⁰² those air strikes that disproportionately affect civilians and civilian objects may fall within the designation criteria contained in paragraphs 17 as those who

²⁰¹ The other case studies are available with the Secretariat.

²⁰² In reference to those executing the attacks, it is possible that the pilot of the aircraft may fire his weapon in reliance of the accuracy of information that may have been previously provided to him. In these cases, the Panel finds that it is those who plan and decide upon the attacks, whom have at their disposal the relevant information from a variety of sources, who have the greatest responsibility to ensure compliance with IHL. See also William Boothby, "The Law of Targeting", OUP (2012), pp. 132-133.

threaten peace and security of Yemen. Their acts may also fall under paragraphs 18 (a), (b), and (c) of resolution 2140 (2014);

(b) All member States of the Saudi Arabia-led coalition and their allies should take necessary measures to ensure that their forces engaged in coalition military operations respect IHL.²⁰³ IHL underscores that States "...may not evade their obligations by placing their contingents at the disposal of...an ad hoc coalition";²⁰⁴

(c) All coalition member States and their allies have an obligation under the Geneva Conventions to ensure respect for IHL by the Saudi Arabia-led coalition.²⁰⁵ This obligation is especially incumbent upon the Government in Yemen on whose request the Saudi Arabia-led coalition is conducting air strikes;²⁰⁶ and

(d) High-level military commanders in the Saudi Arabia-led coalition are also responsible for IHL violations to the extent that they allow, or do not prevent, air strikes from taking place exclusively based on information received from third parties, even if they are Yemeni authorities, without ensuring that the forces under their command and control undertake the necessary assessments relating to proportionality and precautions in attack.²⁰⁷

List of appendices

- Appendix A: Al Khamees market, Mastaba, Hajjah (15 March 2016).
- Appendix B: Civilian house, Al Mahala, Lahj, (25 May 2016).
- Appendix C: MSF hospital, Abs, Hajjah (15 August 2016).
- Appendix D: Al-Sala Al-Kubra community hall, Sana'a (8 October 2016).
- Appendix E: Summary of IHL case study evidence levels (air strikes).

²⁰³ IHL requires each party to the conflict to "respect and ensure respect for international humanitarian law by *its armed forces* and other persons or *groups acting in fact on its instructions, or under its direction or control*." (See CIHLR 139).

²⁰⁴ See commentary to Common Article 1 of the Geneva Conventions and Article 3 of The Hague Convention Concerning the Laws and Customs of War on Land of 1907, which holds States responsible for "all acts committed by persons forming part of its armed forces".

²⁰⁵ This obligation to respect and ensure respect under Common Article 1 is not limited to those coalition States that actively participated in this air strike as stated in the Commentary. "The duty to ensure respect... is particularly strong in the case of a partner in a joint operation, even more so as this case is closely related to the negative duty neither to encourage nor to aid or assist in violations of the Conventions. The fact, for example, that a High Contracting Party participates in the financing, equipping, arming or training of the armed forces of a Party to a conflict, or even plans, carries out and debriefs operations jointly with such forces, places it in a unique position to influence the behaviour of those forces, and thus to ensure respect for the Conventions".

²⁰⁶ S/2015/217.

²⁰⁷ For an overview of command responsibility in this area, see CIHLR 142 and 153.

Appendix A to Annex 49: Al Khamees market, Mastaba, Hajjah (15 March 2016)

A. Introduction

1. This case study is one of two air strikes on civilian gatherings investigated by the Panel.²⁰⁸

B. Background to events

2. At approximately 11:30 hours on 15 March 2016, items of explosive ordnance (EO) were dropped from a military aircraft and detonated on the Al Khamees Market, Mastaba, Hajjah Governorate.²⁰⁹ These explosions occurred approximately five to seven minutes apart at a distance of 50m between them. The UN verified that 116 individuals, including 22 children, were killed by the air strike,²¹⁰ MSF recorded over 40 wounded.²¹¹

3. There was a military checkpoint (CP) belonging to the Houthis approximately 140m from the second airstrike and 190m from the first air strike. This CP is usually manned by up to six fighters.²¹² The two air strikes did not damage the CP.²¹³ It is possible that there were some individual fighters present in, or in the vicinity of, the market at the time of the air strike,²¹⁴ as Houthi fighters regularly visit the market to purchase qat and other commodities. However, witnesses and other investigators consistently confirmed that there was no large gathering of Houthi militias at the CP or in, or in the vicinity of, the market.²¹⁵

²⁰⁸ The other air strike was on a civilian gathering was on 8 October 2016, on a funeral hall in Sana'a. See case study at appendix D to this annex.

²⁰⁹ EO Strike 1, 16°13'39.31"N, 43°14'42.04"E; EO Strike 2, 16°13'40.61"N, 43°14'41.08"E.

²¹⁰ "Zeid condemns repeated killing of civilians in Yemen airstrikes" at <http://ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=17251&LangID=E>. Health officials reported 102 casualties and 44 injured. See "Saudi-led coalition to investigate Yemen air strikes" at <http://www.aljazeera.com/news/2016/03/saudi-led-coalition-investigate-yemen-air-strikes-20160316071229274.html> and "Yemen: People collect 'torn limbs in bags and blankets' after Saudi-led warplanes pound market" <http://www.ibtimes.co.uk/yemen-people-collect-torn-limbs-bags-blankets-after-saudi-led-warplanes-pound-market-201549689>. Mwatana Organization, a Yemen-based organization documented over 131 civilian casualties, with 86 injured (information provided to the Panel on 01 December 2016). Human Rights Watch (HRW) reported 106 civilian casualties. See <https://www.hrw.org/news/2016/04/07/yemen-us-bombs-used-deadliest-market-strike>. The Government of Yemen stated that 65 were killed. It did not clarify how many of those were civilians and how many were fighters (letter dated 31 December 2016).

²¹¹ "Yemen: MSF treats more than 40 wounded following airstrike on marketplace" at

<http://www.msf.org.uk/article/yemen-msf-treats-more-than-40-wounded-following-airstrike-on-marketplace>.

²¹² Local sources and three investigation teams that visited the site in the aftermath of the air strikes.

²¹³ Ibid.

²¹⁴ HRW says that the air strikes "may have also killed about 10 Houthi fighters..." and the UN reports that ten bodies were burnt beyond recognition. See "Yemen: US Bombs Used in Deadliest Market Strike" at <https://www.hrw.org/news/2016/04/07/yemen-us-bombs-used-deadliest-market-strike> and <http://ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=17251&LangID=E>. Reuters quote one source as stating there were around 20 fighters. "Death toll from Saudi-led air strikes on Yemeni market rises to more than 100" at <http://af.reuters.com/article/worldNews/idAFKCN0WJ2KB>. The Panel was also informed by one source that around twenty fighters arrived at the market to buy qat and left twenty minutes before the air strike. The Panel could not corroborate this statement with other witnesses and investigators.

²¹⁵ See below for details of a statement issued by the Joint Incident Assessment Team (JIAT) stating that one of the military objectives was a large Houthi gathering. In addition to Panel's independent investigations both the UN-led investigations and the HRW-initiated investigations found that there were no large gatherings of Houthi militias. See "U.N says Saudi-led bombing of Yemen market may be international crime" at <http://www.reuters.com/article/us-yemen-security-un-idUSKCN0WK152> and <https://www.hrw.org/news/2016/04/07/yemen-us-bombs-used-deadliest-market-strike>.

Figure 49.A.1
Location of the market and the checkpoint



C. Technical analysis of physical evidence

4. Imagery analysis determined a fragment from the location of the first air strike as being part of a rear fin from a PAVEWAY terminal guidance unit for an aircraft bomb (figure 49.A.2).

Figure 49.A.2
Rear fin from PAVEWAY terminal guidance unit²¹⁶



²¹⁶ Source: Confidential, (taken by investigation team that visited the site in the aftermath).

5. Post blast crater analysis determined that the size of the crater at the first air strike was almost certainly within the dimensional parameters for the detonation of 227kg of high explosives, which is the explosive weight of the Mark 83 variant high explosive aircraft bomb (figure 49.A.3).²¹⁷

Figure 49.A.3
Explosion crater²¹⁸



6. The only military entity operating the type of aircraft in the area that has the capability to deliver high explosive ordnance of this type is the Saudi Arabia-led coalition.

D. Response of the Saudi Arabia-led coalition

7. The responses of the Saudi Arabia-led coalition, JIAT and the Government of Yemen are documented below.

<i>Entity / Individual</i>	<i>Date</i>	<i>Statement</i>	<i>Source</i>
JIAT Statement	4 August 2016	“The United Nations news centre has claimed that the coalition State bombarded, and thus massacred, an estimated 106 people, in Suq Khamis Mastaba’ in Hajjah governorate on 15 March 2016. Confirmed intelligence data shows that the target was a large gathering of armed Houthi militia recruits. The gathering was near a weekly market where the only activity takes place on Thursday each week. The operation took place on a Tuesday, and the target was a legitimate, high-value military objective that conferred a strategic advantage. It was also located 34 kilometres from the Saudi Arabian border, and therefore posed a threat to the troops positioned there”.	Document with Panel. ²¹⁹

²¹⁷ A HRW Report of 7 April 2016, “*US Bombs Used in Deadliest Market strike*”, attributed the damage to a Mark 84 (2,000lb) aircraft bomb based on fragments recovered. The Panel has not seen this evidence, and is therefore, based on the crater analysis of the first air strike, the Panel erring on the side of caution attributes the damage to the smaller Mark 83 (1,000lb) aircraft bomb.

²¹⁸ Ibid.

²¹⁹ Official UN translation.

<i>Entity / Individual</i>	<i>Date</i>	<i>Statement</i>	<i>Source</i>
JIAT Statement	5 August 2016	The media also reported: "Moreover, the prosecution did not provide proof of the claims that civilian casualties, and the JIAT found no proof of any fault made by the coalition forces, in the process, and that the Coalition forces have abided by the rules of international humanitarian law".	Saudi Press Agency ²²⁰
Reuters quoting Brigadier General Ahmed Al-Asseri, Spokesperson of the Saudi Arabia-led coalition.	18 March 2016	"We use the information coming from the (pro-Hadi) Yemeni army because they are on the ground. The attack was under the control of the Yemeni army. It gave the target". Reuters also stated that the spokesperson "forwarded a graphic prepared by Hadi's government that said the target of the air strike was a military area where Houthi forces had gathered and that "they (Houthis) deceived people by saying it was a market".	Reuters ²²¹
Government of Yemen	18 March 2016	"A statement issued on Friday by Hadi's government said it had formed a committee to look into the bombing and whether it was the result of an air strike or of shelling by the Houthis, whom it accused of often blaming the coalition for attacks they carried out themselves".	Reuters ²²²
Government of Yemen	31 December 2016	"According to sources from the militia 115 have been killed and dozens wounded. Our sources in the region confirm that the number of dead is 65. Also the incident occurred on a Tuesday. As the name of the market indicates people from the surrounding villages gather on the market day, which is Thursday. This confirms the hypothesis that the gathering was of houthis militia and that two technicals have been observed in the entrance of the market. The Government of Yemen doesn't have final information as the area is not under its control." (Unofficial translation).	Response to a Panel inquiry on the Government of Yemen's role in the incident received on 31 December 2016.

8. The Saudi Arabia-led coalition has not yet provided a response to Panel requests for information.²²³

E. Panel observations on Saudi Arabia-led coalition's statement, information provided by the Government of Yemen, and JIAT's findings relating to the air strikes

9. In assessing the Saudi Arabia-led coalition's compliance with IHL, the Panel has given due consideration to the official findings above. The Panel highlights that it did not have access to the information that was at the disposal of JIAT, despite requests for information to the Saudi Arabia-led coalition. The Panel will, therefore, base its IHL assessment on its own investigative findings. The Panel notes, however, discrepancies between the statements provided by the Government of Yemen and the Saudi Arabia-led coalition spokesperson on the attribution of responsibility relating to target selection (see paragraph 14).

