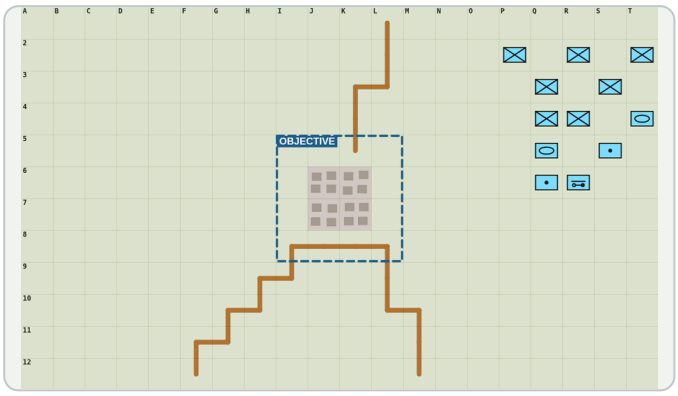
STUDENT HANDOUT

The Drone Duel at al Watiya

Al Watiya Air Base, Jafara plain, north west Libya · May 2020



Scenario illustration · AI generated



Student map · own side only · Simulation situation map · reconstructed terrain and estimated deployments; not verified historical positions.

Learning objectives

- Compare the UN Panel's account of Turkey-supplied TB2s with BBC's investigated UAE-operated Wing Loong II case. Distinguish these attributed findings from the run's authored reach and roster; they do not establish that both sides could strike any rear-area site.
- Assess the UN Panel's reported Pantsir losses and the exposure it describes for retreating forces. Compare that assessment with the authored counter losses, without treating one run as proof of the Panel's causal explanation.
- Evaluate how investigators attributed drone strikes to a drone type and an operator, and why that matters for accountability.

Run time and a good result

Default run clock: 2 minutes 50 seconds at 1×, excluding pauses, briefing and discussion. Time controls change elapsed play time.

Objective: Capture Al Watiya Air Base, using your drones to destroy its air defence and cut its supply convoys on the road to Badr and Tiji before your ground forces go in.

The Drone Duel at al Watiya: Capture Al Watiya Air Base, using your drones to destroy its air defence and cut its supply convoys on the road to Badr and Tiji before your ground forces go in. Occupy the marked zone with at least one combat unit and no opposing combat unit for 8 continuous simulation seconds. The authored limit is 170 simulation seconds across 1 stage. Compare objective progress, time, losses, drone expenditure and recorded civilian harm with a second run. A strong classroom result also explains the source evidence and reconstruction estimates; it does not verify a historical casualty count.

Atrocity notice

The UN Libya Fact-Finding Mission found reasonable grounds to believe war crimes were committed in Libya since 2016. It also found crimes against humanity against migrants. These findings concern the wider conflict and detention system, not only the al Watiya or Tripoli operations.

These reports describe the wider conflict. They do not establish that every crime occurred in this modeled battle.

Studying or commanding a side does not endorse its conduct. Drone Front never lets players target civilians, hospitals, schools or places of worship. Civilian harm from simulated strikes is counted and shown in the debrief, including nonzero harm. Civilian massacres are never playable operations. Designated terrorist forces and Wagner remain computer controlled; Gaza war events remain excluded from play.

▼ Dated reports and findings

- 2021-10-04 · UN Fact-Finding Mission: crimes against humanity and war crimes in Libya since 2016

Learn more: the laws of war

- ICRC: Geneva Conventions and commentaries
- ICRC: Customary IHL database
- UN: Genocide Convention (9 December 1948)
- UN: Rome Statute (17 July 1998), articles 6–8

Historical source notes

Both sides relied on foreign-supplied armed drones. Turkey supplied the GNA with Bayraktar TB2s, while BBC and Human Rights Watch investigations attributed Wing Loong II operations supporting Haftar's forces to the UAE. The BBC linked a January 2020 strike on Tripoli's military academy to a UAE-operated drone. Reuters described expanded Turkish military support as key to the GNA's spring 2020 gains. The UN Panel described artillery support and drone attacks on supply convoys and retreating forces. Over roughly ten weeks from late March to early June, GNA forces captured al-Watiya on 18 May, Tripoli airport on 3 June, and Tarhuna on 5 June.

