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Saudi-led coalition spokesman General Ahmed Asiri has accused on October 29, 2016, the Houthis of firing a ballistic missile from the northern Yemeni province of Sada'a in the direction of the holy city of Mecca. Saudi air defenses downed the missile at a distance of 65 kilometers from Mecca. The intercepted Houthi missile that was fired deep into Saudi territory was a Burkan-1.

Houthi officials (Ansarullah) strongly denied Saudi regime's claim that the Yemeni movement had targeted the holy city of Mecca in Saudi Arabia. They claimed that they fired an indigenous Borkan-1) missile towards King Abdulaziz International Airport, located 19 kilometers north of the western Saudi port city of Jeddah.

Ansarullah denounced the Kingdom for resorting to media hype in order to justify its aggressions against Yemeni people. "Saudi officials are looking for sympathy in the name of guardianship of the Masjid al-Haram in the holy city of Mecca, and availing themselves of media frenzy", Ansarullah spokesman Mohammad Abdulsalam said in a statement.<sup>1</sup>

Although Iran's name was not explicitly mentioned Saudi Arabia has strongly hinted that it was the agent behind the missile attack as a part of the Iranian strategy to portray Saudi Arabia as incapable of defending the Holy sites.

A prominent analyst, Seyed Sadeq al-Sharafi, told the Iranian Fars News Agency that "The range of the army and popular committees' missiles has increased to hit targets in Jeddah, meaning that they are likely to hit targets in Riyadh and beyond as well as Dubai and other sensitive regions soon in future." Sharafi expressed confidence that the balance of power is changing and the Saudis' failure is imminent, and said, "The Saudis are moving towards full collapse, while the Yemeni nation is going towards victory and gaining more power in the military and defense fields."<sup>2</sup>

Iran views the Houthis as the legitimate authority in Yemen. The Iranian support to the Houthis include: political, propaganda, financial and military support (military training, specialist advisors, weaponry). The Houthis, have acknowledged Iranian political support but have repeatedly denied receiving arms from Tehran.

The controversy over its direction and destination remained unresolved because the cities of Taif, Jeddah and Mecca all lie in more or less same range from northern Yemen (province of Sa'ada) and all can be reached by a Burkan-1 midrange missile, which means that its actual destination is open to speculation.

The ballistic missile launched by the Houthi militias targeting the holy city of Mecca evoked worldwide condemnation with key world leaders and prominent organizations unequivocally slammed the attack.

The Houthi rebels backed by Iran, are using two types of missiles: short and middle range surface to surface missiles to hit targets in the Saudi territory and anti-ship missiles to threaten the maritime traffic at the Bab al Mandab straits, as strategic game changers in the war against the Saudi led coalition.

The Houthis have fired missiles from Yemen toward Saudi Arabia at least 30 times between June 2015 and November 2016 but most of those missiles were intercepted by the Saudi Patriot missiles.



## Yemen as a battlefield between regional powers

The origins of the current conflict dates back to 2004 of the first uprising led by Hussein Badr al-Din al-Houthi, a Zaidi Shia political, religious and military tribal leader, against the central government of Yemen. Since 2004, five wars have been fought between the Houthi rebels and the government forces. But the Houthi rebellion was from the beginning part of a wider game between regional rivals, Sunni-majority Saudi Arabia and Shiite-majority Iran.

In the current conflict the legitimate government forces of President Abdrabbuh Mansour Hadi are supported by the Saudi-led coalition, as well as Western countries including the US and the UK, and have the backing of a U.N. mandate. The Houthi rebels and their allies, forces loyal to deposed president Ali Abdullah Saleh are backed by Iran. The Houthis say they are fighting a revolution against a corrupt government and its Gulf backers.

In Yemen, a Saudi-led nine Arab nation's coalition, backing the internationally recognized government, launched a military campaign (Operation Decisive Storm") in March 2015 against Iranian-backed Houthi rebels. The coalition has pushed the Houthis out of Southern Yemen but they still control the capital, Sana'a which they seized in September 2014 and the Northern parts of the country.