²²⁰ "Joint Incidents Assessment Team (JIAT) on Yemen Responds to Claims on Coalition Forces' Violations in Decisive Storm Operations" at <http://www.spa.gov.sa/viewstory.php?lang=en&newsid=1524799>.

²²¹ <http://www.reuters.com/article/us-yemen-security-un-idUSKCN0WK152>.

²²² Ibid.

²²³ Panel letters dated 1 July 2016 and 21 November 2016.

F. Analysis of violations of IHL

10. In the absence of a response from the Saudi Arabia-led coalition, the Panel analyzed the applicable law in relation to this incident on the basis of its own independent investigations.²²⁴

11. The Panel investigations demonstrated that, while it is possible that some individual fighters may have been present amongst civilians,²²⁵ there was no demonstrable evidence of a large gathering of Houthi fighters or recruits in, or in the vicinity of, the market place at the time of, or preceding, the two air strikes.²²⁶ Statements and imagery gathered by the Panel also demonstrated that the market was functional on 15 March 2016 and that there were civilians, including children in, and in the vicinity of, the market at the time of the air strikes.²²⁷

12. The Panel finds that it is possible that the air strike targeted some Houthi fighters.²²⁸ Yet, it is not convinced that the Saudi Arabia-led coalition respected relevant principles of IHL, including those relating to proportionality,²²⁹ for the following reasons:

(a) The Panel notes that the Saudi Arabia-led coalition did not provide the Panel with information that demonstrated that a significant number of those who died or injured were Houthi fighters. Instead, information collected by the UN and other organizations demonstrate that attack resulted in at least 100 civilian deaths, of which approximately 20% were of children.²³⁰

(b) This likelihood of excessive harm to civilians and civilian objects could have reasonably been anticipated in the circumstances because: (i) the market place was a civilian object *prima facie* immune from attack; (ii) it was also a civilian gathering point; (iii) the market was functional on the day of the air strike; and (iv) that the timing of the attack would be such as to cause a disproportionately high number of civilian casualties. It is reasonable to expect that a commander ordering these air strikes should have been aware of the above factors, given that this information is readily available, and should have taken them into consideration when assessing the ‘concrete and direct military advantage’ of the air strikes.²³¹

²²⁴ See appendix E

²²⁵ See footnote 496. The UK views that if the Commander made reasonable effort to gather intelligence, reviews the available intelligence, and concludes in good faith that he is attacking a legitimate military target, “he is unlikely to violate the principles of distinction if the target turned out to be of a different, civilian nature.” See William Boothby, “The Law of Targeting”, OUP (2012), p. 61.

²²⁶ See footnote 496.

²²⁷ The Panel was informed that while the weekly market is held on Thursdays, commercial activities take place on other days, although on a lesser scale than Thursdays. The fact that civilians, including, were in a functional market at the time of the strike was also independently verified by the UN and HRW. See section B.

²²⁸ CIHLR 8 defines a military objective as follows: “In so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose partial or total destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage”.

²²⁹ Under IHL “launching an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, *which would be excessive in relation to the concrete and direct military advantage anticipated*, is prohibited”. (Emphasis added). See CIHLR 14.

²³⁰ In the Galic Trial Judgement (2003), the International Criminal Tribunal for Former Yugoslavia held in respect of a shelling at a football tournament that “Although the number of soldiers present at the game was significant, an attack on a crowd of approximately 200 people, including numerous children, would clearly be expected to cause incidental loss of life and injuries to civilians excessive in relation to the direct and concrete military advantage anticipated”. See <http://www.icty.org/x/cases/galic/tjug/en/gal-tj031205e.pdf>.

²³¹ See CIHLR 14.

(c) It is also relevant that the aircraft bombs were detonated inside a market place, and not “near” the market where the gathering of militias allegedly took place,²³² and that at least two known locations of Houthi fighters in, and in the vicinity of the market, were unaffected by the strikes.²³³

13. IHL requires military commanders and those responsible for planning and executing decisions regarding attacks to take all feasible precautions to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects.²³⁴ The fact that the Saudi Arabia-led coalition knew that this was a market place and thus a civilian location where there would ordinarily be a congregation of civilians (see paragraph 7), meant that they should have been particularly vigilant when undertaking a proportionality assessment and making use of available precautionary measures to minimize the incidental loss of civilian life and damage to civilian property.²³⁵ It is also not clear what precautionary measures were taken by the Saudi Arabia-led coalition forces, including confirmation that the market was not active, as alleged by the JIAT, on the day of the attack.

14. The initial response of the Saudi Arabia-led coalition confirms that they relied exclusively on the information coming from the Government of Yemen.²³⁶ The Panel notes that this is the second incident involving mass civilian casualties, that it investigated, in which the Saudi Arabia-led coalition or the JIAT alleged that parties affiliated with the Government of Yemen provided it with the target specific information.²³⁷ The Government of Yemen did not provide sufficient information as to its role in the air strike. It referred to the gathering of Houthis as a “hypothesis”.²³⁸ It is difficult to justify an air strike on a civilian object, which is ordinarily a civilian gathering point, on the basis of a hypothesis. The Saudi Arabia-led coalition remains responsible for any violations relating to proportionality and precautions in attack, which it incurred as the party carrying out the air strikes.

G. Summary of findings

15. The Panel finds that:

(a) The Saudi Arabia-led coalition conducted two air strikes on a market place on 15 March 2016 that resulted in mass civilian fatalities and casualties;

(b) The Panel is unconvinced that principles in relation to proportionality were respected in this incident. If precautionary measures were taken, they were largely inadequate and ineffective;

²³² See the JIAT statement.

²³³ The Panel finds that the nearby Houthi manned check point was unaffected by the strikes. Additionally, HRW quotes one witness and states, “He said that some armed Houthi fighters regularly ate and slept in a restaurant about 60 meters from where one bomb detonated. The restaurant was not damaged”. <https://www.hrw.org/news/2016/04/07/yemen-us-bombs-used-deadliest-market-strike>.

²³⁴ See Article 13(1) of Additional Protocol II to the Geneva Conventions and CIHLR 15 - 22.

²³⁵ See commentary to CIHLR 14, and the United States Department of Defense Law of War Manual (2015), p.1033, which requires combatants to assess in good faith the information that is available to them, when conducting attacks.

²³⁶ The spokesperson also forwarded to the media, a graphic prepared by the Government of Yemen that said that the target of the air strike was a military area where Houthi forces had gathered. The Panel has not had access to this graphic. <http://www.reuters.com/article/us-yemen-security-un-idUSKCN0WK152>.

²³⁷ Press Statement by JIAT on the community hall incident in Sana’a on 8 October 2016. Document available with Panel.

²³⁸ See paragraph 7. The Government of Yemen announced on 18 March 2016 that it had formed a committee to look into the air strikes. See <https://www.hrw.org/news/2016/04/07/yemen-us-bombs-used-deadliest-market-strike>. It appears that the task was entrusted to the National Commission on Human Rights. The Panel met with the Commissioners in July 2016 in Geneva who informed the Panel that this case is under investigation.

(c) Even if the Government of Yemen had provided it with target specific information, the Saudi Arabia-led coalition forces are still responsible for IHL violations regarding any failure on their part to undertake the requisite detailed assessments relating to proportionality and precautions in attack and their failure to ensure that relevant precautions were taken to minimize the effects on civilians as a result of the air strikes; and

(d) Those officers of the Government of Yemen that passed the information, or who were otherwise involved in the intelligence gathering and targeting processes in relation to this incident, may also be responsible for any IHL violations to the extent of their contribution.

Appendix B to Annex 49: Air strike on Civilian House in Al Mahala, Lahj (25 May 2016)

A. Introduction

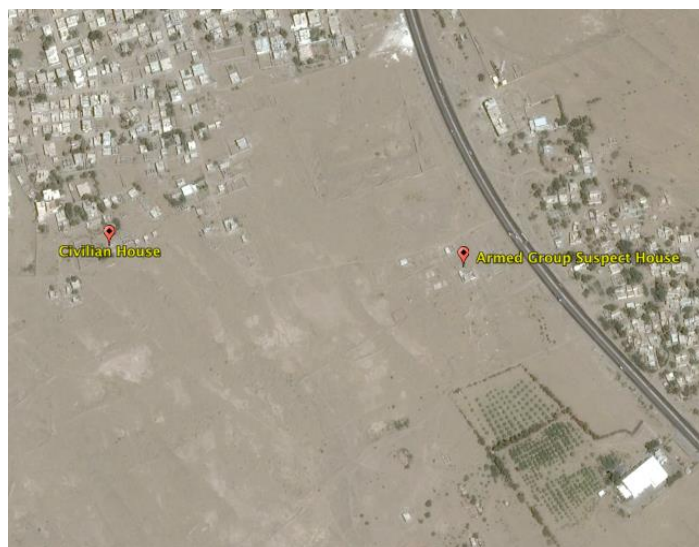
1. This case study is one of the three investigations done on air strikes affecting civilian houses.

B. Background to events

2. At approximately 04:00 hours on 25 May 2016, two items of explosive ordnance, that were dropped from a military aircraft, detonated on, or in very close proximity to, a civilian house in the village of Al-Mahala, Lahj. The resultant explosions²³⁹ killed six occupants of the house, one man, one woman, and four children, and critically injured one woman and two children. The neighbours refrained from assisting in rescue efforts after the first strike for fear of a second strike. It is certain that had it not been for the second strike that occurred approximately 2-5 minutes after the first, some more members of the family would have survived the attack. The only male adult of the house was a local Deputy Director of Education.

3. Very shortly afterwards another item of explosive ordnance, highly probably dropped from the same military aircraft as above, detonated in another house located 544 metres from the civilian house (figure 49.B.1). This house belonged to a local fighter, whom some say belongs to AQAP.²⁴⁰ This latter strike did not result in casualties. Within a few minutes, a third series of air strikes impacted on a water bottling plant, which was located 8 km north of the house, (case study with Secretariat). The house was located in an area under the control of the legitimate government.²⁴¹

Figure 49.B.1
Relative locations of houses²⁴²



²³⁹ EO Strike at 13 01'01.60" N, 44 53'19.87"E.

²⁴⁰ Locally, the fighter is called Abu Soutan. The Panel cannot independently verify his allegiance.

²⁴¹ The Al Anand military base, controlled by the Yemen Armed Forces, was approximately 20 km from the house.

²⁴² Source: Google Earth. 24 October 2016.

Figure 49.B.2
Civilian house post-explosion²⁴³

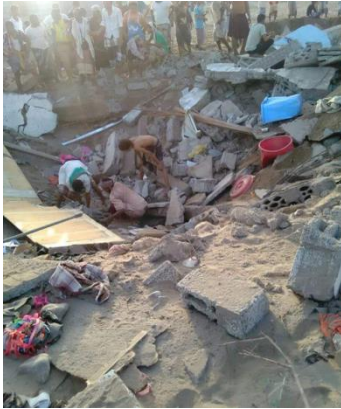


Figure 49.B.3
Armed group suspect's house post-explosion



C. Technical analysis of physical evidence

4. Technical analysis of imagery of fragmentation recovered from the explosion at the civilian house demonstrates that:

(a) The explosive device was almost certainly fitted with a Paveway laser guidance unit. Such units are usually designed to be paired with Mark 82 high explosive aircraft bombs;

Figure 49.B.4
Post-explosion guidance fin from a Paveway laser guidance system



Figure 49.B.5
Post-explosion adapter flange from a Paveway laser guidance system



²⁴³ Confidential sources. Imagery in this appendix was either provided to the Panel by the source or was verified as accurate by eyewitnesses.

