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Turkey at the Gates of Al-Bab

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KEY TAKEAWAYS

- On February 7 and 8, Turkey's al-Bab campaign reached a turning point with a successful breakthrough offensive on the strategic high-ground of Aqil Mountain located in the west. Free Syrian Army units and Turkmen forces have capitalized on the Turkish progress by seizing advantageous attack positions. At the time of writing, the battlespace conditions have vastly improved for the Turkey-led forces. Besides, Operation Euphrates Shield's local components have been pushing for the Silos area in the southwest, which is an important tactical position.
- In the meanwhile, the Syrian Baathist Regime's forces are approaching al-Bab from the south. Currently, the regime is pressing for Tadif which is only 1km away from the southern entrance of the town, and some 3kms away from the town center. Several sources released news about sporadic clashes between the regime's forces and FSA elements. Furthermore, pro-Baathist sources report the use of thermobaric weapons by the regime's forces, which would be a very problematic issue in a dense and complex battlespace with intense housing.
- Timing remains the most important parameter for the final push for al-Bab. Present military-geostrategic conditions favor the Turkish campaign.
- Since there is a risk of having Operation Euphrates Shield in a possible line of contact with the Syrian Baathist Regime's forces, Ankara's diplomatic capabilities to foster bilateral cooperation with Russia, as well as with the US-led anti-ISIL coalition, will remain key.
- The analysis of Turkey's casualties during Operation Euphrates Shield underscore the impact of the lack of effective coalition support to Operation Euphrates Shield on operational deficiencies, particularly in close air-support (CAS) and ISTAR (intelligence-surveillance-target acquisition-reconnaissance) segments. These two military mission types are known to be critical in mitigating highly time-sensitive, pop-up SVBIED threats, as well as enhancing situational awareness for better armor survivability. Thus, anti-ISIL coalition's unwillingness in supporting the al-Bab offensive played a multiplier role in terms of SVBIED and anti-armor challenges.
- Another factor that tended to increase the risk of casualties, at least during the first phase of the operation, has been the survivability of Turkey's tanks which need significant modernization for answering urban warfare's demands in the face of constant threats by anti-tank guided missiles. The scheduled modernization of Turkey's tank arsenal by the national Altay line is still a few years away. But stopgap measures to equip current tanks with advanced countermeasures could have been considered.
- This report concludes that conducting high operational tempo and effectively using diplomatic capabilities in support of progressing military operations are the most important tools to prevent Turkish losses in the tough fighting for al-Bab. Operational tempo and timing is critical because the urban warfare phase of the operation remains the most challenging and demanding one. Diplomatic efforts will also play a key role due to deconfliction and risk mitigation requirements.



ASSESSING THE RECENT GAINS OF OPERATION EUPHRATES SHIELD IN AL-BAB

On February 8, marking the 169th day of Operation Euphrates Shield, Turkish press sources released breaking news about a decisive push for al-Bab. Referring to the official statements by the Turkish General Staff, the news stories reported that intensive overnight airstrikes and artillery fire hit 261 ISIL targets, while the friendly Free Syrian Army (FSA) elements finally took control of several strategically important high-grounds.¹ Target set of the overnight strikes were reported as the terrorist organization's subterranean warfare / tunnel network, militant concentrations and related buildings, a headquarter building, and several defensive positions.² According to Turkey's official Anatolian Agency, relying on the Turkish support, FSA elements further progressed into the western neighborhoods of al-Bab engaging in heavy clashes with ISIL elements.³ At the time of writing, Sultan Murat Division, a battle-hardened indigenous Turkmen unit currently participating in Operation Euphrates Shield, released pictures of its forces entering al-Bab after

breaking ISIL's first line of defense.⁴ In EDAM's [previous assessment](#) of Operation Euphrates Shield and the al-Bab offensive, Aqil Mountain was highlighted as the key to break ISIL resistance in the western outskirts of the town. As expected, the Turkish breakthrough offensive has been mainly taking place in this strategic high-ground. At the time of writing, successful attacks conducted by the Turkish forces and local friendly elements (FSA and Turkmen groups) have most probably exerted full control over the hospital area and Aqil Mountain. Besides, a Syrian opposition news outlet, Orient News, reported from the southern outskirts of al-Bab during the breakthrough operations. In the video, FSA elements appeared on the broadcast when al-Bab – Aleppo ring road roundabout was visible in sight.⁵ Thus, it is assessed that outflanking maneuvers and further envelopment in the southwest are ongoing. Further visual evidences⁶ from the clashes in the area confirmed this assessment. Finally, some local components of Operation Euphrates Shield released the pictures of the capture of the Silos area, which remains a tactical high-ground with many expansion opportunities, such as sniper positions.⁷

4 <https://twitter.com/STumeni>, Accessed on: February 8, 2017.