Tehran accuses Riyadh of serious safety lapses during the 2015, Hajj pilgrimage in which 769 people died, including 239 Iranians and has questioned its fitness to continue organizing the annual Muslim pilgrimage. Riyadh has rejected Iran's criticism and accused Tehran of politicizing a religious commemoration.

Saudi Arabia and Iran severed diplomatic relations in January 2016, after Riyadh executed a prominent Shiite cleric and angry Iranian crowds overran Saudi diplomatic missions.

## Missiles in service of the Houthis in Yemen

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### Scud missiles

Until July 2016 in most of the reports the missiles were identified as Scud missiles.<sup>3</sup> It is not clear how many missiles Houthi forces currently have in their arsenal. Yemen's military was believed to have had 300 Scud missiles when the conflict began – most of which fell under control of Houthi rebels and allied troops loyal to Ali Abdullah Saleh, the former president. Some previous estimates of Yemen's missile arsenal from defense analysis groups were much smaller.<sup>4</sup>

Yemen is believed to have several different types of Scud missiles of both North Korean and Soviet origin. During 1994's civil war between southern separatists and the forces of former president Ali Abdullah Saleh, both sides used Scuds.

The Houthis first launched a Scud missile in early June 2015, after two months of Saudi-led bombing. Saudi Patriot missiles intercepted the Scud, which was aimed at a Saudi Arabian airbase.

Major General Nasser al-Tahri, Deputy Commander-in- chief of Saudi Arabia, revealed that the military of Yemen acquired information confirming the cooperation of several Iranian experts with Houthi rebels to gear up Scud missiles.<sup>5</sup>

**Burkan-1 ("Volcano 1")**- an Iranian-modified Russian Scud missile, it weighs eight tons, can carry a 700 kilogram warhead and has a range of up to 800 kilometers, making it a midrange missile. The existence of this type of missile in Yemen was first discovered in September 2016 and it was fired against the city of Taif.<sup>6</sup>

**Zelzal 2 ("Earthquake-2")** – the solid-rocket powered missile has a range of 200-300 kilometers. Its length is 8.32 m and the diameter is 0.61 m. The missile has a launch weight of 3,400 kg., including a 600 kg warhead carried over a range of 200 km. The missile is carried and launched from a truck-mounted rail. The Zelzal-2 was apparently an Iranian locally produced version of the Luna-M (NATO name FROG-7) missile with a launcher based on the MB LA-911 truck chassis.

Prior to the 2006 Second Lebanon War Iran supplied Zelzal-2 missiles to the Lebanese Hezbollah, which tried to launch them against Israel. However, most of the missiles were destroyed in a preemptive strike by the Israeli Air force.

The Saudi forces' gathering center in Malah region of Sana'a came under attack by the Yemeni army's home-made Zelzal-2 missile, an army source said on November 4, 2016. It was the first report of use of Iranian made Zelzal 2 missiles by the Houthis in Yemen.

**Zelzal 3 ("Earthquake-3")** - is an Iranian-made solid propellant single stage missile, with a range of 200 km. The Zelzal 3 missile was first introduced in September 1999. The variant Zelzal-3B has smaller warhead and a range of 250 km.<sup>7</sup>

Iran is already taking steps in giving its conventionally armed missiles more accuracy. Iran is deploying short-range systems with GPS guidance and has said publicly that it is seeking to provide its missiles with precision guidance and/or terminal homing warheads, and with countermeasures to ballistic missile defenses. In 2001, some unverified reports claimed that the missiles had been equipped with a simple inertial guidance system. A number of sources indicate that its systems with greatly improved guidance include production of the Zelzal-2 as a guided rocket, and the Zelzal-3 ballistic missile. The Zelzal 3 has 600 kg warhead with 1300 m CEP. The Zelzal 3 has a transporter erector launcher. According to some reports, Iran has armed its allies: Hezbollah in Lebanon, Assad regime in Syria and now the Houthi rebels in Yemen with Zelzal 3 missiles.<sup>8</sup>

### **The first use of Iranian produced Zelzal 3 missile by the Houthis**

A Zelzal 3 missile fired by Yemeni militias on August 16, 2016, killed seven civilians in Najran inside Saudi Arabia. It was the highest reported number of civilian casualties in the kingdom's south since a Saudi-led coalition intervened in March 2015 in Yemen.<sup>9</sup>

in august 2016, several media sources have reported the first use of Iranian Zelzal 3 missiles in the war in Yemen:

- Al Arabiya claimed that Islamic Republic News Agency (IRNA) has said that missiles made in Iran were recently used in Yemen by Houthi militias in cross border attacks against Saudi Arabia. The news comes despite Iranian denials earlier in August 2016, of their direct involvement in sending weapons to Yemen. According to the Iranian news agency, those rockets that were fired were found to be Zelzal-3 missiles.<sup>10</sup>
- Hezbollah TV channel, Al Manar, claimed that "the rocketry power in the Yemeni army and the popular committees fired a ballistic missile on a Saudi military camp in Jizan. Military sources said that the attack was part of retaliation by the Yemeni allied forces against violations carried out by the Saudi-led coalition. The camp was totally destroyed; with dozens of Saudi-led forces were killed or injured".<sup>11</sup> "Few days earlier, the allied forces also fired missiles on Saudi camps in Najran and Jizan in the border area between Yemen and Saudi. Three ballistic missiles (local-made Zelzal) and Urgan rockets<sup>12</sup> were in response to the continuous violations by the Saudi-led coalition".
- Houthi rebels in Yemen fired at a military base in the South of neighboring Saudi Arabia's "Zelzal-3" missile. According to Houthis, the missile "accurately hit the target" at a military base in the area of Najran, but data on victims or destructions were not given. Saudi side information is not commented.<sup>13</sup>

## **Saudi Arabia's response to the missile threat**

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### **Offensive counter measures**

On March 28, 2015, two days after the Saudi-led bombardment on Yemen began (operation Decisive Storm), Saudi coalition spokesman, Brigadier General Ahmed Assiri, said the bombing campaign had destroyed “most” of the rebels’ missile capabilities. Brig Gen Assiri asserted that 80 per cent of Yemen’s 300 or so missiles had been destroyed. On April 20, 2015, a coalition strike targeted a Scud missile base in Sana'a, killed 25. But the air strikes still did not eliminate the Houthi’s missile capabilities.

### **The Saudi Arabian anti-missile defense**

Saudi Arabia and the United Arab Emirates used American-made Patriot missile interceptors to shoot down missiles and rockets fired by Houthi rebels from Yemen. The Patriot is defense system, which has components made by Raytheon and Lockheed Martin.

The Saudis claim to have intercepted around 40 percent of the missiles fired across their border, though the number is impossible to verify.

In 2015, the State Department cleared Saudi Arabia to buy 600, advanced PAC-3 interceptors, which are made by Lockheed Martin.<sup>14</sup>

### **The anti –ship missile threat at the Bab al Mandab strait**

Between March 2015 – October 2016, the Houthis have claimed eleven successful attacks on Saudi coalition vessels near the crucial Bab al-Mandab Strait or off the coast of Mokha, but all were denied by the coalition.

### **The missile attack on United Arab Emirates aid ship**

A United Arab Emirates aid ship was hit by missiles and nearly sank on October 1, 2016, in the Bab al-Mandab Strait. There were no reported injuries to the Emirati crew and the heavily damaged ship moved to the port of Assab in nearby Eritrea.<sup>15</sup>

The attacked vessel, HSV-2 Swift, I, owned by the UAE's National Marine Dredging Company, was reportedly delivering medical aid and other supplies when it came under fire in the Bab al-Mandab Strait. It is not clear what type of missiles the Houthi rebels may have fired but according to Stratfor, the Houthis said they used a Chinese-designed, C-802 anti-ship missile system to conduct the attack. If such missiles have been delivered to the Houthis, the most likely supplier would be Iran, which has bought C-802 missiles from China and produced its own variant, the Noor.<sup>16</sup> Such arms supply to the Houthis is a violation of the U.N arms embargo.

## **The Houthi rebels claimed responsibility**

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Yemeni Houthi fighters say they have hit a vessel operated by the United Arab Emirates military, which is part of an Arab coalition fighting in support of Yemen's government. "Rockets targeted an Emirati warship as it approached the coast of Mokha on the Red Sea and it was completely destroyed," said the Iran-allied Houthis on their [sabanews.net](http://sabanews.net) website.<sup>17</sup> A video posted on the Houthi-run Al Masirah TV showed a vessel being targeted at night and later was on fire.<sup>18</sup>

Iranian Press TV reported rebels warned the coalition if it sent a ship into "territorial waters" it would be attacked.