Figure 49.B.6
CAGE Code 94271



(b) Post blast crater analysis determined that the size of the crater was almost certainly within the dimensional parameters for the detonation of 87kg of high explosives, which is the explosive weight of the Mark 82 variant high explosive aircraft bomb;

(c) The civilian house was almost certainly destroyed by a Mark 82 high explosive aircraft bomb fitted with a Paveway laser guidance system;

(d) The only military entity operating the type of aircraft in the area that has the capability to deliver high explosive ordnance of this type is the Saudi-led coalition.

D. Response of the Saudi Arabia-led coalition

5. The Panel has not yet received a response to a request for information made to the Saudi Arabia-led coalition.²⁴⁴ The Governor of Lahj issued a statement in which he stated: "We know nothing about the attack. The coalition conducts attacks without informing us. The responsibility of this operation is on those who provide the coalition with the wrong coordinates".²⁴⁵

E. Analysis of violations of international humanitarian law (IHL)

6. In the absence of a response from the Saudi Arabia-led coalition, the Panel analyzed the applicable law in relation to this incident on the basis of its own independent investigations.²⁴⁶ The Panel finds that based on the use of precision-guided weapons and repeated strikes the residential building was the intended target of the two air strikes.

²⁴⁴ Letter dated 1 July 2016 and 21 November 2016.

²⁴⁵ "Human remains everywhere": Family of 11 killed in alleged Saudi coalition strike in Yemen" at <https://www.rt.com/news/344445-saudi-coalition-family-killed/>. See also "11 family members killed in Saudi airstrikes on Lahj" at <https://www.youtube.com/watch?v=-4HRndZsIDI>.

²⁴⁶ See appendix E for sources of information. Open source information included <https://www.rt.com/news/344445-saudi-coalition-family-killed/>, "Yemeni officials: Airstrike kills 11 from same family" at <http://bigstory.ap.org/article/e8c13a9fa4c34b5dbb2a803d0bf40a68/yemen-officials-say-strike-kills-6-1-family>, "Bombing Businesses: Saudi Coalition Airstrikes on Yemen's Civilian Economic Structures" at <http://reliefweb.int/report/yemen/bombing-businesses-saudi-coalition-airstrikes-yemen-s-civilian-economic-structures-enar>, "Death toll from Saudi-led air raid on Yemen's Lahij soars to 11" at <http://www.presstv.com/Detail/2016/05/26/467450/Saudiled-coalition-airstrike-civilians-fatalities-casualties-Mahala-Lahij-Nihm-Sanaa>, and "11 family members killed in Saudi airstrikes on Lahi" at <https://www.youtube.com/watch?v=-4HRndZsIDI>.

7. The Panel found no explanation in the public domain as why this civilian house, which is *prima facie* a civilian object immune from direct attack,²⁴⁷ was considered by the Saudi Arabia-led coalition to be a legitimate military objective.²⁴⁸ The Panel also found no demonstrable evidence that the occupants of the house, who as civilians were *prima facie* immune from attack, had lost their civilian protection.²⁴⁹ IHL requires that the civilian population, as well as individual civilians, shall not be the object of attack.²⁵⁰ An attack on civilians and civilian objects cannot also be justified on the basis of military necessity.²⁵¹ Any attack that does not distinguish between civilians and civilian objects with military objectives violates, amongst others, IHL principles relating to distinction.²⁵²

8. While the Panel is not convinced that the Saudi Arabia-led coalition directed its air strike against a legitimate military target, even if it had, the Panel finds that there are serious concerns whether it respected IHL principles of proportionality²⁵³ and precautions in attack.²⁵⁴ The second strike killed the head of the household as he attempted to rescue those injured, and it also further killed some of those civilians who were injured. The attack resulted in a disproportionately high number of deaths and injuries to women and children as demonstrated by the fact that eight of the nine individuals were women and children, and the total destruction of the residential building.²⁵⁵ Any proportionality assessment²⁵⁶ should have taken into consideration that the timing of the attack, in the early morning during Ramadan, was such that there was a high likelihood that the women and children will be in the house.

9. It is not clear if measures were taken that would have distinguished between the intended target(s) and other civilians. For example, if the target was the male occupant of the house, it is possible that then other measures could have been reasonably used to apprehend the suspect, given that the legitimate Government of Yemen was in control of the area and had ground presence.²⁵⁷ The cumulative effect on civilians and the civilian object also demonstrates that if precautionary measures were taken, they were largely inadequate and ineffective.²⁵⁸

²⁴⁷ IHL requires all parties to the conflict must at all times distinguish between civilian objects and military objectives and that attacks may only be directed against military objectives. See CIHLR 7 – 12.

²⁴⁸ IHL states that “in so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose partial or total destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage”. CIHLR 8.

²⁴⁹ There was no evidence that indicated that the male occupant was a fighter or was otherwise participating in hostilities at the time of the attack. In Yemen, women do not generally engage in hostilities and the children, (the oldest male child is a 11-year old student at the local school), were highly unlikely to have been fighters or engaged in hostilities at the time of the air strikes. See Article 13 (1) and (2) of AP II relating to the protections afforded to civilians and Article 13 (3) on the loss of protection. See also CIHLR 1, 5 and 6.

²⁵⁰ Article 13(2) of AP II. See also CIHLR 1.

²⁵¹ Prosecutor v Dario Kordic and Mario Cerkez (2005). Paragraph 54 at http://www.icty.org/x/cases/kordic_cerkez/acjug/en/corr050106.pdf.

²⁵² IHL permits attacks directed against combatants and military objectives, however, civilian objects and civilians are *prima facie* immune from attack. See Article 13 of AP II and CIHLR 1, 6, 7, and 10.

²⁵³ See CIHLR 14. An attack is disproportionate if it “...may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated...”. Those responsible for planning, deciding upon or executing attacks necessarily have to reach their decisions on the basis of their assessment of the information from all sources that is available to them at the relevant time. See further https://ihl-databases.icrc.org/customary-ihl/eng/docs/v1_rul_rule14#Fn_29_33.

²⁵⁴ IHL requires that all feasible precautions must be taken to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects. Article 13(1) of AP II. CIHLR 15. This obligation is particularly incumbent on those who plan and decide on the air strikes. See William Boothby, “The Law of Targeting”, OUP (2012), p. 72. The specific obligations are further elaborated in CIHLR 16 – 20.

²⁵⁵ It is highly unlikely that the women and children were participating in hostilities. The Panel has further images demonstrating the total destruction of the house.

²⁵⁶ CIHLR 18.

²⁵⁷ The Al Anad military base, controlled by the Yemen Armed Forces, is in the area.

²⁵⁸ If precautionary measures were not taken, it is incumbent on the Saudi Arabia-led coalition to demonstrate why in those circumstances, such precautionary measures were not feasible.

F. Summary of findings

10. The Panel finds that:

(a) The Saudi Arabia-led coalition conducted air strikes on a civilian house in Al Mahala, Lahj on 25 May 2016 that resulted in deaths of six civilians and critically injured three others and destroyed the civilian house; and

(b) The Panel is not convinced that IHL principles in relation to distinction and/or proportionality were respected in this incident. If precautionary measures were taken, they were largely inadequate and ineffective.

Appendix C to Annex 49: Abs hospital, Abs, Hajjah (15 August 2016)

A. Introduction

1. This case study is the only one in which the Panel has investigated an air strike on a medical facility in Yemen.²⁵⁹

B. Background to events

2. At approximately 15:35 hours on 15 August 2016, an unarmed civilian car entered the Abs hospital carrying wounded individual(s). At approximately 15.40 hours explosive ordnance dropped from a military aircraft, detonated within the Abs hospital premises,²⁶⁰ resulting in nineteen fatalities and 24 injured. The casualties included hospital workers, patients and other civilians.²⁶¹ The high number of civilian casualties was a result of the point of detonation being close to the emergency department and waiting hall for patients. The car that was used to transport an injured individual was also destroyed, and its occupants killed.

Figure 49.C.1

Location of the hospital



²⁵⁹ This airstrike constituted the fifth attack on an MSF-supported medical service in Yemen in the past year. See MSF investigation report into the incident at http://www.msf.org/sites/msf.org/files/yemen_abs_investigation.pdf (hereinafter referred to as MSF investigation report). Of these, MSF attributes responsibility, for at least one other attack, on a mobile clinic in the Al Houban district in Tai'zz, on 2 December 2015, to the Saudi Arabia-led coalition. Crisis Info 8 – Yemen, MSF (December 22 2015) at https://lakareutangranser.se/sites/default/files/yemen_crisis_info_8_final.pdf. For the outcome of the JIAT investigation on this latter incident, see “Saudi investigation largely defends deadly air strikes in Yemen” at <http://www.reuters.com/article/us-yemen-security-saudi-airstrikes-idUSKCN10F23J>.

²⁶⁰ 16°00'23.23"N, 43°11'40.47"E.

²⁶¹ MSF investigation report. This included nine children, five women and eleven hospital workers.

C. Technical analysis of physical evidence

3. Post blast crater analysis of imagery (figure 49.C.2) determined that the size of the crater was within the dimensional parameters for the detonation of 87 kg of high explosives.²⁶² This is the explosive weight of the Mark 82 variant high explosive (HE) aircraft (A/C) bomb. The crater profile is highly indicative of that typically caused by the detonation of a high explosive aircraft bomb on, or just below, the ground surface. The Panel thus finds that, a high explosive aircraft bomb with an explosive content of approximately 87 kg was the cause of the explosion.

Figure 49.C.2
Post blast crater²⁶³



4. Photogrammetry analysis of imagery of fragmentation taken at the scene determined that one fragment has the shape profile, and falls within the dimensional parameters, of a rear wing from a GBU-12 PAVEWAY II guidance unit (figure 49.C.3).

Figure 49.C.3
Probable GBU-12 PAVEWAY II guidance unit rear wing²⁶⁴



5. Explosives engineering analysis predicts that for an explosive device the size of a Mark 82 HE A/C bomb (net explosive content (NEC) of 87 kg) the blast overpressure will result in 99 per cent fatalities at a radius of up to 8.3

²⁶² Explosive Engineers Tool Box (EETB). Assumes initiation at a burial depth of 2m due to impact.

²⁶³ Source: France 24 YouTube. This image has been verified as accurate by witnesses and has been crosschecked with other imagery provided to the Panel by witnesses.

²⁶⁴ Source: Confidential.

metres from the point of detonation, with permanent hearing damage expected out to a radius of 42.4 metres.²⁶⁵ Many more fatalities and injuries from fragmentation effects can be expected at far greater ranges, however.²⁶⁶

6. The only party to the conflict with the known capability to deliver the Mark 82 HE A/C bomb with the GBU-12 PAVEWAY II guidance unit is the Saudi Arabia-led coalition.

D. Response of the Saudi Arabia-led coalition

7. On 15 August 2016, the Saudi Arabia-led coalition acknowledged its responsibility for the air strike and stated to MSF that “the objective of the air strike was a moving vehicle that had entered the hospital compound”.²⁶⁷

8. On 8 December 2016 JIAT provided the Panel with the following information:

“Doctors without borders (MFS (sic)) posted a statement on its official website claiming that the coalition forces struck Abs-Hospital in Abs city, Hajjah Governorate, on 15 August 2016, resulted with (7) people dead, and (13) injured. The JIAT investigated the facts and the circumstances of this incident, and found out that on 15 August 2016 the coalition forces received intelligence information about presence of Houthi Leadership gathering northern Abs City, thus they were targeted and attacked by coalition Air Force. After that the aircrew observed that a vehicle leaving the site, and proceeding south. The fighters followed the vehicle, and struck it next to a building that does not bear any marks that would indicate before the strike that it is a hospital, which has appeared later that it is (Abs-Hospital). In light of the facts, the JIAT have found that, damages inflicted on the building were because of the targeted vehicle (which was a legitimate military target) next to the building which were unintentional. Thus, the JIAT have found that, the coalition forces must extend an apology for this unintentional mistake, and provide the proper assistance to the families with affected persons. The coalition forces must also investigate those responsible for that, to identify extent of their violation of the approved Rules Of Engagements (ROEs), and take the proper actions in this regard.”