5 Orient News, <https://www.youtube.com/watch?v=OT9xLQ6IM0Q>, Accessed on: February 9, 2017.

6 <https://www.youtube.com/watch?v=Wb-ZL8M7Wrl>, Accessed on: February 9, 2017.

7 <https://twitter.com/stumeni>, Accessed on: February 11, 2017.

1 Hurriyet, <http://www.hurriyet.com.tr/el-babda-stratejik-tepeler-oso-kontrolune-gect-40359340>, Accessed on: February 8, 2017.

2 Ibid.

3 Anatolian Agency, <http://aa.com.tr/tr/dunya/turkiyeden-babda-deasa-stratejik-darbe/744057>, Accessed on: February 8, 2017.



The capture of the Silos area, Sultan Murat Division released picture

Operation Euphrates Shield's abovementioned promising achievements come into the picture as a game-changer for the al-Bab campaign's trajectory. Notably, recent progress on February 7 and 8 has altered the battlespace outlook, and enabled much more convenient offensive control measures for further progress. Aqil Mountain and the hospital area can be translated into the 'line of departure' and 'attack positions' for further Turkish offensives. In military terms, the line of departure (LD) is a phase line for coordinating the advance of attacking forces, and marks the place where attacking elements transit from movement to maneuver. In this context, the units on the offensive make their last deployment at the attack position, located on the friendly side of the line of departure.⁸ In other words, the FSA and local Turkmen groups, as well as the Turkish troops themselves, now control a solid and very advantageous ground for pushing deeper into enemy-held areas.

In the meanwhile, envelopment assaults on the eastern edge of al-Bab, particularly on Qabasin and Bza'a, are ongoing. In case the Turkish-led attacks also take control of the northeastern surroundings of the town,

then the ISIL defensive in al-Bab will be stuck in a very difficult position.

MILITARY CONTEXT OF THE BREAKTHROUGH

Ongoing breakthrough of Operation Euphrates Shield now makes the campaign a total urban operation in nature. Thus, from now on, determining military parameters of urban operations will be key to understand the trajectory of the al-Bab offensive.

By military definition, urban operations are planned and conducted in an area of operations (AO) that includes one or more urban areas. In this respect, an urban area is depicted as a topographical complex where man-made constructions or high population density remains the dominant feature.⁹ Modern doctrinal approaches in 'combined arms operations in urban terrain' indicate that controlling key terrain remains vital for success. Moreover, the battlespace is usually three-dimensional, which means engagements could occur on the surface, below the surface, and above the

⁸ US Department of the Army, ADRP 3-90 Offense and Defense, Washington D.C., 2012.

⁹ US Department of Army, FM 3-06.11 Combined Arms Operations in Urban Terrain, Washington D.C., 2002.

surface, as well as inside and outside of buildings.¹⁰ Finally, urban operations are essentially small-unit battles with combined arms characteristics.¹¹

In doctrine, full spectrum urban operations (UO) take place in four categorically distinctive conditions as follows:¹²

- **UO under Surgical Conditions:** Resembling special weapons and tactics (SWAT) efforts, this category mostly consists of surgical special-purpose raids and precision strikes.
- **UO under Precision Conditions:** This category demands restrictive use of combat power due to a situation in which the threat is highly mixed with non-combatants and / or sensitive political considerations. Therefore, strict rules of engagement are generally preferred.
- **UO under High – Intensity Conditions:** A set of operations against a hardy adversary with prepared defensive positions and / or conducting planned attacks. This category of urban operations necessitates the application of full combat power.
- **Stability and Support Operations:** Operations short of actual combat roles.

In the case of Operation Euphrates Shield's al-Bab campaign, the ongoing efforts to destroy ISIL's first line of defense in the surrounding belts of the town fall under high-intensity urban operations, while possible, subsequent operations would respectively necessitate 'precision conditions', as well as further stability operations to 'de-ISILize' and hold al-Bab.

As EDAM [previously assessed](#), Turkish force generation for the al-Bab campaign has become a true example of combined arms operations due to recent

deployments from armored, elite commando, special forces, mechanized, engineering, signal, and artillery units supported by the air force.¹³ Furthermore, many elements with significant experience in military operations in urbanized terrain were reported to be sent to the area of operations.¹⁴

At the time of writing, Aqil Mountain and adjacent areas come into the picture as key terrain for prospective achievements of the campaign. Further progress in the northeastern villages and southwestern outskirts of al-Bab would significantly relieve the burden of the Turkish forces controlling the strategic high-ground in the west.