The UN Panel of Experts describes successful Pantsir interceptions of TB2s at the end of 2019, followed by significant Pantsir losses during the 2020 GNA offensive. It links the later losses to reduced protection for convoys and retreating units (S/2021/229, paragraphs 60 and 63–65). This is a changing historical balance; neither phase establishes a universal result for every drone or air-defence system.

Drone strikes in this war killed civilians and unarmed people. Human Rights Watch found that a Wing Loong II strike on a biscuit factory near Tripoli on 18 November 2019 killed 8 civilians and injured 27, and said that in Libya only the UAE used that drone and missile. A BBC Africa Eye investigation found that a UAE operated Wing Loong II killed 26 unarmed cadets at a military academy in Tripoli on 4 January 2020; the LNA denied responsibility, while the UAE had previously denied military involvement and did not respond to BBC. The UN Panel separately reported 30 students killed; keep the differing source totals attributed. By February 2020 the United Nations said more than 280 civilians and about 2,000 fighters had been killed in the offensive (Al Jazeera). Harm caused by GNA side drone strikes is less well documented in the sources used here.

Evidence for learning objectives

Nordic Monitor reports the UN Panel found Pantsirs could easily shoot down TB2s. In spring 2020, the Panel says, Pantsirs 'suffered significant casualties'.

The UN Panel of Experts describes LNA supply convoys being hunted from the air. With the Pantsirs gone, it says, LNA units 'had no real protection from remote air attacks'.

Human Rights Watch found a Wing Loong II strike on a biscuit factory near Tripoli killed 8 civilians, and said only the UAE used that drone in Libya.

Timings

For 60 minutes run the briefing, one run and a short debrief; for 90 minutes add a second run with a different target order and two discussion questions; for 180 minutes add the three pause points, all four questions and a close reading of the UN Panel and BBC findings.

Session	Plan
45 minutes	Brief: 10 min; Run: 15 min; Collect: 5 min; Review: 15 min
60 minutes	Before questions: 5 min; Brief: 10 min; Run: 20 min; Collect: 5 min; Debrief and after questions: 15 min; Discussion: 5 min
90 minutes	Before questions: 5 min; Brief: 10 min; Run 1: with drones: 20 min; Run 2: without drones: 15 min; Collect: 5 min; Compare and discuss: 25 min; After questions: 10 min
180 minutes	Before questions: 10 min; Brief and staff roles: 15 min; Run 1: with drones: 25 min; Run 2: without drones: 20 min; Break: 10 min; Run 3: syndicates: 30 min; Collect: 10 min; Seminar replay and debrief: 40 min; After questions: 10 min; Close: 10 min

Staff roles

commander
Set the pre-run posture and available standing orders, allocate drone flights between the base and authored supply approach, and report progress toward the take zone. Individual ground-assault and withdrawal orders are unavailable.

intelligence
Track which Pantsir sites have fired and been seen, and report any air defence that has not yet shown itself.

fires
Observe artillery engagements, ammunition and reach against visible contacts, and recommend the available artillery standing order. The run assigns individual gun targets automatically.

droneOps
Report each TB2 and Kargu-2 launch and loss, each TB2 return, and any observed enemy Wing Loong flight. Kargu-2 is a single-use loitering munition in this model.

Opposing staff objective

Hold Al Watiya Air Base until time runs out. Keep its Pantsir air defence working and the supply road south west toward Badr and Tiji open.

Decision points

- Before launch: which LNA asset do your TB2s hunt first, and why?

- After your first drone losses: keep pressing the air defence, or switch to the supply convoys?
- Before the modeled ground units approach the base, compare observed air-defence activity and drone losses. Which TB2 launches and standing orders do you choose, and what ground movement occurs automatically?

Before and after questions

1. **Pantsirs could easily shoot down TB2s, yet by spring 2020 they suffered heavy losses. What does that show?**

   A. Early drone success predicts later defensive performance
   B. Jamming alone explains the changing equipment losses
   C. Interceptions in late 2019 preceded significant Pantsir losses in the 2020 offensive
   D. Published weapon specifications explain the changing balance

2. **Why were LNA supply convoys so exposed in spring 2020, according to the UN Panel of Experts?**

   A. Escort arrangements had become the main weakness
   B. Loss of road access prevented convoy dispersal
   C. Daylight scheduling exposed otherwise protected convoys
   D. Loss of Pantsir cover exposed moving convoys

3. **How did Human Rights Watch link the biscuit factory strike near Tripoli to the UAE?**