9. The Panel has not yet received a response to a request for information made to the Saudi Arabia-led coalition.²⁶⁸

E. Panel observations on JIAT’s findings

10. In assessing the Saudi Arabia-led coalition’s compliance with IHL, the Panel has given due consideration to the findings of the JIAT and media statements attributed to the coalition. The Panel highlights the fact that the Panel did not have access to the information that was at the disposal of the JIAT, despite requests for information from the Saudi Arabia-led coalition. The Panel will, therefore, base its IHL assessment on its own investigative findings.²⁶⁹

11. The Panel finds that the Saudi Arabia-led coalition should have been aware that the vehicle entered the Abs hospital, prior to the air strike. The Panel finds that the Saudi Arabia-led coalition was provided with the coordinates for the hospital on 11 July and 10 and 11 August 2016. The coordinates provided, 16°00'23.03” N 43°11'39.98” E, are the coordinates of the hospital.

²⁶⁵ See C. N. Kingery and G. Bulmash, “Airblast parameters from TNT spherical air burst and hemispherical surface burst”, Technical Report ARBRL-TR-0255 (Ballistics Research Laboratory, Aberdeen Proving Ground, Maryland, United States, April 1984). Assuming peak reflected pressure surface burst.

²⁶⁶ The Panel does not yet have sufficient information to model this aspect of the warhead’s capability with any degree of acceptable accuracy for this incident.

²⁶⁷ MSF investigation report.

²⁶⁸ Letter dated 21 November 2016.

²⁶⁹ For Panel sources see appendix E.

12. The Panel also finds that even if there were no visible markings to indicate that this was a hospital, a fact that MSF disputes,²⁷⁰ these distinctive emblems are only intended to facilitate identification and do not, by themselves, confer protected status.²⁷¹ Under IHL, medical personnel and objects are protected because of their function. The display of the emblems is merely a visible manifestation of that function.

F. Analysis of violations of IHL

1. Panel assessments on the targeted civilian vehicle

13. The Panel finds that the vehicle was highly likely the target of the air strike and that the vehicle was within hospital premises at the time it was targeted.²⁷² The use of a precision-guided munition is confirmation that the intended target was hit.

14. The Panel is not convinced that the “moving vehicle that entered the compound” was a legitimate military objective. The Panel’s investigations revealed that the vehicle was a civilian car²⁷³ transporting wounded individual(s) (those who were wounded possibly from a previous air strike elsewhere) to the hospital.²⁷⁴ The Panel cannot conclusively state that the wounded in the vehicle was/were fighter/s or civilian/s.²⁷⁵ Yet, this alone does not make the vehicle a legitimate military objective because those wounded, if they were fighters, had become *hors de combat*, and are protected from direct attack under IHL.²⁷⁶

15. Even if the civilian vehicle, for reasons only known to the commanders who decided on this attack, had become a military objective, the Panel is not convinced that the Saudi Arabia-led coalition forces, in carrying out the air strike on a hospital, met the relevant IHL principles relating to proportionality.²⁷⁷ The Panel finds that it certainly did not meet the principles relating to precautions in attack, for reasons demonstrated below. If the vehicle was a target because it came from a battlefield, then it is questionable as to why the Saudi Arabia-led coalition did not target the vehicle during the 10 km it travelled to reach the hospital.²⁷⁸

2. Panel assessments on the attack on the hospital

16. The Panel finds that the hospital was protected from attack under IHL at the time of that attack, and there is no demonstrable evidence to indicate that the facility and medical personnel had lost their protected status under IHL.²⁷⁹

²⁷⁰ MSF investigation report. See images at p.10 of MSF report.

²⁷¹ See commentary to CIHLR 30.

²⁷² JIAT statement, MSF statement, and panel sources.

²⁷³ The Panel’s investigations indicate that the vehicle was a Toyota Corolla car that was well known in that area to operate as a “taxi”.

²⁷⁴ a) Panel sources at the Abs hospital; and b) MSF stated that “The car was visually inspected at the gate by the hospital ER guard who reports that the people in the car wore civilian clothes and that there were no weapons visible inside the vehicle. At the triage area, the car was approached by MSF medical staff whom subsequently checked availability in ER, which was full, and afterwards went to the logistics room to bring out a mattress/stretcher to unload the wounded. At this precise moment – at 15.40 hours local time – the airstrike took place, making impact at the exact place where the vehicle had stopped”. MSF investigation report, footnote 2, p 6.

²⁷⁵ Sources informed the Panel that the passenger was an ice cream seller who was wounded in an air strike at another location.

²⁷⁶ Common Article 3 to the Geneva Conventions (CA 3).

²⁷⁷ CIHLR 14. The Panel requires further verifiable evidence from the coalition on its intended target to make the relevant analysis on proportionality. The Panel has requested, but not yet received, this information.

²⁷⁸ Distance provided by MSF in its investigation report, p.6.

²⁷⁹ A hospital can only lose its protected status when it is being used, outside its humanitarian functions, “to commit acts harmful to the enemy” (CIHLR 28) or “hostile acts” (Article 11(2) of AP II). The fact that the hospital treats, or has within its premises, wounded fighters does not result in a loss of protection for the hospital. CIHLR 28 and CA 3.

The Saudi Arabia-led coalition violated IHL principles relating to the special protections afforded to hospital.²⁸⁰

17. The Panel finds that the Saudi Arabia-led coalition also violated IHL principles relating to the protection of wounded and sick persons,²⁸¹ medical personnel,²⁸² persons hors de combat²⁸³ and civilians²⁸⁴ in this air strike. The air strike resulted in nineteen fatalities and 24 injured persons, who were either wounded or sick, medical personnel, or caregivers.

18. The JIAT statement demonstrates that the Saudi Arabia-led coalition did not consider the presence of, and impact on, the hospital or its occupants in its proportionality assessment undertaken prior to the air strikes. Any proportionality assessment should have considered, at least: 1) the high number of civilian casualties that may result from an attack on a functioning hospital; 2) impact on other protected persons, including the wounded, the sick, medical personnel, and hors de combat;²⁸⁵ and 3) the special protection afforded to hospitals under IHL. Even if the Saudi Arabia-led coalition concluded, for reasons unknown to the Panel, that the vehicle was a legitimate military objective, the Panel is unconvinced that an air strike targeting the vehicle within the hospital premises would meet the requirements of proportionality.

19. The JIAT media statement demonstrates that the Saudi Arabia-led coalition did not comply with the strict IHL obligation to issue a warning prior to the attack.^{286 287} An attack could only have taken place after a reasonable time, when such warning has remained unheeded.²⁸⁸ The Panel concludes that the Saudi Arabia-led coalition violated IHL principles relating to precautions in attack.

G. Summary of findings

20. The Panel finds that:

(a) The Saudi Arabia-led coalition conducted an air strike on the Abs hospital on 15 August 2016 that resulted in nineteen fatalities and 24 injured civilians, hors de combat, or medical personnel. The air strike also damaged the hospital and at least one civilian vehicle; and

(b) The attack violated several IHL principles, including those relating to respect and protection of medical personnel and units, civilian objects, civilians, the wounded and sick, and *hors de combat*. It also violated IHL principles relating to precautions. The Panel is unconvinced that the Saudi Arabia-led coalition directed its attack against a legitimate military objective in this air strike and that it met the relevant principles of proportionality.

²⁸⁰ The term “medical units” refers to establishments and other units and includes, for example, hospitals and other similar units, blood transfusion centres, preventive medicine centres and institutes, medical depots and the medical and pharmaceutical stores of such units. See CIHLR rule 28. See also Article 11 (1) of AP II.

²⁸¹ CA 3.

²⁸² MSF, in its investigation report, states that the air strike resulted in the death of 1 staff member, injured two Ministry of Health staff and three Ministry of Health volunteers. The Panel understands that some of these personnel were exclusively assigned to medical duties, and thus enjoyed special protection. Others were entitled to the protection afforded to civilians. See CIHLR rule 25.

²⁸³ CA 3, CIHLR 47 (b).

²⁸⁴ CA 3, CIHLR 1,5, and 6.

²⁸⁵ MSF reports that, at the time of the air strike, there were 23 patients in surgery, 25 in the maternity ward, twelve in paediatrics and thirteen new-borns in Abs hospital. MSF investigation report.

²⁸⁶ Article 11(2) of the AP II and CIHLR 28.

²⁸⁷ MSF denies receiving any such warning, or any communication that would have constituted a warning prior to the attack. MSF investigative report, footnote 2, p 12.

²⁸⁸ See CIHLR 28.

Appendix D to Annex 49: al-Sala al-Kubra community hall, Sana'a (8 October 2016)

A. Introduction

1. This case study is one of the two investigations done on air strikes affecting civilian gatherings.²⁸⁹

B. Background to the incident

2. On 8 October 2016, between 15:20 and 15:30 hours (local time) explosive ordnance detonated on, or in, the al-Sala al-Kubra community hall in a residential area of south-western Sana'a.²⁹⁰ The venue was hosting at least 1000 mourners taking part in a funeral ceremony for Ali Al Rowayshan, the father of Major General Jalal Al Rowayshan, the acting minister of the interior under control of the Houthi-Saleh alliance. The UN reported that 132 civilians died and 695 were injured in this attack.²⁹¹

Figure 49.D.1

Location of attack²⁹²



3. The al-Sala al Kubra community hall had a capacity of 1,000 to 2,000 individuals and attendance at the funeral was expected to be high. The timing of the attack also coincided with a time when the funeral was expected to receive the highest number of mourners.²⁹³ Local custom requires attendance at a funeral as both a religious and a personal obligation. Hence, political and military leaders, and civilians, could not avoid attending the funeral, despite the potential security risks associated with such a gathering during the ongoing conflict.

4. Jalal Al-a's ministerial level position in the ministry of the interior under control of the Houthi-Saleh alliance, together with the Al Rowayshan family's prominent role in the Upper Khawlan tribe, meant that a high number of high-ranking political, military, and tribal guests were expected to attend the funeral. Although rumours of Former President Ali Abdullah Saleh (YEi.003) and his son, Khaled Ali Abdullah Saleh, attending the funeral turned out to be untrue, many current and former senior military officers of the Houthi and Saleh forces did attend the service. High profile public funerals, such as the one convened for Ali Al Rowayshan, are one of the few events in Yemen at which so many

²⁸⁹ The other being the air strike on the Mustaba market at appendix A.

²⁹⁰ 15°17'22.75"N, 44°12'02.60"E.

²⁹¹ Information provided by OHCHR to the Panel on 19 December 2016.

²⁹² Google Earth (3 October 2016).

²⁹³ In Yemen, most mourners attend funerals between 14:30 – 17:30 hours.

key figures in the Houthi-Saleh alliance would gather in a single place. Had the attack killed or seriously injured more of the individuals identified by the Panel²⁹⁴ then the Houthi-Saleh alliance would have been dealt a devastating political and military blow.