THE BAATHIST REGIME'S PUSH FROM THE SOUTH

As noted earlier, the Syrian Baathist forces' march towards al-Bab from their positions in the south remains a risk factor for Turkey's operational objectives. Open-source evidence suggests that, recently, the regime has speeded up its operations from the south of the town, especially along the Aleppo – al-Bab road.¹⁵ More importantly, the Baathist regime's elite Tiger Forces, under the notorious command of General Suheil al-Hassan, were reported to be commissioned for the operations.¹⁶

Briefly, Tiger Forces is the regime's 'highly-polished' elite forces with privileges in equipment, air support, and control over other nearby Syrian forces when needed. The unit, and its commander General al-Hasan, are known for their brutal battle record including the indiscriminate use of force through barrel bomb

13 Hurriyet, <http://www.hurriyet.com.tr/iste-firat-kalkani-operasyonunakatlan-birlikler-40206595>, Accessed on: February 9, 2017.

14 Hurriyet, <http://www.hurriyet.com.tr/500-komando-el-baba-sevk-ildi-40317279>, Accessed on: February 9, 2017.

15 <https://www.youtube.com/watch?v=HtfRn7BFVJE>, Accessed on: February 3, 2017.

16 The Syrian Observatory for Human Rights, <http://www.syriahr.com/en/?p=59735>, Accessed on: February 9, 2017.

10 Ibid.

11 Ibid.

12 Ibid.

salvos.¹⁷ In fact, the Baathist regime promoted ‘special’ formations such as the Tiger Forces and the Desert Hawks to overcome manpower gaps in the Syrian Arab Army, as well as to downplay the role of foreign militias.¹⁸ In other words, these units play an important role for Assad to pragmatically balance his foreign patrons, and keep the regime ‘Syrian’ to the possible extent. In this respect, the regime attaches utmost importance to Tiger Forces so that the unit is equipped with the most advanced arms in Syria’s inventory, such as the T-90 tanks,¹⁹ which were initially delivered to Assad’s praetorian 4th Mechanized Division in 2015.²⁰

Since late September 2016, the Baathist regime has been deploying units from the Tiger Forces to the Kuweires airbase located some 20 kilometers south of al-Bab.²¹ In October 2016, pro-regime sources reported that the initial deployments were reinforced by massive troop movements equipped with heavy armor and helicopter gunships from the same detachment.²² Thereafter, in mid-November 2016, Baathist forces dropped leaflets over al-Bab, and warned the inhabitants that it would begin operations shortly.²³ Since then, the regime forces have been heavily pushing for al-Bab by mainly relying on the Kuweires airbase.²⁴

17 Lucas, Winter. “Suheil al-Hassan and the Syrian Army’s Tiger Forces”, *Small Wars Journal*, July 2016.

18 Lucas, Winter. *Manpower Gaps in the Syrian Army*, US Army Foreign Military Studies Office, 2016.

19 Lucas, Winter. *Manpower Gaps in the Syrian Army*, US Army Foreign Military Studies Office, 2016.

20 Orient News, http://orient-news.net/en/news_show/96087/0/Russian-T-tanks-move-to-the-front-in-Syria--IHS-Janes-Defence-Weekly, Accessed on: February 9, 2017.

21 Al-Masdar News, <https://www.almasdarnews.com/article/tiger-forces-redeployed-east-aleppo-upcoming-offensive/>, Accessed on: February 9, 2017.

22 Al-Masdar News, <https://www.almasdarnews.com/article/massive-tiger-forces-convoy-arrives-aleppo/>, Accessed on: February 9, 2017.

23 IHS Jane’s, <http://www.janes.com/article/65648/turkey-s-proxies-advance-on-al-bab-to-be-contested-by-syrian-government-with-support-from-sdf-and-iran>, Accessed on: February 9, 2017.

24 Sputnik, <https://sputniknews.com/middleeast/201702081050481373-syrian-army-closing-on-al-bab/>, Accessed on: February 9, 2017.