### **The missile attack on USS Mason**

The United States strongly condemned the "unprovoked attack" by the Houthis on the UAE ship. "We call on the Houthi-Saleh groups to immediately cease attacks against all vessels. These provocative actions risk exacerbating the current conflict and narrow the prospects for a peaceful settlement," State Department spokesman John Kirby said.<sup>19</sup>

The U.S. Navy dispatched three warships to the southern end of the Bab al-Mandab Strait. Two U.S. Navy guided-missile destroyers, **USS Mason** and USS Nitze, joined USS Ponce, a floating staging ship which includes a complement of special operations forces.

Sending the warships to the Bab al Mandab strait is a show of force and message that the U.S Navy will ensure that shipping continues unimpeded in the strait.

On October 9, 2016, the **USS Mason** has been targeted, in a failed missile attack from territory in Yemen controlled by Houthi rebels. The destroyer at the time of the missile fire was north of the Bab al-Mandeb Strait.<sup>20</sup> The USS Mason detected two inbound missiles over a 60-minute period while in the Red Sea off the coast of Yemen. Both missiles impacted the water before reaching the ship. There were no injuries or damage to the ship. The US military assessed missiles came from Houthi-controlled territory in Yemen. A Houthi military official denied reports that the rebel group had targeted the destroyer.<sup>21</sup>

The attack on the U.S destroyer occurred a day after Saudi coalition airstrikes on a funeral in Sana'a killed more than 100 people.

In response to the attack on the funeral, the Islamic Revolutionary Guards Corps of Iran, widely seen as the main backers of the Houthis, issued an angry statement saying the rebel group, which Iran refers to as the Ansarullah movement, would "avenge" the bombing, which the statement called "a U.S., Saudi, Israeli joint conspiracy." The statement concluded: "The glorious and sublime nation of Iran will continue to support the resistance of Muslim nations, especially the innocent people of Yemen, against the Zionist wrongdoing of House of Saud and calls all divisions of the Islamic nation to condemn the great and brutal crime in Sana and unveil the face of hypocrites who claim to be servants of the holy shrines."<sup>22</sup>

### **The U.S strike against Houthi radar facilities**

The US military launched cruise missiles, on October 13, 2016, against three coastal radar sites in areas of Yemen controlled by Iran-aligned Houthi forces, after failed missile attacks on a U.S. Navy destroyer.<sup>23</sup>

US official said US Navy destroyer USS Nitze launched the Tomahawk cruise missiles. The official identified the areas in Yemen where the radar were targeted as: near Ras Isa, north of Mukha and near Khoka.<sup>24</sup>

Pentagon spokesperson Peter Cook said in a statement: 'The United States will respond to any further threat to our ships and commercial traffic, as appropriate, and will continue to maintain our freedom of navigation in the Red Sea, the Bab al-Mandeb, and elsewhere around the world.'<sup>25</sup>

The Houthis condemned the strikes and denied the allegations that the missiles fired against the U.S ship were launched from areas under their control. Brigadier General Sharaf Luqman, a spokesman for Yemeni forces fighting alongside the Houthis, was quoted as saying 'The direct American attack targeting Yemeni soil this morning is not acceptable'.<sup>26</sup>

Iran announced it had sent two warships to the Gulf of Aden, according to the semi-official Tasnim news agency, establishing a military presence in waters off Yemen.<sup>27</sup> Although ostensibly deployed as part of a regular anti-piracy patrol, the timing suggested it was aimed at sending a signal to the U.S., which has vowed to retaliate against any new provocations from the Houthis.<sup>28</sup>

The US missile strikes, authorized by President Barack Obama, represented Washington's first direct military action against suspected Houthi-controlled targets in Yemen's conflict and raised questions about the potential for further escalation.