C. Technical analysis of physical evidence related to the incident²⁹⁵

5. The Panel has obtained and analysed post blast original imagery²⁹⁶ of the available physical evidence and finds that:

(a) The damage was almost certainly caused by the detonation of at least two items of explosive ordnance (EO), each containing a significant²⁹⁷ quantity of high explosive (HE). Such a quantity is normally contained in an aircraft bomb (figures 49.D.1 and 49.D.2);

(b) The two entry points (holes) (figures 49.D.3 and 49.D.4) were caused by the kinetic energy from aircraft bombs, which have hardened weapons grade steel cases. The aircraft bombs penetrated the structure of the concrete first floor before detonation inside the hall. Figure 49.D.3 shows the damage to the supporting pillars in the immediate vicinity of the blast, whilst the ones further away are relatively intact. This is a feature of both the designed strength of the concrete pillars that are designed to prevent a 'progressive collapse' in the event of the failure of any supporting pillars' and the effects of an explosion. Initially, close to an explosion, the shock wave will destroy material in its path, but this shock wave typically dissipates within metres to be replaced by the blast wave. This blast wave only has the power to deform material in its path before its energy dissipates to such a level that it will aerodynamically flow around objects. At fifteen metres from an explosion the blast wave pressure will have dissipated to approximately 90% of the original blast over pressure at the explosion point;

Figure 49.D.2
Post blast aerial image²⁹⁸



Figure 49.D.3
Post blast interior



²⁹⁴ Information with Secretariat.

²⁹⁵ Available as of 12 October 2016.

²⁹⁶ Including from an investigation team visit on 8/9 October 2016.

²⁹⁷ Over 50kg of high explosive. Improvised Explosive Devices (IED) also contain such large quantities of explosives, but there is no evidence that this was an IED attack.

²⁹⁸ Source: ITV News UK, 9 October 2016. <http://www.itv.com/news/2016-10-08/yemen-funeral-hall-saudi-arabia-airstrikes/>.

Figure 49.D.4
Entry point EO1



Figure 49.D.5
Entry point EO 2



(c) The precision of the attack rules also out the use of free flight rockets as a possible attack profile. Evidence from eyewitnesses, who were present in the locality, report they heard aircraft prior to the second attack and stated that there was three to eight minutes between these two explosions. The timing between the explosions indicates the deliberate use of the “double tap” tactic, the consequences of which are that individuals responding to the first explosion are caught by the second (see in IHL section of the report);

(d) One fragment (figures 49.D.6 and 49.D.7) has the shape profile, and falls within the dimensional parameters, of a fragment of a fin from a GBU-12 PAVEWAY II guidance unit fitted to a Mark 82 HE aircraft bomb. It is also clearly marked as such;

Figure 49.D.6
GBU-12 PAVEWAY II guidance unit fin
fragment in situ²⁹⁹



Figure 49.D.7
GBU-12 PAVEWAY II guidance unit Recovered and
cleaned fin fragment



(e) One fragment has the shape profile, and falls within the dimensional parameters, of a fragment from the wing of a guidance unit for a HE aircraft bomb (figure 49.D.8 and 49.D.9).

²⁹⁹ Confidential sources.

Figure 49.D.8
GBU-12 PAVEWAY II guidance unit wing
fragment in situ³⁰⁰



Figure 49.D.9
GBU-12 PAVEWAY II guidance unit wing fragment in
situ³⁰¹



(f) Other fragmentation subsequently collected by an investigation team, also shows fragmentation that is certainly from the wing of a PAVEWAY-II guidance unit (figures 49.D.10 and 49.D.11); and

Figure 49.D.10
GBU-12 PAVEWAY II guidance unit wing fragment
showing manufacturers CAGE code 3FU05³⁰²



Figure 49.D.11
GBU-12 PAVEWAY II guidance unit wing fragment



³⁰⁰ Source: Extracted from ITV News UK on 9 October 2016. <http://www.itv.com/news/2016-10-08/yemen-funeral-hall-saudi-arabia-airstrikes/>.

³⁰¹ Ibid.

³⁰² The Commercial and Government Entity (CAGE) Code is a unique identifier assigned to suppliers to various government or defence agencies. 3FU05 is assigned to the Karlee Company, a USA metal fabricator. Source: Confidential – a visitor to the crime scene.

(g) Video imagery taken on a cell phone and posted on social media allegedly shows one of the explosions. Slow motion analysis of this imagery shows an aerial device falling onto the al-Sala al-Kubra community hall immediately prior to the second explosion. The Panel is still investigating the veracity of this imagery.

6. The only party to the conflict with the known capability to deliver the Mark 82 HE aircraft bomb with the GBU-12 PAVEWAY II guidance unit is the Saudi Arabia-led coalition, which has air supremacy over Yemen.

D. Response of the Saudi Arabia-led Coalition

7. The Saudi Arabia-led coalition itself has not fully clarified its role in the incident.³⁰³ The Joint Incident Assessment Team (JIAT), based on its initial investigations, attributed the responsibility to the Saudi Arabia-led coalition.³⁰⁴ The Saudi Arabia-led coalition did not provide a response to a Panel request for information on this air strike.³⁰⁵ The Government of Yemen provided the following information to the Panel on 31 December 2016:

“According to media reports there have been more than a hundred dead and hundreds injured. The President has ordered the creation of a commission for investigation to join the JIAT of the coalition. It comprises of the head of PSO, the chief of military intelligence, and the chief of military justice. The aim is to demonstrate the Government’s responsibility and to punish those individuals who caused the incident. Three individuals have been arrested for investigations within the coalition. As soon as the result of the investigation is known legal measures will be taken.”

E. Analysis of violations of international humanitarian law (IHL)

8. The Panel finds that immediately preceding and during the air strikes, hundreds of civilians, including children, were in the al-Sala al-Kubra community hall attending the funeral wake³⁰⁶ as were military personnel belonging to the Houthi-Saleh alliance.³⁰⁷ IHL obliges the party conducting attacks to respect in particular the principles of distinction, proportionality, and precautions in attack.

9. In the absence of a response from the Saudi Arabia-led coalition to the Panel, the Panel bases its IHL assessment on its own investigative findings as set out in the sections below.³⁰⁹ ³¹⁰

³⁰³ See letter from the Saudi Arabia-led coalition to the Chairman of the Security Council on 9 October 2016, (Saudi Arabia referenced UN/2016/750). Copy of document with Panel.

³⁰⁴ <https://www.justsecurity.org/33615/full-text-saudi-led-coalitions-statement-explanation-funeral-hall-bombing-yemen/>.

³⁰⁵ Panel letter of 21 November 2016.

³⁰⁶ IHL permits attacks directed against combatants, however, those enjoying civilian protection may not be directly targeted. See Article 13 of AP II, Common Article 3 to the Geneva Conventions, and Rule 1 of the ICRC Study.

³⁰⁷ Houthi or Saleh military personnel are legitimate military targets. The fact that they were amongst civilians would not have rendered them immune from attack. Similarly, those civilians who are protected from attack under IHL would not lose their protection from direct attack, because of the military presence.

³⁰⁸ For the purpose of this report, the Panel considers military personnel as those individuals who are fighters on behalf of the Houthi or Saleh alliance. Individuals otherwise associated with a party to a conflict, for example, in the capacity of party members or political leaders, are entitled to civilian protection, unless they were also simultaneously regular fighters/combatants or unless and for such time when they directly participate in hostilities. See generally, A.13 of AP II, Common Article 3 to the Geneva Conventions and customary IHL.

³⁰⁹ See appendix E for Panel sources.

³¹⁰ IHL principles relating to proportionality prohibits the launching of an attack “which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated”. See CIHLR 14, which reflects Articles 51 (5) (b) and 57 of AP I to the Geneva Conventions.

F. Responsibility of the Saudi Arabia-led coalition for the air strike

10. The JIAT preliminary findings were that the attack was based on “wrong information” provided by the Yemeni government in Riyadh, and that the relevant rules of engagement and procedure was not followed,³¹¹ and that those responsible “did not take in account the nature of the targeted area”. The Panel notes that JIAT places the responsibility for the strike on the Yemeni party that provided it with information on the military target and the Air Operations Centre (AOC) in Yemen that ordered the attack.³¹² It was also reported in the media that “Riyadh had ordered against the attack” and that it was a deliberate error by an individual who made “a choice made to breach operation procedures”.³¹³ The Panel has not received further information, as had been requested, on the identity information of this individual, his role in the incident, and measures taken pursuant to this finding of individual liability.

11. Even if an individual officer within the Saudi Arabia-led coalition acted negligently in carrying out the strike, the member States of the Saudi Arabia-led coalition are still responsible for any violations relating to IHL regarding any failure on their part to undertake the requisite detailed assessments relating to proportionality and precautions in attack and their failure to ensure that relevant precautions were taken to minimize the effects on civilians as a result of the air strikes.³¹⁴ The fact that an official acted beyond their powers is not an adequate justification under international law for the relevant member States of the coalition to evade State responsibility for those wrongful acts.³¹⁵

G. Relevant Principles under IHL

12. Based on the JIAT statement, it appears that the AOC in Yemen directed an on-call close air support mission to target the location, and a Saudi Arabia-led coalition aircraft in the area carried out the mission. The pilot of the aircraft thus did not have the benefit of pre-mission preparation and target analysis, and had to rely totally on any assessments made by the AOC.

13. The Panel finds that on the basis of the Saudi Arabia-led coalition’s assessment of the information from all sources that were available to them at the relevant time,³¹⁶ the AOC could reasonably be expected to conclude that: 1) there would be a significantly high number of civilians, including children, at the venue; and consequently 2) any air strike would result in a high number of civilian casualties.

14. Any proportionality assessment should have taken into consideration: 1) that the hall was crowded because of a civilian funeral; 2) the funeral was open to the public; 3) the large capacity of the hall that allows a large number of individuals to be accommodated; 4) the high prominence of the family within the Yemeni society meant that many would congregate to pay respects; 5) religious and traditional practices associated with attendance at funerals making

³¹¹ In paragraph 2 of a letter to the Chairman of the Security Council on 9 October 2016, (Saudi Arabia referenced UN/2016/750), Saudi Arabia states that “its forces follow strict and clear rules of engagement which prohibits the targeting of civilians and civilian objects and take all possible measures to prevent dangers to civilians”.

³¹² JIAT statement with Panel.

³¹³ <http://www.telegraph.co.uk/news/2016/10/19/saudi-coalition-bombing-of-yemen-funeral-was-a-deliberate-error/>.

³¹⁴ See also a relevant assessment on individual and state responsibility for this strike at <https://www.justsecurity.org/33872/responsible-yemen-funeral-bombing-how/>.

³¹⁵ See Articles on the Responsibility of States for Wrongful Acts at http://legal.un.org/ilc/texts/instruments/english/draft_articles/9_6_2001.pdf. See Article 7 which states: “The conduct of an organ of a State or of a person or entity empowered to exercise elements of the governmental authority shall be considered an act of the State under international law if the organ, person or entity acts in that capacity, even if it exceeds its authority or contravenes instructions.” See also Customary IHL rule 139 which states: “Each party to the conflict must respect and ensure respect for international humanitarian law by *its armed forces* and other persons or *groups acting in fact on its instructions, or under its direction or control*”. (Emphasis added).