At the time of writing, pro-regime media indicated that the Tiger Forces-led offensive from the south reached less than 4 kilometers proximity to al-Bab, while Abu Taltal and Tadif remaining the last two settlements before the southern outskirts of the town.²⁵ Furthermore, pro-regime sources have already started announcing further operations to capture Abu Taltal,²⁶ and some sources even claimed that the Syrian Baathist forces entered Tadif.²⁷

Even more importantly, some of the abovementioned sources shared visual evidences about the use of TOS-1A thermobaric weapons by the Baathist forces in close proximity to al-Bab.²⁸ From a military-technical angle, thermobaric weapons are fuel-air systems that cause casualties differently from how conventional weapons work. Briefly, thermobaric weapons are almost completely fuel, and once used, they suck the oxygen from the air and produce a very powerful burn. These weapons use a fuel-filled aerosol cloud which shows maximum effectiveness in semi-enclosed places, subterranean areas, and urban environments.²⁹ Therefore, their use in a possible line of contact with Operation Euphrates Shield remains a very problematic issue, which again, Turkish diplomatic capabilities should deal with.

25 Al Masdar News, <https://www.almasdarnews.com/article/syrian-army-two-villages-al-bab-swift-new-advance-map-update/>, Accessed on: February 9, 2017.

26 https://twitter.com/MIG29_, Accessed on: February 9, 2017.

27 <https://twitter.com/syrianmilitary>, Accessed on: February 11, 2017.

28 Ibid, Accessed on: February 11, 2017.

29 Charles, Bartels. *Keeping NBC Relevant: Flame Weapons in the Russian Armed Forces*, FMSO, 2015.



Some pro-Baathist regime sources shared visuals from thermobaric weapons use close to al-Bab

ESCALATION PATTERNS AND DECONFLICTION ISSUES

Recent advances of Operation Euphrates Shield and the Syrian Baathist forces towards al-Bab from different directions remain a risk factor regarding possible emergence of armed escalation. In fact, EDAM's open-source intel analysis suggests that both pro-regime and opposition sources have already started reporting sporadic clashes between some FSA factions and the progressing Baathist forces.³⁰

More importantly, given the swiftly unfolding situation, now it is only a matter of time before Turkish and the Syrian Baathist forces position in the line of contact with each other. In such scenario, Ankara's diplomatic capabilities and resiliency of the bilateral cooperation between Turkey and Russia will be determining features for taking necessary deconfliction measures. Yet, current battlespace reflects an urban

warfare situation which is theoretically dependent on small-unit maneuvers and mostly de-centralized doctrinal order of battles. Thus, dangerous risk factors may not be completely mitigated. Furthermore, as many forces march towards al-Bab at the same time, the battleground has been reduced into much smaller and narrower confines with a certain degree of ambiguity between friend and foe.

Finally, given the presence of abovementioned dense and relatively smaller battlespace, coupled with lack of coordination between different sides, unforeseen incidents such as the February 9 Russian airstrike would remain seriously challenging.

ASSESSING CASUALTY RATES AND PATTERNS

This stark analysis will be carried out over the two different phases of the operation, namely the drive towards el-Bab and the military positioning around the city. During the first phase of the campaign, the Turkish casualties were mostly stemming from anti-tank weapons. Within the initial three months of the

³⁰ Sample reporting includes, but not limited to: <https://twitter.com/syriahr>; <https://twitter.com/fsaplatform>; <https://twitter.com/TheArabSource>, Accessed on: February 9, 2017.

Euphrates Shield (August 24 – November 20, 2016), the number of fallen Turkish troops were 13, and of those 13 soldiers, eight were tank crewmen targeted by anti-tank weapons in three separate incidents between August 27 and September 9, one being YPG and two being ISIL terrorist attacks respectively.³¹ Clearly, within the first three months, 80% of Turkish losses occurred due to man-portable anti-tank weapons, suicide vehicle-borne improvised explosive devices (SVBIEDs).

As the campaign advanced, Turkish forces started to suffer more losses resulting from intensified clashes. The fourth month of the Euphrates Shield marked 40 Turkish casualties.³² In other words, Turkish losses were tripled between late November and late December. Notably, correlative analysis of the battlespace mapping and casualty patterns confirms [EDAM's defense assessment](#) suggesting that characteristics of the conflict has changed and became more challenging as the Euphrates Shield launched its al-Bab operations, noting that these operations were necessary for achieving the geostrategic goals of the cross-border campaign.



Operation Euphrates Shield Progress as of late-November³³



Operation Euphrates Shield Progress as of mid-December³⁴

31 Hurriyet, <http://www.hurriyet.com.tr/turk-jetleri-deas-hedeflerini-vurdu-40282977>, Accessed on: February 10, 2017.

32 Al Jazeera Turk, <http://www.aljazeera.com.tr/haber/firat-kalkaninda-sehit-sayisi-40a-cikti>, Accessed on: February 10, 2017.