The Pentagon appeared to stress the defensive nature of the strikes, which were aimed at radar that enabled the launch of at least three missiles against the US Navy destroyer USS Mason. "These limited self-defense strikes were conducted to protect our personnel, our ships, and our freedom of navigation," Pentagon spokesman Peter Cook said.

### **The third missile attack against U.S ships**

On October 15, 2016, Iran-backed Houthi rebels in Yemen may have launched missiles at U.S. Navy ships for the third time. Two guided-missile destroyers, the USS Mason and USS Nitze, as well as the amphibious transport ship USS Ponce were patrolling north of the Bab al-Mandeb Strait, when the incident occurred. The vessels detected possible inbound missile threats and deployed appropriate defensive measures. U.S. defense official said multiple missiles were fired at three ships patrolling international waters in the Red Sea, again from the coast of Yemen.<sup>29</sup>

The incident occurred two days after President Obama authorized a Tomahawk cruise missile strike against three Houthi radar facilities in Yemen in retaliation for two missile attacks against the US Navy ships.

## **Summary**

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Since March 2015, a Saudi-led Arab coalition has fought against the Iran backed Shia'a Houthis and their allies in support of President Abd Rabbu Mansour Hadi's government. Operation "Decisive Storm" was the only option to prevent Houthi-Saleh alliance backed by Iran from occupying Yemen and turning it into a large regional war front between Saudi Arabia and Iran. Saudi Arabia achieved this goal but the war is not over.

The coalition fighting to restore the internationally-recognized government of Yemeni President Abd Rabbo Mansour Hadi accuses Iran of supplying Al Houthis with weapons. Accusations that have been denied by Iran.



The war in Yemen and the competition over control of the Bab El Mandab straits and the Red Sea maritime route are part of the regional conflict between Iran and its allies and Saudi Arabia and Egypt led moderate Arab Sunni coalition.

By firing Scud, Burkan-1 and Zelzal 3 missiles against civilian and military targets in the heart of Saudi Arabia, the Houthis try to change the military balance of the war in Yemen and to create a new balance of deterrence with the Saudi Arabian led coalition.

Pro Houthi media reports claimed that the Houthis has displayed new, "locally-designed" Burkan-1 and Zelzal 3 missiles. The building of such weapons in Yemen requires advanced technology which Houthis and their ally, ousted President Ali Abdullah Saleh, do not possess and the missiles are likely to be local produced with Iranian support or Iranian imports.<sup>30</sup>

The use of missiles against targets in Saudi Arabia should be considered clearly as an escalation in the war and requires a new strategy of the Saudi led coalition to respond the new challenge.

On April 14, 2015, UN Security Council Resolution 2216 lent international blockade on Yemen, calling for member states to "take the necessary measures to prevent the direct or indirect supply of arms to these actors". The supply of Zelzal 3 missiles by Iran to the Houthi rebels is a clear violation of the UN resolution.

While a Houthi military official denied reports that the rebel group had targeted the U.S destroyer, the episode seemed to represent the first known instance in which the Houthis had fired on an American vessel since Yemen's civil war began in 2014.<sup>31</sup>

Houthi attacks on American and coalition ships by anti-ship missiles would rise questions about safety of passage for military and civilian ships around the Bab al-Mandab Strait, one of the world's busiest shipping routes.

In Yemen, the United States actions have previously been confined to drone strikes against al-Qaida's affiliate there. The United States has provided limited support to the Saudi-led coalition against the Houthis over the past year with intelligence, weapons and mid-air refueling aircraft. The strikes, authorized by President Barack Obama, represent Washington's first direct military action against Houthi-controlled targets in Yemen's conflict.

The current threat to the maritime traffic in the strategic Bab El Mandab strait demands an increased presence and involvement of U.S and other western naval forces in the area, not only to guard shipping lanes and to enforce the naval blockade but to destroy the Houthi anti-ship missiles and to deter Iran from direct and indirect intervention in Yemen and the Red Sea region. Such active involvement has broad implications for the region and beyond.