³¹⁶ See commentary to CIHLR 14 and the United States Department of Defense Law of War Manual (2015), p.1033, which requires combatants to assess in good faith the information that is available to them, when conducting attacks. Also see the United Kingdom position at <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Notification.xsp?action=openDocument&documentId=0A9E03F0F2EE757CC1256402003FB6D2>. Accessed on 10 October 2016.

attendance obligatory for both civilians and military commanders; 6) the near certain presence of children the funeral; 7) the peak times when mourners attend funerals; and consequently 8) that any attack in that location, and at that time, may result in a high number of civilian casualties. This information, and the fact that a funeral was being held at al Saba al-Kubra hall for the father of Major General Jalal Al Rowayshan was readily available in the public domain, and accessible to the Saudi Arabia-led coalition prior to the attack.³¹⁷

15. The attack resulted in a disproportionately high numbers of civilian casualties, when compared to military casualties, and this could have been anticipated prior to the attack.³¹⁸ Even if the military advantage the Saudi Arabia-led coalition sought to achieve by this attack is to be assessed in the context of a full war strategy,³¹⁹ based on the information received, the Panel is not convinced that the relevant IHL requirements on proportionality were met;³²⁰

(a) IHL requires that military commanders and those responsible for planning and executing decisions regarding attacks take all feasible precautions to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects.³²¹ IHL also imposes an obligation on parties to the conflict to cancel or suspend an attack, if it becomes clear that its attack is likely to cause excessive civilian damage;³²²

(b) In the absence of a response from the Saudi Arabia-led coalition, the Panel is unaware of: 1) any effective advance precautionary measures taken by the Saudi Arabia-led coalition in the planning of these airstrikes; or 2) any actions taken during the flight mission, to minimize civilian casualties or damage to civilian objects. Instead the cumulative factors surrounding the attack resulted in a high number of civilian casualties; and

(c) The second air strike, which occurred three to eight minutes after the first air strike, almost certainly resulted in more casualties to the already wounded and the first responders.³²³ These first responders included civilians who immediately entered the area after the first air strike to provide urgent first aid and undertake casualty evacuation.³²⁴ The Panel has identified prior use of this “double-tap” tactic before in two³²⁵ of its IHL investigations.³²⁶ IHL prohibits attacks against *hors de combat*³²⁷ and the wounded.³²⁸ The Panel is not convinced that the Saudi Arabia-led coalition respected its obligations in respect of persons *hors de combat* and the wounded in this “double tap” attack, and if it took

³¹⁷ For example, the Facebook social media post of a family member, <https://www.facebook.com/jalal.ali.161/posts/1481350905225458>, which gives information as to the date and place of the funeral. Accessed on 10 October 2016.

³¹⁸ Confidential sources.

³¹⁹ United States Department of Defense Law of War Manual (2015), p. 246.

³²⁰ In the Galic Trial Judgement (2003), the International Criminal Tribunal for Former Yugoslavia held in respect of a shelling at a football tournament that “Although the number of soldiers present at the game was significant, an attack on a crowd of approximately 200 people, including numerous children, would clearly be expected to cause incidental loss of life and injuries to civilians excessive in relation to the direct and concrete military advantage anticipated”. See <http://www.icty.org/x/cases/galic/tjug/en/gal-tj031205e.pdf>.

³²¹ See Article 13(1) of AP II and Rules 15 and 18 of the ICRC Customary Study.

³²² CIHLR 19. The United Kingdom takes the position that this obligation applies to those “...those who have the authority and practical possibility to cancel or suspend the attack” (see the United Kingdom’s reservations and declarations made upon ratification of AP I at <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Notification.xsp?action=openDocument&documentId=0A9E03F0F2EE757CC1256402003FB6D2>). Accessed on 10 October 2016.

³²³ Confidential source.

³²⁴ Confidential sources.

³²⁵ 1) Attack on a civilian house in Lahj (25 May 2016) (EO Strike 1 at 13 01'01.4" N 44 53'20.7"E, EO Strike 2, 13 01'01.9"N, 44 53'20.2"E); and 2) Mastaba market attack (15 March 2016) (EO Strike 1, 16°13'39.31"N, 43°14'42.04"E; EO Strike 2, 16°13'40.61"N, 43°14'41.08"E). The Panel concluded that both these attacks were conducted in violation of IHL.

³²⁶ For a clearer understanding of assessments on IHL violations associated with the “double tap” attacks, see Clapham et al, “1949 Geneva Conventions: A Commentary”, Oxford University Press (2016), p. 786.

³²⁷ Including Common Articles 1 and 3 to the Geneva Conventions.

³²⁸ Ibid.

effective precautionary measures to minimize harm to civilians, including the first responders, in the second strike. The Panel continues to welcome information from the Saudi Arabia-led coalition on what measures it took to minimize civilian deaths and injuries and damage to civilian objects and, if measures were taken, then to provide information on how those measures contributed to the above objective.

16. The Panel notes that this is the second investigation, in which mass civilian casualties were reported,³²⁹ where the Saudi Arabia-led coalition reportedly relied exclusively on information obtained from the Yemeni authorities in Riyadh on the identification nature of the target.

I. Summary of findings

17. The Panel finds that:

(a) The Saudi Arabia-led coalition conducted the air strike on the community hall in Sana's that resulted in at least 827 civilian fatalities and injuries. At least 24 injured were children.³³⁰ The air strike also resulted in the total destruction of the community hall;

(b) Given the nature of the event and those in attendance, the attack the attack resulted in a very high number of civilian casualties and this should have been anticipated prior to the attack. The Panel is unconvinced that the relevant IHL requirements relating to proportionality were met;

(c) These cumulative factors indicate that if precautionary measures had been taken, they were largely inadequate and ineffective. The JIAT also concluded that the relevant rules of engagement and procedures were not followed, and that those responsible in the Saudi Arabia-led coalition "did not take in account the nature of the targeted area";

(d) The second air strike, which occurred three to eight minutes after the first air strike, resulted in more casualties to the already wounded civilians and to the first responders. The Saudi Arabia-led coalition violated its obligations in respect of persons *hors de combat* and the wounded in what was effectively a "double tap" attack probably caused by the tactics adopted by the pilots to guarantee destruction of the target;

(e) Even if an individual officer within the Saudi Arabia-led coalition acted negligently in carrying out the strike, coalition forces are still responsible for the appropriate IHL violations. Under wider international law, the fact that an official acted against instructions is not an adequate justification under wider international law for the relevant member States of the coalition to evade State responsibility for those wrongful acts; and

(f) Those officers of the Government of Yemen that reportedly passed the information, or who were otherwise involved in the intelligence gathering and targeting assessment processes in relation to this incident, may also be responsible for any IHL violations to the extent of their contribution.

³²⁹ The first being the air strikes on the al Khamees market in Mastaba, Hajjah on 15 March 2016.

³³⁰ OHCHR verified data.

Appendix E to Annex 49: Summary of IHL case study evidence levels (air attacks against civilians)

1. This annex is a summary of the evidential levels used for each of the case studies that in the preceding appendices. It has been consolidated into one table in order to prevent needless repetition.

Table 49.E.1
IHL case study evidential levels

<i>Ser</i>	<i>Location</i>	<i>Panel interviews</i> ³³¹	<i>Photograph</i> ³³²	<i>Video</i>	<i>Satellite</i>	<i>Documents</i> ³³³	<i>Open source</i> ³³⁴
1	Al Khamees Market, Mastaba	8	✓	✓	✓	<ul style="list-style-type: none"> ▪ Investigation reports of 2 NGOs ▪ JIAT report summary ▪ Investigation report of IO ▪ JIAT summary ▪ Coalition statement (media) 	> 5 x media reports
2	Civilian House, T'baisha	4	✓		✓	<ul style="list-style-type: none"> ▪ IO confidential report ▪ Document issued by ministry of justice ▪ Death certificate 	
3	Civilian House, Lahj	6	✓	✓	✓	<ul style="list-style-type: none"> ▪ IO confidential report ▪ Death certificates ▪ Burial certificates 	1 x Media video > 5 x media reports 1 Statement Governor of Lahj
4	Water Plant, Lahj	11	✓		✓	<ul style="list-style-type: none"> ▪ HRW report (978-1-6231-33757) 	2 x Media reports
5	Snack Factory, Sana'a	7	✓	✓	✓	<ul style="list-style-type: none"> ▪ IO confidential report ▪ 5 Reports by factory owners ▪ Death certificates ▪ JIAT report summary 	> 5 x media reports
6	Abs Hospital, Abs	7	✓	✓	✓	<ul style="list-style-type: none"> ▪ MSF Report (27/09/16) ▪ Amnesty Report (19/09/16) ▪ JIAT Report Summary ▪ Other confidential documents 	> 5 x Media reports

³³¹ This includes interviews with eyewitnesses, victims, direct reports, NGOs, INGOs, IOs and others who independently investigated the incidents.

³³² The Panel has retained all of the imagery used to make these determinations and it is available to Member States on request. All imagery was either direct from a source, or verified as accurate by eyewitnesses.

³³³ Investigation reports are confidential documents that cannot be shared outside the Panel unless with the written consent of the said organization and for the specific purposes for which the consent was given.

³³⁴ The Panel has retained copies of all open source reports used and these are available to Member States on request.

<i>Ser</i>	<i>Location</i>	<i>Panel interviews</i> ³³¹	<i>Photograph</i> ³³²	<i>Video</i>	<i>Satellite</i>	<i>Documents</i> ³³³	<i>Open source</i> ³³⁴
7	Alsonidar Factory, Sana'a (1)	5	✓	✓	✓	<ul style="list-style-type: none"> ▪ Chamber of Commerce Letter (14/09/16) ▪ Caprari Group Letter (07/10/16) ▪ Addar Fer, Italy Letter (07/1016) ▪ Operational Manuals 	4 x Media reports
8	Civilian House, Ibb	7	✓	✓	✓	<ul style="list-style-type: none"> ▪ Death Certificates 	4 x Media reports
9	Alsonidar Factory, Sana'a (2)	5	✓	✓	✓	<ul style="list-style-type: none"> ▪ Chamber of Commerce Letter (2016) ▪ Caprari Group Letter (07/10/16) ▪ Addar Fer, Italy Letter (07/1016) ▪ Operational Manuals 	4 x Media reports
10	Community Hall, Sana'a	>1 0	✓	✓	✓	JIAT report summary	>10 x Media Reports

**Annex 50: Case file summaries of investigations of a particularly sensitive nature
(STRICTLY CONFIDENTIAL)**

**Appendix A to Annex 50: Torture and cruel, inhuman, and degrading treatment of a child
(STRICTLY CONFIDENTIAL)**

Appendix B to Annex 50: Deprivation of liberty relating a university student

(STRICTLY CONFIDENTIAL)

Annex 51: Use of explosive ordnance in civilian populated areas

1. This annex contains appendices relating to one investigation undertaken by the Panel, as an illustration, on explosions in densely populated areas, where the use of explosive ordnance (EO) is attributed to the Houthi or Saleh forces operating in Tai'zz.³³⁵ In these six incidents, of which four certainly involved explosive ordnance, the Panel documented fifteen deaths and twenty injuries to civilians in five of the six incidents. In the sixth incident, MSF records twelve deaths and 122 injured in relation to the multiple EO that impacted on Tai'zz city on 3 June 2016.³³⁶

2. In addition, from January to June 2016, the Panel documented of 30 incidents in which the use of land based explosive ordnance were used in densely populated areas in Tai'zz, representing potential indiscriminate attacks against civilians.³³⁷ There were over 60 civilian fatalities and over 180 civilians injured. The Panel did not continue this analysis due to the sheer volume of incidents received and its inability to independently verify each case.