33 Al Jazeera Turk, <http://www.aljazeera.com.tr/interaktif/firat-kalkani-harekati>, Accessed on: February 10, 2017.

34 Ibid.

More importantly, ISIL's hostile activity trends has altered the casualty patterns of Operation Euphrates Shield. Especially, during the clashes around al-Bab's sub-urban belts, SVBIEDs had claimed more Turkish lives than other tools of terror.

As of February 9, 2017, Turkish press sources marked the 66th loss of the Turkish servicemen in Operation Euphrates Shield.³⁵ Of 66 casualties, three fallen soldiers were recently killed³⁶ in a reportedly accidental Russian airstrike and four fallen soldiers were intentionally targeted by the Baathist regime in a provocative aggression on November 24th, 2016.³⁷ Another Turkish soldier was reported fallen on November 20, 2016 in an accident.³⁸

Of remaining 58 casualties, who were killed by terrorist ISIL and YPG elements in Syria, 18 were targeted by SVBIEDs between December 7, 2017 and December 22, 2017 in and around al-Bab in three incidents. In other words, 27% of the total Turkish losses were killed within two weeks by ISIL suicide vehicle bombs during the al-Bab operations.³⁹

More importantly, before the tragic SVBIED attacks on December 21, 2017, which claimed 16 Turkish lives and wounded 34,⁴⁰ the total number of Turkish casualties were reported 21 by the Turkish press sources.⁴¹ In other words, Between December 20 and

35 CNNTurk, <http://www.cnnturk.com/turkiye/son-dakika-deas-el-bab-da-turk-askerine-saldirdi>, Accessed on: February 10, 2017.

36 Hurriyet, <http://www.hurriyet.com.tr/son-dakika-el-babtan-kahreden-haber-sehit-sayisi-yukseldi-40360609>, Accessed on: February 10, 2017.

37 CNNTurk, <http://www.cnnturk.com/video/turkiye/el-bab-sehitleri-ugurlandi>, Accessed on: February 10, 2017.

38 Anatolian Agency, <http://aa.com.tr/tr/dunya/numan-bolgesinde-meydana-gelen-kazada-bir-asker-sehit-oldu/689322>, Accessed on: February 10, 2017.

39 Al Jazeera Turk, <http://www.aljazeera.com.tr/haber/el-babda-16-sehit-34-yarali>, Accessed on: February 10, 2017;
Al Jazeera Turk, <http://www.aljazeera.com.tr/haber/firat-kalkaninda-1-sehit-6-yarali>, Accessed on: February 10, 2017;
Hurriyet, <http://www.hurriyet.com.tr/el-bab-operasyonunda-turk-askerine-saldiri-40310882>, Accessed on: February 10, 2017.

40 Al Jazeera Turk, <http://www.aljazeera.com.tr/haber/el-babda-16-sehit-34-yarali>, Accessed on: February 10, 2017.

41 The news outlet marks the 35 th casualty by the initial 14 losses on December 21, 2016. Milliyet, <http://www.milliyet.com.tr/firat-kalkani-nda-14-asker-sehit-gundem-2365833/> Accessed on: February 10, 2017.

February 10, total casualties of Operation Euphrates Shield were slightly more than tripled due to the intensive suicide-bombing threats emanating from ISIL's way of fighting.

In fact, lessons-learned from previous anti-ISIL operations in Iraq suggest that the terrorist organization's aggressive defense hints at the military tide turning against them. A 2015 study on ISIL defensives explain that the violent group's pursuance of a "cult of the offensive" led them to conduct costly counter-attacking warfare. In this sense, tactical reserves made up of SVBIEDs were used as a quick reaction force of armored suicide trucks.⁴² This shock warfare was used in several battlefields such as Udaim Dam, Hamrin oilfield, Tikrit, and especially Aski Mosul, south of Mosul Dam.

RISK MITIGATION AND POLICY RECOMMENDATIONS

The main characteristics of the current battleground in al-Bab remains urban warfare. Military operations in urbanized terrain have always been challenging in terms of minimizing casualties and saving lives.⁴³ EDAM's findings about the underlying reasons of Operation Euphrates Shield's casualties suggest that several factors have categorically come into prominence.

First one is the new type of threat that the Turkish Armed Forces confront. Clearly, ISIL poses a hybrid challenge with blurring conventional and unconventional capabilities, especially intensive use of anti-tank guided missiles (ATGM) and suicide vehicle-borne improvised explosive devices (SVBIEDs). This new way of warfighting remains much more challenging compared to the low intensity conflict parameters of the PKK terrorism that Turkish security forces are used to.