   A. It attributed the weapon to its reported operator
   B. It treated the nationality of manufacture as sufficient proof
   C. It accepted a claimant's description without examining weapon evidence
   D. It treated recovery location as proof of operator identity

4. **What capability did the UN Panel report for Kargu munitions, without establishing that they autonomously killed people?**

   A. Attack using coordinates supplied continuously by an operator
   B. Attack without a continuing operator data link
   C. Identify hostile radars through continuous external sensor updates
   D. Select targets only after continuous remote operator confirmation

5. **Which reach did BBC’s academy-strike investigation document in January 2020?**

   A. Strike a site within the defended Libyan capital
   B. Hold captured positions after the ground force withdrew
   C. Replace ground resupply with repeated airborne supply missions
   D. Maintain accurate contact information without repeated observation flights

Discussion

- The cited UN Panel and BBC investigation describe external drone support in specific cases. What does reliance on outside suppliers or operators mean for the claims a staff can substantiate and for accountability?
- The UN Panel says Pantsirs suffered heavy losses even when their crews tried to avoid jamming. What does that suggest about relying on one type of air defence?
- HRW describes a scene visit, employee interviews, weapon remnants and imagery; BBC's academy investigation compares fragments, platform compatibility, basing and registry evidence. Where does each chain support aircraft-type identification or operator attribution, and what uncertainty remains?
- The UN Panel describes Kargu-2 systems programmed to attack without a continuing operator data connection. Which control and accountability questions follow? This reported capability does not independently establish who selected a particular target or whether anyone was killed autonomously.

Debrief rubric

Strong
Meets the objective or explains why it was not met; uses the published sources and run evidence, separates known facts from assumptions, compares both sides' losses and cost exchange, and evaluates precautions against civilian harm.

Adequate
Describes the objective and main decisions, identifies at least one source and model limitation, reports losses and harm, and gives a reasoned change for a second run.

Weak
Reports only victory or points, treats teaching settings as real performance, gives unsupported historical claims, or omits uncertainty and civilian harm.

Published readings

1. Al Jazeera: Libya's GNA recaptures strategic al Watiya airbase (18 May 2020)
2. Oryx: Disaster at Tarhuna, when Haftar lost another stronghold to the GNA (TB2s, Pantsir losses, al Watiya)
3. Middle East Eye: Libya's GNA retakes major coastline cities (13 April 2020)

Complete source list

Al Jazeera: Libya's GNA recaptures strategic al Watiya airbase (18 May 2020)
Oryx: Disaster at Tarhuna, when Haftar lost another stronghold to the GNA (TB2s, Pantsir losses, al Watiya)
Middle East Eye: Libya's GNA retakes major coastline cities (13 April 2020)
Bulletin of the Atomic Scientists: Was a flying killer robot used in Libya? (on the UN Panel of Experts report)
ICRC Casebook: Libya, the use of lethal autonomous weapon systems (quotes UN Panel of Experts report S/2021/229)
Middle East Eye: UAE involved in drone strike that killed 26 Libyan cadets (reporting the BBC Africa Eye investigation)
Al Jazeera: UAE drone strike on factory near Tripoli killed 8 civilians, says HRW
Nordic Monitor: UN experts found Turkish Bayraktar drones in Libya were easily destroyed
Al Jazeera: Timeline, Haftar's months long offensive to seize Tripoli (19 February 2020)
Wikipedia: Al-Watiya Air Base

Wikipedia: Battle of Al-Watiya Airbase
Arab Center Washington DC: Libya after the Fall of Al-Watiya
Libya Observer: Libya's GNA forces seize control of Badr and Tiji towns south of Al-Watiya airbase
UN Panel of Experts on Libya: Final report S/2021/229 (2021, PDF)
Human Rights Watch: Libya, UAE strike kills eight civilians
BBC, reproduced by MyJoy: UAE implicated in lethal drone strike in Libya (28 August 2020)
UN Panel of Experts on Libya: Final report S/2019/914 (2019, PDF, via ecoi.net)
Al Jazeera: Erdogan, Turkish soldiers gradually being deployed to Libya (6 January 2020)
Al Jazeera: Libya’s GNA retakes Tripoli airport from Haftar’s forces (3 June 2020)
Reuters, republished by Arab News: Libya’s Tripoli government seizes last LNA stronghold near capital (5 June 2020)
Libya Observer: Libyan Air Force destroys seven Russian-made Pantsir-S1 systems in 48 hours (20 May 2020; reports a GNA claim)