3. Summaries of the six incidents investigated by the Panel, and contained in this annex, are as follows:

Table 51.1
Summary of IHL case levels

<i>Ser</i>	<i>Date (2016)</i>	<i>Impact location</i>	<i>Violation summary</i>	<i>Origin of EO</i>	<i>Civilian fatalities</i>	<i>Civilians injured</i>	<i>Remarks</i>
1	3 Jun	Bab Al-Kabeer	Explosion	East Ta'izz	12	122	A majority were women and children. Impacted on commercial buildings
2	3 Jun	Jamal Street (Delux Market)	Explosion	East Ta'izz	-	2	Impacted on commercial buildings.
3	7 Jun	Shamai, near the Revolution hospital	Explosion	East Ta'izz	5	-	Impacted on a school. The dead included four displaced women and children from a marginalized community.
4	18 Sep	Revolution hospital	1 x EO	East Ta'izz	-	-	Affected solar panels and water storage.
5	3 Oct	Market area in Bir Basha	2 x mortars	East Ta'izz	10	17	Twelve were children and women
6	15 Nov	House, Shamseen Neighbourhood.	1 x mortar	East Ta'izz	-	1 (child)	Damage to residential house. Heavily populated residential area.

³³⁵ The other summaries are available with the Secretariat in Panel records.

³³⁶ "Hospitals supported by charity received 134 casualties in one day: MSF" at <http://www.reuters.com/article/us-yemen-security-taiz-idUSKCN0YS25B> and <http://www.doctorswithoutborders.org/article/msf-supported-hospitals-taiz-receive-122-war-wounded-one-day>. There were several EO that impacted the city on 3 June 2016. All of these EO are attributed to Houthi/Saleh forces in Tabat Al Sofitel region. See "MSF-Supported Hospitals in Ta'izz Receive 122 War Wounded in One Day" at <http://www.un.org/apps/news/story.asp?NewsID=54192#.WDAgTTakbOg> and <http://www.reuters.com/article/us-yemen-security-taiz-idUSKCN0YS25B>.

³³⁷ Information with the Secretariat in Panel records.

Appendix A to Annex 51: EO in Jamal Street, Tai'zz (3 June 2016).

A. Background

1. At approximately 20:00 hours on 3 June 2016, an item of explosive ordnance detonated in the middle of Jamal Abdul Nasser Street, Ta'izz.³³⁸ Blast and fragmentation from the explosion damaged nearby buildings and injured, at least, two civilians. There were no military personnel or equipment reported in the vicinity immediately prior to or at the time of the attack. Locals stated that the missile came from the direction of the Sofitel Hill. This area is under the control of the Houthi or Saleh forces.

B. Technical analysis

2. Based on the distinctive fragmentation pattern (figure 51.A.1), it is highly probable that the explosive ordnance used in this attack was the warhead of a free flight rocket. The fragmentation pattern of the detonation is almost certainly from a warhead impacting at low angle, which eliminates a mortar bomb as the cause. The absence of a small crater, and low angle of delivery, virtually eliminates an artillery shell as the cause.

Figure 51.A.1
Warhead detonation in Jamal Abdul Nasser Street³³⁹



3. The Houthi-Saleh forces are operating at least one BM-21 variant multi-barrel rocket launcher (MBRL) in Ta'izz.³⁴⁰ It is highly probable, based on the likely flight path (figures 51.A.2 and 51.A.3) and reports of Houthi-Saleh forces in that area on the day that this weapon system was located in the region of Sofitel Hill, which is well within the range of Jamal Abdul Nasser Street.

³³⁸ 13° 34' 39.28"N, 44° 00' 43.49"E.

³³⁹ Photograph taken by witness for the Panel.

³⁴⁰ Confidential sources.

Figure 51.A.2
 Maps showing orientation of street to direction of probable launch area ³⁴¹

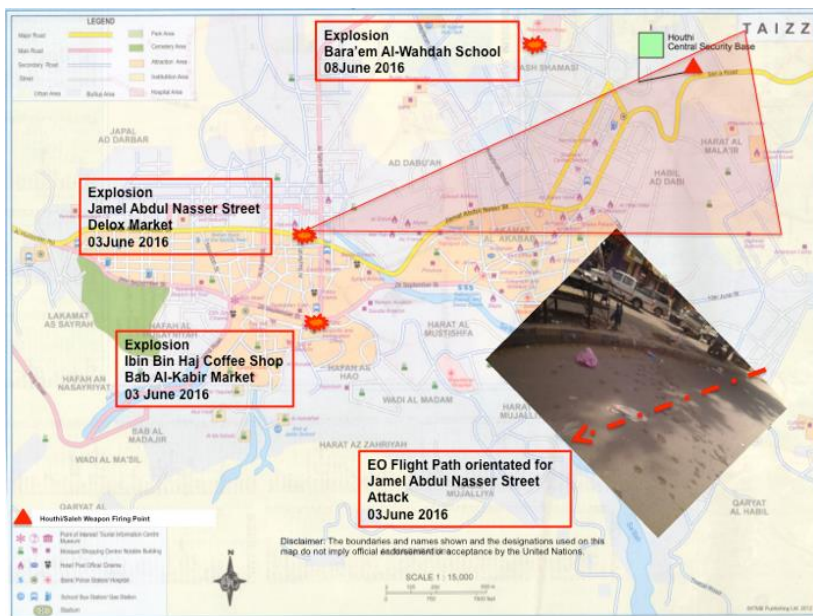
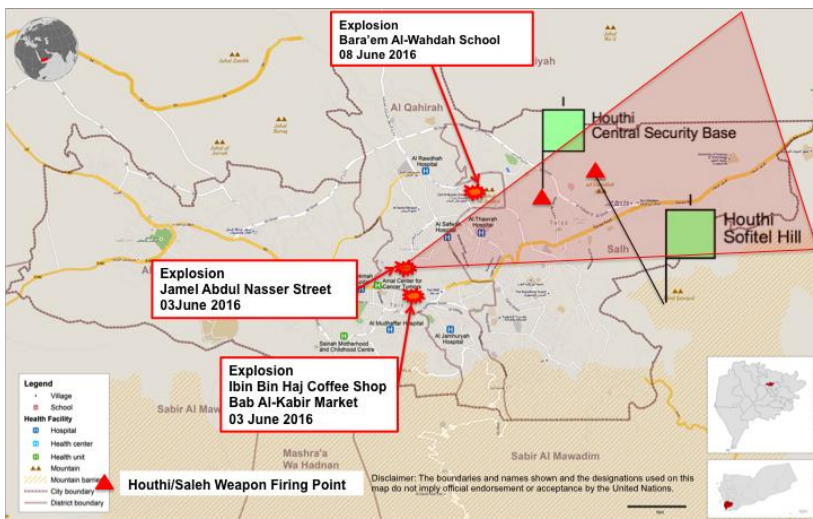


Figure 51.A.3
 Maps showing probable launch area ³⁴²



³⁴¹ Higher resolution copies of the map are available from the Secretariat.

³⁴² Ibid.

C. Analysis of violations of IHL

4. Based on information available, the Panel finds it is highly likely that the responsibility lies with the Saleh forces operating from the region of the Sofitel Hill.

5. The Panel is not convinced that the IHL requirements of distinction,³⁴³ proportionality,³⁴⁴ and precautions in attack³⁴⁵ were met as demonstrated by the following factual elements:

(a) The street was near a market and a populated commercial area. The attack injured at least two civilians and partially damaged buildings in the vicinity;

(b) The civilian street was a civilian object prima facie immune from attack.³⁴⁶ Civilians are also immune from attack unless and until such time when they directly participate in hostilities.³⁴⁷ IHL requires that attacks be directed against legitimate military objectives.³⁴⁸ The Panel could not identify any legitimate military objective.

(c) It is highly likely that Saleh fighters knew that any explosive ordinance launched into a populated street would have a high likelihood of civilian casualties and damage to civilian objects. Since the blast-and-fragmentation zone is based on the technical specification of the explosive weapon in question, its likely impact on civilians is often foreseeable.³⁴⁹

(d) If precautionary measures were taken, they were inadequate and ineffective in these circumstances.

6. The Panel requested, but did not receive a response from the Houthi or Saleh forces, information related to in this incident.

³⁴³ CIHLR 1 and 7.

³⁴⁴ CIHLR 14 and 18.

³⁴⁵ CIHLR 15 - 22.

³⁴⁶ CIHLR 7 and 9.

³⁴⁷ CIHLR 6.

³⁴⁸ CIHLR 8.

³⁴⁹ OCHA Report “Protecting Civilians from the Use of Explosive Weapons in Populated Areas” at https://docs.unocha.org/sites/dms/Documents/EWIPA_Fact_Sheet_-_Latest.pdf.

Appendix B to Annex 51: Summary of IHL case study evidence levels

1. This annex is a summary of the evidential levels for each of the case studies that in the preceding appendices.

Table 51.B.1
Summary of IHL case levels

<i>Serial</i>	<i>Location</i>	<i>Panel interviews</i> ³⁵⁰	<i>Photograph</i> ³⁵¹	<i>Video</i>	<i>Satellite</i>	<i>Documents</i> ³⁵²	<i>Open source</i> ³⁵³
1	Market, Jamal Street	5	✓	✓	✓	<ul style="list-style-type: none"> ▪ 2 investigation reports ▪ Medical certificate 	-
2	Market, Bab al Kabir	8	✓	✓		<ul style="list-style-type: none"> ▪ 10 confidential report ▪ 2 investigation reports 	
3	School, Shami neighbourhood	5	✓	✓	✓	<ul style="list-style-type: none"> ▪ Death certificates ▪ Criminal investigation report ▪ 3 investigation reports. 	> 5 x media reports
4	Revolution hospital	2	✓	✓	✓	<ul style="list-style-type: none"> ▪ Statement issued by hospital 	-
5	Market, Bir Basha	7	✓	✓	✓	<ul style="list-style-type: none"> ▪ 10 confidential report ▪ 1 investigative report ▪ Death certificates 	> 5 x media reports
6	Residential building, Shamseen neighbourhood	2	✓	✓	✓	<ul style="list-style-type: none"> ▪ Medical report ▪ Independent NGO investigation. 	-

³⁵⁰ This includes interviews with eyewitnesses, victims, direct reports, NGOs, INGOs, IOs and others who independently investigated the incidents.

³⁵¹ The Panel has retained all of the imagery used to make these determinations and it is available to Member States on request. All imagery was either direct from a source, or verified as accurate by eyewitnesses.

³⁵² Documents provided to the Panel will not be further shared unless the Panel receives expressed written consent of those sources.

³⁵³ The Panel has retained copies of all open source reports used and these are available to Member States on request.

Annex 52: Attacks against hospitals

A. Attacks using explosive ordnance, threats or violence

1. In 2016, three hospitals provided Panel with information relating to nineteen incidents, where violence was threatened or used against the hospital and its staff. (table 52.A.1). This includes: 1) attacks by the use of explosive ordnance (EO); 2) attacks on and abductions of medical personnel; and 3) the use of hospital premises to launch attacks. The Panel finds, based on its investigations that all parties to the conflict; the Saudi Arabia-led coalition, the Houthi-Saleh military alliance, and forces associated with the Government of Yemen committed or contributed to violations against hospitals.

Table 52.A.1
Summary of incidents³⁵⁴

<i>Ser</i>	<i>Date (2016)</i>	<i>Impact location</i>	<i>Violation summary</i>	<i>Reported origin of EO (where relevant)³⁵⁵</i>	<i>Reported perpetrator³⁵⁶</i>	<i>Remarks</i>
1	3 Feb	Republican hospital, Taizz	1 x EO		Likely to be Houthi or Saleh forces based on conflict dynamics. ³⁵⁷	Damaged maternity ward
2	15 Mar	Republican hospital, Taizz	1 x EO		Likely to be Houthi or Saleh forces based on conflict dynamics.	Heavy damage to Cardiac ward and equipment.
3	20 Mar	Revolution hospital, Ta'izz	Threats Abductions		Confidential Annex	See annex 53.
4	11 Jun	Revolution hospital, Ta'izz	2 x EO	Al-Salal area	Houthi or Saleh forces	Damaged burns unit and doctors accommodation
5	17 Jun	Revolution hospital, Ta'izz	2 x EO	Al Harir area	Houthi or Saleh forces	Damaged internal medicine unit
6	11 Jul	Republican hospital, Ta'izz	1 x EO		Likely to be Houthi or Saleh forces based on conflict dynamics.	Damaged woman's surgical ward
7	15 Aug	Abs hospital	1 x Paveway II	NA	Saudi Arabia-led coalition	(see annex 53)

³⁵⁴ Information was collected from witnesses and independent investigators. Multiple images on the effects on each of the above hospitals as a result of these EO are with the Secretariat and available for examination by member States.