42 Michael Knights and Alexandre Mello, *The Cult of the Offensive: The Islamic State on Defense*, CTC Sentinel, April 2015.

43 US Marine Corps, *Urban Warfare Study: City Case Compilation*, Intelligence Production Division, Virginia, 1999.

Secondly, lack of viable stopgap measures between Turkey's next generation, powerful main battle tank arsenal planned for the 2020s and its current capabilities seemed to cause some problems in the menacing anti-tank landscape of Syria. The first Turkish loss and wounded personnel incident in Operation Euphrates Shield were tank crewmen who were targeted by the PKK-affiliated YPG terrorists near Jarablus in late August, 2016.⁴⁴ In early September, 2016, 6 more Turkish tank crewmen were killed by ISIL attacks.⁴⁵

Armor survivability in asymmetric conflicts with hybrid characteristics is a widely-debated issue in the literature.⁴⁶ Unlike non-state groups with low intensity capabilities that are generally equipped with small arms and rocket-propelled grenades (RPG), hybrid groups have standoff capabilities (ATGM, MANPADS, longer range rockets) that pose serious challenges to regular militaries' conventional superiorities.⁴⁷ It is estimated that over 130 nations around the world, as well as many other non-state actors, enjoy ATGM capabilities. In this regard, the Syrian civil war, and the turmoil in the Middle East in general, enabled free flow of many advanced anti-tank systems.⁴⁸ During the ISIL offensive against Iraqi Security Forces in 2014, the terrorist network used anti-tank weapons such as 9K11 Kornet anti-tank missile, M70 Osa rocket launcher, and RPG variants. As a result, some 28 Iraqi M1A1 Abrams tanks were damaged, five of which with full armor penetration.⁴⁹

44 Milliyet, <http://www.milliyet.com.tr/cerablus-ta-ilk-sehit-gundem-2302222/>, Accessed on: February 10, 2017.

45 Hurriyet, <http://www.hurriyet.com.tr/firat-kalkani-harekatinda-11inci-sehit-40240007>, Accessed on: February 10, 2017.

46 David, E. Johnson, Heavy Armor in the Future Security Environment, RAND, Occasional Paper, 2011.

47 David, E. Johnson, Military Capabilities for Hybrid War: Insights from the Israeli Defense Forces in Lebanon and Gaza, RAND, 2010, p.5.

48 Andrew, Feickert. Army and Marine Corps Active Protection System (APS) Efforts, Congressional Research Service, 2016.

49 Dennis, A. Lowe, "Employing Armor against the Islamic State: The Inevitable Urban Combined Arms Fight", Small Wars Journal, September 2014.

As hybrid threats evolved, contemporary militaries have been investing in more advanced tanks with effective countermeasures. Thanks to its successfully developing defense industry and modernization policies, Ankara is expected to commission its national, high-end and next generation (3+ generation) main battle tank, Altay, in armored units by the beginning of the 2020s.⁵⁰ Altay tank is designed for a wide-array of tasks including urban warfare.⁵¹ Notably, unlike any other tank currently operational in Turkey's arsenal, the Altay line will be equipped with an ASELSAN-made active protection system, AKKOR,⁵² which would provide serious advantages against emerging ATGM threats.

To sum up, Turkey is a major tank operator military power, yet the main battle tanks in its arsenal needs significant modernization⁵³ for answering modern warfare's demands, especially under urban warfare conditions and in the face of present ATGM challenges. Turkey's armor capabilities is expected to perform a breakthrough by the future delivery of Altay main battle tanks. However, Operation Euphrates Shield just took place in the pre-breakthrough period.

In fact, so far, Operation Euphrates Shield's land-based fire-support missions have depended on national systems mostly in the 155mm class Firtina howitzers⁵⁴ and multiple launched rocket systems (MLRS), predominantly the 122mm class with 40km range.⁵⁵ During the successful February 7 offensive, which resulted in the capture of Aqil Mountain, of 261 ISIL targets, 189 were hit by the abovementioned national

50 IISS, Military Balance, Routledge, London, 2016.

51 Undersecretariat for Defense Industries, Turkish Defense Industry Products, 2015 - 2016.

52 Undersecretariat for Defense Industries, <http://www.ssm.gov.tr/home/projects/Sayfalar/proje.aspx?projelD=156>, Accessed on: February 10, 2017.

53 IHS Jane's, Turkey-Army, February 2017.

54 Hurriyet, <http://www.hurriyet.com.tr/firat-kalkani-harekatinda-75-deas-hedefine-289-firtina-mermisi-atildi-40227074>, Accessed on: February 10, 2017.