## Notes

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- <sup>1</sup> Yemen Rejects Saudi Claims of Missile Attacks on Mecca as Psychological War, Alwaght, October 29, 2016.
  - <sup>2</sup> Yemeni Army Attacks Saudi Forces in Sana'a with Zelzal-2 Missiles, Fars News Agency, November 4, 2016.
  - <sup>3</sup> Marcus Weisgerber, US-Made Patriot Missiles Shoot Down Houthi Rockets, Defense One, August 16, 2016.
  - <sup>4</sup> Josh Wood, Houthi Scud missiles pose limited threat to Saudi Arabia, The National, June 7, 2015.
  - <sup>5</sup> Yemeni Deputy Commander-in-Chief: Houthis Turn to Iranian Expertise to Set up Scud and Volga Missiles, Asharq al Awsat, December 30, 2015.
  - <sup>6</sup> Ahmed Eleiba , Houthi missile, UN envoy initiative peters, Al Ahram Weekly, Issue No.1318, November 3, 2016.
  - <sup>7</sup> Anthony H. Cordesman, with the assistance of Scott Modell, Aaron Lin, and Michael Peacock ,Iran's Rocket and Missile Forces and Strategic Options, CSIS, October 7, 2014.
  - <sup>8</sup> <http://defence.pk/threads/iranians-missiles-news-and-discussions.227673/#ixzz4HaqcZpRH>
  - <sup>9</sup> Houthi militias cut off last supply route to Taiz, Al Arabia, August 17, 2016.
  - <sup>10</sup> Iran confesses Houthi rockets 'made in Tehran', Al Arabiya.net, August 16, 2016.
  - <sup>11</sup> Yemen Forces Fire Tochka on Saudi Camp in Jizan, Al Manar News , August 16, 2016.
  - <sup>12</sup> The BM-27 Uragan (*hurricane*) multiple launch rocket system was developed in the early 1970's. It is also referred as the 9K57. The Uragan entered service with the Soviet Army in 1975. Launching vehicle of the Uragan has 16 launching tubes for 220-mm rockets. A standard rocket is 4.8 m long and weights 280 kg.
  - <sup>13</sup> Rebels in Yemen declared that attacked a Saudi military base, Daily World News, July 16, 2016.
  - <sup>14</sup> Ibid.
  - <sup>15</sup> Lucas Tomlinson, US warships sent to area where Iran-backed rebels attacked Saudi-led coalition ship, FoxNews.com, October 03, 2016.
  - <sup>16</sup> A New Threat to Red Sea Shipping, Stratfor, October 5, 2016.
  - <sup>17</sup> Yemen: Houthis claim attack on UAE military vessel, Al Jazeera, October 2, 2016.
  - <sup>18</sup> Schams Elwazer and Joel Williams ,UAE : Aid ship en route to Yemen struck by rebels, CNN, October 2, 2016.
  - <sup>19</sup> Lucas Tomlinson, US warships sent to area where Iran-backed rebels attacked Saudi-led coalition ship, FoxNews.com, October 03, 2016.
  - <sup>20</sup> US: Navy destroyer in missile attack from Yemen, Al Jazeera, October 9, 2016.
  - <sup>21</sup> Saudi denounces Yemeni militia attack on US ship, Al Arabiya, October 10, 2016.
  - <sup>22</sup> Eric Schmitt and Thomas Erdbrink, U.S. Navy Ship Comes Under Fire Near Yemen, The New York Times, October 10, 2016.
  - <sup>23</sup> Navy destroyer USS Mason was fired on again Saturday evening or Sunday morning Yemen time, two US officials said.
  - <sup>24</sup> US retaliates, strikes Houthi militia radar sites, Al Arabiya, October 13, 2016.
  - <sup>25</sup> Ibid.
  - <sup>26</sup> Ibid.
  - <sup>27</sup> Ibid.
  - <sup>28</sup> Matthew Lee and Lolita C. Baldor, US strikes in Yemen risk wider entanglement in civil war, AP, October 14, 2016.
  - <sup>29</sup> US warship possibly targeted by Yemen rebels for a third time, FoxNews.com , October 16, 2016.
  - <sup>30</sup> Al Houthis display new Iranian-designed missiles, Gulf News Yemen, August 16, 2016.
  - <sup>31</sup> Eric Schmitt and Thomas Erdbrink, U.S. Navy Ship Comes Under Fire Near Yemen, The New York Times, October 10, 2016.