³⁵⁵ Information provided by confidential sources.

³⁵⁶ Ibid.

³⁵⁷ "Conflict dynamics" takes into consideration the front lines as it relates to the Houthi and Saleh military forces and the forces affiliated with the legitimate government. It also considers who was in control of the area where the violation occurred.

<i>Ser</i>	<i>Date (2016)</i>	<i>Impact location</i>	<i>Violation summary</i>	<i>Reported origin of EO (where relevant)</i> ³⁵⁵	<i>Reported perpetrator</i> ³⁵⁶	<i>Remarks</i>
8	7 Sep	Republican hospital, Ta'izz	23mm		Unknown.	Impacted on the woman's surgical ward
9	28 Sep	Revolution hospital, Ta'izz	1 x EO		Likely to be Houthi or Saleh forces based on conflict dynamics.	Solar panels and water storage unit damaged.
10	26 Oct	Name of hospital withheld to protect sources.	Unknown EO were launched from the hospital yard	Hospital	Confidential annex	See annex 53.
11	1 Nov	Republican hospital, Ta'izz	1 x EO		Likely to be Houthi or Saleh forces based on conflict dynamics.	Storage unit and water tanks that belonged to operations ward damaged (see annex 53).
12	3 Nov	Republican hospital, Ta'izz	1 x EO		Likely to be Houthi or Saleh forces based on conflict dynamics.	Impacted around the cardiac ward (damaged only on the outside)
13	4 Nov	Republican hospital, Ta'izz	1 x EO		Likely to be Houthi or Saleh forces based on conflict dynamics.	Destroyed windows and damaged cardiac ward.
14	5 Nov	Republican hospital, Ta'izz	Sniping		Unknown.	Sniping in the hospital yard
15	7 Nov	Republican hospital, Ta'izz	1 x EO		Likely to be Houthi or Saleh forces based on conflict dynamics.	EO damaged ceiling of cardiac ward.
16	21 Nov	Revolution hospital, Tai'zz	Threats. Disruption of functions		Ibrahim Al Qaisi. Confidential annex	Only the emergency section was operational. Threatened hospital staff. Disrupted a meeting on funding. Hospital stopped functions because of dear of safety of staff. See annex 53.

<i>Ser</i>	<i>Date (2016)</i>	<i>Impact location</i>	<i>Violation summary</i>	<i>Reported origin of EO (where relevant)</i> ³⁵⁵	<i>Reported perpetrator</i> ³⁵⁶	<i>Remarks</i>
17	21 Nov	Military hospital, Tai'zz	Multiple EO around the hospital		Likely to be Houthi or Saleh forces based on conflict dynamics.	In early Nov the hospital was retaken by the popular resistance. Previously, it was used by the Houthi/Saleh forces and civilians with renal diseases. The shelling allegedly began after the transfer of the hospital to the popular resistance.
18	4 Dec	Revolution hospital, Tai'zz	1 x EO	Al Salal Hill	Likely to be Houthi or Saleh forces	Damaged doctor's accommodation,
19	XX Dec	Confidential annex	Armed men threatens hospital staff unless medical care is provided.		Investigations ongoing	See annex 53.

2. The panel also received information from OHCHR that they recorded 8 attacks on hospitals by Houthi or Saleh forces and 16 air strikes against hospitals in 2016.³⁵⁸

3. The three incidents relating to attacks on hospital staff are included in a confidential annex because of credible threats to the safety of hospital staff. These incidents violate various IHL principles, including those that ensure that medical staff and units are protected from direct attack³⁵⁹ and that the wounded and sick are cared for.³⁶⁰ IHL also prohibits the punishment of a person for performing medical duties compatible with medical ethics.³⁶¹ It is prohibited to compel a person engaged in medical activities to perform acts contrary to medical ethics.³⁶² The abduction and detention of medical staff also violates several principles of IHL and may, depending on the circumstances, amount to hostage taking.³⁶³

B. Potential future threats to hospitals

4. The Panel received information from three hospitals that they have not been provided with operating costs since around July 2016. The Central Bank of Yemen (CBY) issued a notice on 6 November 2016 stating that the salaries of government officials, including medical staff, will be cut by 50% backdated to August 2016.³⁶⁴ The Panel spoke to seven doctors across Yemen in November, who confirmed they still had not received their salaries since August, or had received 50% of their August salary in November. The Panel notes that the lack of resources may have a direct impact on the functioning of hospitals:

³⁵⁸ Information provided to the Panel on 19 December 2016.

³⁵⁹ Common Article 3 to the Geneva Conventions of 1949, CIHLR 25, 28, 35.

³⁶⁰ Common Article 3 to the Geneva Conventions of 1949, CIHLR 110,111.

³⁶¹ CIHLR 27.

³⁶² CIHLR 27.

³⁶³ Hostage taking is prohibited under IHL CIHLR 96.

³⁶⁴ A copy of the statement issued by the Central Bank is on record with the Panel.

(a) On 1 November 2016, the Revolution hospital issued a statement that stated that: 1) it had not received funds allocated in the budget for the 3rd quarter of 2016 from the CBY; 2) it had not received funds for staff salaries for the 4th quarter of 2016; 3) that while the emergency section was supported by MSF, other units had no external funding; and 4) warned that it may be compelled to stop its functions. The hospital has treated approximately 40,000 war injured civilians and wounded fighters since the beginning of the conflict.³⁶⁵

(b) On 31 October 2016, the Republican hospital circulated a similar statement on social media, warning of an imminent shut down of the hospital due to 1) lack of funding for hospital and staff; and 2) its inability to receive humanitarian aid because of obstructions posed by armed groups.³⁶⁶

5. The Panel also finds that finds that insufficient levels of funding, worsened by further recent reductions in salaries, have direct consequences for the safety of medical staff, and the treatment received by civilians and hors de combat. For example, the Panel has received information on multiple “disputes” between patients, their caregivers, and staff, because hospitals lack qualified doctors, the necessary medicine and equipment, or other resources to treat all patients to the extent required. These incidents were reported from Ta’izz and Hudaydah. Three of the more serious incidents are highlighted in a confidential annex. All parties should take all necessary measures to ensure that medical workers are protected, and that civilians under their protection have access to basic medical services.

³⁶⁵ Statement with Panel.

³⁶⁶ Statement with Panel.

Annex 53: Attacks against health workers

(STRICTLY CONFIDENTIAL)

Annex 54: Obstructions to the delivery and distribution of humanitarian assistance
(STRICTLY CONFIDENTIAL)

Annex 55: Full list of abbreviations

A/C	Aircraft
AGM	Air to Ground Missile
a.k.a	Also Known As
AK	<i>Avtomatik Kalishnikov</i> (assault rifle)
AMR	Anti Material Rifle
AQ	Al-Qaida
AQAP	Al-Qaida in the Arabian Peninsula
ATGM	Anti-Tank Guided Missiles
ATGW	Anti-Tank Guided Weapon
BLEVE	Boiling Liquid Vapour Explosions
BMP	Best Maritime Practices
BVI	British Virgin Islands
CDE	Collateral Damage Estimate
CIHL	Customary International Humanitarian Law
CMC	Cluster Munition Convention
CMF	Combined Maritime Force
CRC	Convention on the Rights of Children
CTF	Combined Task Force (CMF)
DADP	Di-Acetone Di-Peroxide
DFFC	Directional Focused Fragmentation Charge (IED)
DIO	Defence Industries of Iran
DPRK	Democratic Peoples' Republic of Korea
DShK	<i>Degtyaryova-Shpagina Krupnokaliberny</i> (Heavy Machine Gun (HMG))
DWT	Dead Weight Tonnage (Tonnes)
E	East
ESH	Explosive Storehouses
FAE	Fuel Air Explosion
FFREM	French Frégate Européenne Multi-Mission
F of I	Figure of Insensitiveness
FS	French Ship
GBU	Guidance Bomb Unit
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GLC	Global Logistics Cluster
GPC	General People's Congress
GWT	Gross Weight Tonnage
HE	High Explosive
HEAT	High Explosive Anti-Tank
HMAS	Her Majesty's Australian Ship

HMG	Heavy Machine Gun
HMTD	Hexa-Methylene Triperoxide Diamine
HSV	High Speed Vessel
ICRC	International Committee of the Red Cross
IDP	Internally Displaced Person(s)
IED	Improvised Explosive Device
IEDD	Improvised Explosive Device Disposal
IHL	International Humanitarian Law
IMO	International Maritime Organization
ISIL	Islamic State in Iraq and the Levant (<i>Daesh</i>)
ISIS	Islamic State of Iraq and Syria / Islamic State of Iraq and Al-Sham
ISTAR	Intelligence, Surveillance, Targeting and Reconnaissance
KE	Kinetic Energy
km	Kilometre(s)
LLI	Lloyds List Intelligence
LMG	Light Machine Gun
LNG	Liquid Nitrogen Gas
m	Metres
m ³	Cubic Metres
MEKP	Methyl Ethyl Ketone Peroxide
mm	Millimetre(s)
MMPP	Minimal Metal Pressure Pads
MMSI	Maritime Mobile Service Identity
MoU	Memorandum of Understanding
MSN	Manufacturer's Serial Number
MT	Mega-Tonne(s)
MV	Merchant Vessel
N	North
NEC (Q)	Net Explosive Content (Quantity)
NFP	National Focal Point
NGO	Non-Governmental organization
NK	Not Known
OCHA	Office for Coordination of Humanitarian Affairs (UN)
PBIED	Person-Bourne IED ('suicide bomber')
PC	Patrol Craft
PCIED	Projectile Controlled IED
PIR	Passive Infra-Red
PKM	<i>Pulemyot Kalashnikova (Modernised)</i> . (LMG)
RAN	Royal Australian Navy
RCIED	Radio Controlled Improvised Explosive Device
RCL	Recoilless Gun

RDX	Hexogen or Cyclotrimethylenetrinitramine
RGD	<i>Ruchnaya Granata Dstantsionnaya</i> (distance hand grenade)
RPG	<i>Ruchnoy Protivotankovyy Granatomyot</i> (shoulder launched anti-tank rocket launcher)
RSADF	Royal Saudi Air Defence Forces
RSAF	Royal Saudi Air Force
SAA	Small Arms Ammunition
SEMG	Somalia and Eritrea Monitoring Group
SGBV	Sexual and Gender-Based Violence
SPM	Ships Protection Measures
SVD	<i>Snayperskaya Vintovka sistem'y Dragunova</i> (sniper rifle)
SVIED	Suicide Vehicle IED
TATP	Tri-Acetone Tri-Peroxide
TBC	To Be Confirmed
TNT	Tri-Nitro Toluene
UAE	United Arab Emirates
UK	United Kingdom
UN	United Nations
UNCT	UN Country Team
UNHCR	UN High Commission for Refugees
UNICEF	United Nations Children's Fund
USD	United States Dollar(s)
USN	United States Navy
USS	United States Ship
UVIED	Under Vehicle Improvised Explosive Device
VOIED	Victim Operated Improvised Explosive Devices
WFP	World Food Programme
WSS	Weapon Storage Sites
YAF	Yemen Armed Forces