55 CNNTurk, <http://www.cnnurk.com/bilim-teknoloji/teknoloji/cnra-yani-cok-namlulu-roketatar-nedir?page=1>, Accessed on: February 10, 2017.

MLRS and artillery assets.⁵⁶ Thus, in the 2020s, the Turkish Army will probably become an even more robust force with next generation main battle tanks, powerful artillery assets, and elite commando units with urban operations and hybrid warfare experiences. Yet, as noted, there was no stopgap feasibility for improving the tank arsenal before the commencement of the campaign due to rapidly worsened security environment in Syria.

Thirdly, lack of effective coalition support to Operation Euphrates Shield brought about some operational deficiencies, particularly in close air-support (CAS) and ISTAR (intelligence-surveillance-target acquisition-reconnaissance) segments. Even more importantly, these two military mission types are key in mitigating highly time-sensitive, pop-up SVBIED threats, as well as enhancing situational awareness for better armor survivability. Thus, anti-ISIL coalition's unwillingness in supporting the al-Bab offensive played a multiplier role in terms of SVBIED and anti-armor challenges.

Finally, it is seen that Turkey's force generation strategy has been altered during the al-Bab campaign. Ankara's recent deployments from elite Turkish commando units show that some of dismounted infantry roles have been overseen by the Turkish troops themselves.⁵⁷ In fact, some experts indicate that of indigenous friendly elements participating in the al-Bab campaign, Turkmen groups have been performing much better in terms of discipline and combat capabilities compared to FSA factions.⁵⁸

Finally it is evident that conducting high operational tempo and effectively using diplomatic capabilities in support of progressing military operations are the most important tools to save the lives of the Turkish

troops fighting a tough war in al-Bab. Operational tempo and timing is critical because the urban warfare phase of the operation remains the most challenging and demanding one. Thus, especially by relying on superior fire-power advantages, urban operations phase of the campaign should be accomplished as swiftly as possible. In doing so, capitalizing on momentum and surprise factor would be key. Once ISIL defensive is broken, Operation Euphrates Shield's scope in al-Bab would be more about stability and support operations which are more population-centric, and less combat-driven.

Diplomatic efforts will also play a key role due to deconfliction and risk mitigation requirements. The al-Bab battlespace is a dense and ambiguous confine with many warfighting parties, including the advancing regime forces from the south. Besides, lack of coordination could result in dangerous incidents, such as the February 9 Russian reportedly accidental airstrike on Operation Euphrates Shield's elements, which claimed three Turkish lives.⁵⁹ At this point, ensuring better coordination with the Russian air-ground operations remains vital. Besides, a further deconfliction measure could be 'no Syrian flights over al-Bab' policy that could be encouraged by Moscow.

56 Hurriyet, <http://www.hurriyet.com.tr/el-babda-stratejik-tepeler-oso-kontrolune-gect-40359340>, Accessed on: February 10, 2017.

57 Hurriyet, <http://www.hurriyet.com.tr/500-komando-el-baba-sevkedildi-40317279>, Accessed on: February 10, 2017.

58 Serhat, Erkmen. "Al-Bab Kapısı Açıldığında", Al Jazeera Turk, <http://www.aljazeera.com.tr/gorus/el-bab-kapisi-acildiginda>, Accessed on: February 10, 2017.

59 CNNTurk, <http://www.cnnurk.com/dunya/tsk-rus-ucagi-kazaen-turk-askerlerini-vurdu>, Accessed on: February 9, 2017.

CONCLUSION

February 7 overnight operations probably witnessed the most critical phase of Operation Euphrates Shield so far. The breakthrough offensive has visibly paid off, and significantly altered the battlespace in favor of further Turkish advances. From now on, the campaign reflects full characteristics of urban operations, and Turkey's forward-deployed contingent is suitable for the mission requirements thanks to recently altered force generation.

Currently, main efforts of the Turkish forces and friendly FSA and Turkmen elements focus on breaking ISIL's defensive resilience in the outer urbanized ring of al-Bab. At this point, given the Syrian Baathist forces' advances from the south, timing remains a key parameter for Operation Euphrates Shield's decisive push. Clearly, this operation should be accomplished before the Syrian Arab Army reaches Tadif, and use it as an attack position on al-Bab. In such case, as mentioned earlier, Operation Euphrates Shield and the Syrian Baathist forces will be positioned in an actual line of contact, which might be open to the regime's malicious provocations. Without a doubt, Turkey's diplomatic capabilities to manage bilateral cooperation with the Russian Federation, as well as the US-led anti-ISIL coalition, would be key to foster military advance on the ground.

Notably, since Operation Euphrates Shield progressed both in the western and eastern proximities of al-Bab while the Syrian Baathist forces are pressing from the south, ISIL is now heavily besieged. The terrorist organization now faces a tradeoff between concentrating its forces in Tadif to protect the southern gateway to al-Bab from the Syrian Arab Army, or keeping them along the west – center line, and / or northeastern adjacent areas, to slow down the Turkish breakthrough.

Given the current military-geostrategic situation, Operation Euphrates Shield is in a more favorable situation to defeat ISIL in al-Bab before the Baathist forces can do the same. As a final note, such an achievement would not mark an end for Turkey's counter-terrorism efforts in Syria. Subsequent missions of 'de-ISILizing the town' and ensuring its stability will most probably wait in line.

MAPPING THE BATTLESPACE:

1) Aqil Mountain and Hospital Area: The key strategic high-ground in the al-Bab campaign



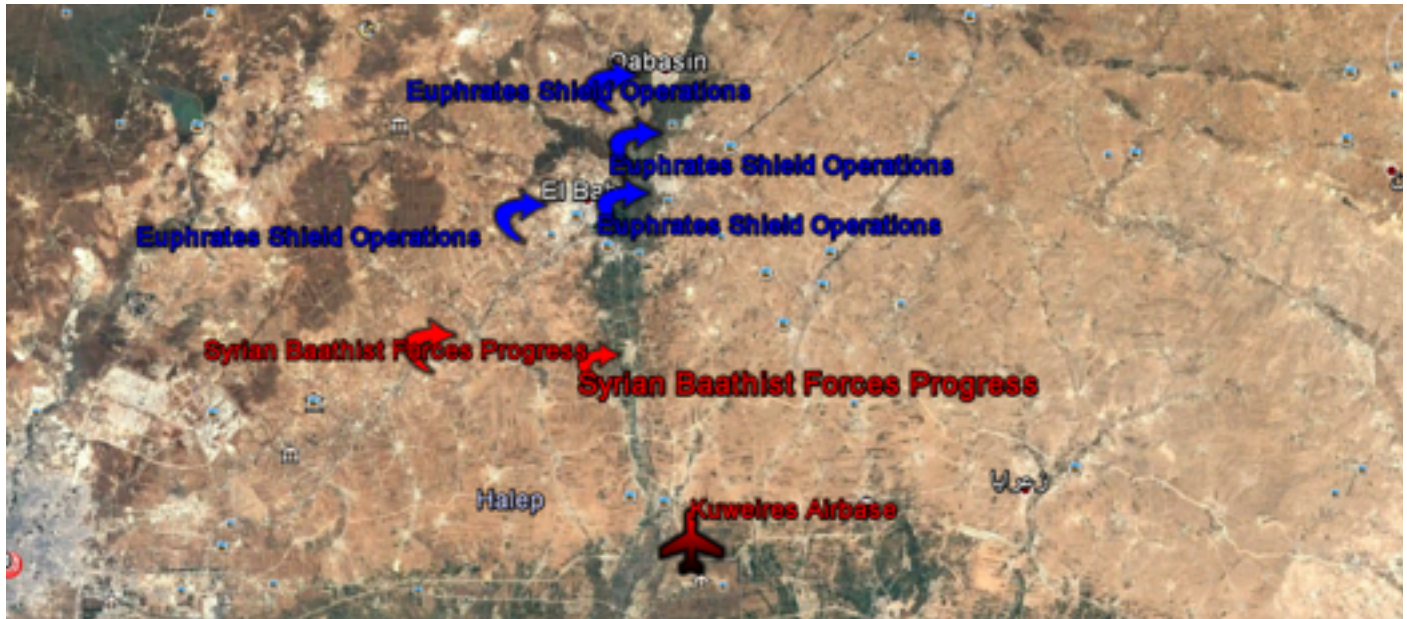
2) February 7-8 Operation Euphrates Shield breakthrough, FSA's flanking maneuvers in the southwest and direction of attack in the west, and -most probably- Turkish forces' new line of departure and attack positions



3) In the meanwhile, northeastern outlook of the battlespace: Turkish forces and friendly local elements conducting envelopments and outflanking maneuvers to encircle ISIL positions.



4) Syrian Baathist forces' progress from the south: Abu Taltal and Tadif are the remaining objectives for the regime's push from the south. Kuweires airbase is located some 20km away from al-Bab supporting the operations





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Turkey at the Gates of Al-Bab

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