





Israeli Offensive on Lebanon 2023-2024

Overview of Attacks and Damages Across Key Sectors

Prepared by:

The National Council for Scientific Research
National Center for Natural Hazards and Early Warning

In collaboration with UNDP Office in Lebanon

Beirut on 10/12/2024







One year after the "Al-Aqsa Flood," along with a new Israeli offensive against Lebanon



This offensive took various forms with an escalating pace, initially manifested in the Israeli focus on environmental destruction and the adoption of a scorched earth policy in the villages of southern Lebanon. By September 2024, the offensive started to escalate with the "Pagers Operation", which involved the weaponization of wireless communication devices, in addition to a series of assassinations of resistance leaders. This was followed by a large-scale ground invasion across the Lebanese southern border, resulting in the systematic destruction of homes, residential units, and infrastructure, as well as the targeting of journalists, healthcare workers, and civil defense teams. The Israeli offensive forced a massive evacuation from South Lebanon, the southern suburbs of Beirut, and the Bekaa Valley, displacing over 1.2 million people. By November 27, 2024, the offensive had claimed the lives of **3,961 martyrs** and left **16,520 others injured**.

Since October 8, 2023, with the onset of Israeli offensive, the National Council for Scientific Research (CNRS-L) refocused its efforts to monitor, document, and analyze the various forms of attacks, assessing their impacts and consequences. This effort was led primarily by the National Center for Natural Hazards and Early Warning (NCNE), in collaboration with a range of entities, including the Disaster Risk Management Unit at the Presidency of the Council of Ministers, various ministries, local stakeholders, and the United Nations Development Programme (UNDP).

The periodic reports previously issued by the CNRS-L aimed, firstly, to track Israeli attacks and systematically assess the resulting damage using rigorous scientific standards. This data allows Lebanon to document and highlight the repeated violations of international law and conventions by Israel, contributing to holding Israel accountable. Secondly, the reports aimed to offer a comprehensive view of the nature of the damage and its broader impacts. This information is vital for the Lebanese state to develop and implement response and recovery plans that address the multifaceted human, social, urban, environmental, agricultural, and economic needs.

This comprehensive report, covering the period up to the ceasefire on November 27, 2024, summarizes all the data documented by CNRS-L since October 8, 2023. The first section of the report documents all forms of Israeli attacks (including bombings, airstrikes, phosphorus shells, etc.), their frequency, intensity, and geographical distribution. The second section of the report outlines the impact of these attacks across various sectors:

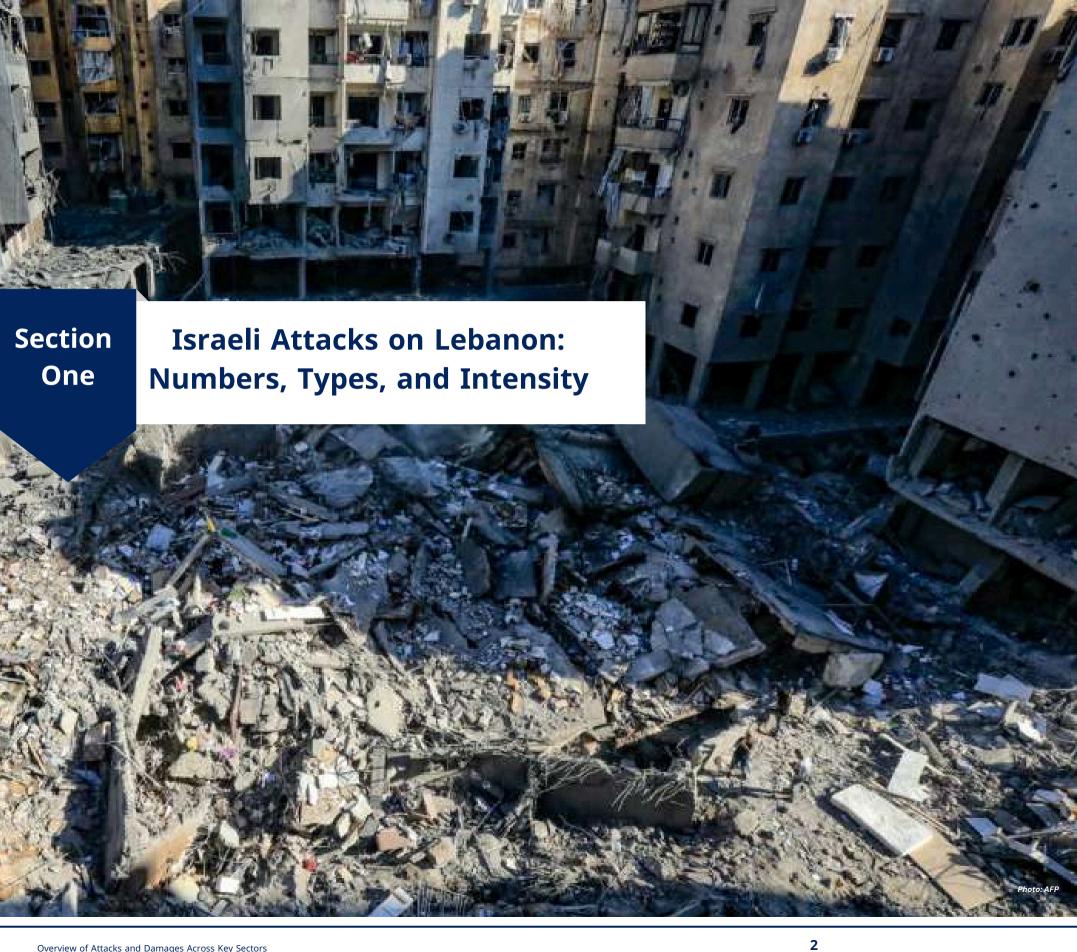
- **Population:** This includes martyrs, injuries, displacement, and the forced evacuation of residents, particularly from southern Lebanon, the Bekaa, and the southern suburbs of Beirut.
- **Environment:** The report highlights the environmental destruction (Ecocide) caused by Israel, especially in southern Lebanon, where environmental crimes included the burning of over 2,000 hectares of land, more than 1,200 hectares

of which were forests. This deliberate devastation has led to severe ecosystem damage and biodiversity loss, with the aim of transforming southern Lebanon into a biosphere of war.

- Agriculture: The extensive and deliberate burning of tens of thousands of olive trees, fruit crops, and various agricultural lands, along with restrictions preventing farmers from accessing forcibly evacuated lands, has severely impacted Lebanon's agricultural sector. This destruction extends to livestock, eroding farmers' livelihoods and threatening national food security. Israeli attacks have disrupted agricultural activities across 130,000 hectares—approximately a quarter of Lebanon's arable land. The widespread use of white phosphorus has intensified this devastation, causing both immediate and lasting environmental damage.
- **Destruction of Infrastructure:** This encompasses the targeted and brutal destruction of buildings, residential areas, and entire villages. The use of "urbicide" as a method for eradicating villages and dismantling the social fabric was especially evident in southern Lebanon, the Bekaa Valley, and the southern suburbs of Beirut. The report evaluates the extent of damage in the southern suburbs of Beirut, the amount of rubble generated, and the damage to solar energy panels. It also presents the findings of the Lebanese Atomic Energy Commission regarding suspicions of depleted Uranium usage by Israel. Furthermore, the report includes data on the destruction of several archaeological sites, (such as the Dome of Doris and the shrine of Prophet Benjamin in Mheibib), as well as ongoing threats like repeated bombings near the Baalbek Temples (a UNESCO World Heritage site), which constitutes a direct attack on Lebanon's history and cultural heritage. This also includes the direct destruction of both Muslim and Christian places of worship.
- Critical Infrastructure: The report also covers the direct targeting of several healthcare facilities, with multiple hospitals rendered inoperable, and attacks on ambulances, healthcare workers, and civil defense personnel. It includes damage to water facilities, such as the main canal of the Qasimiya irrigation project, which serves 6,000 hectares of farmland. The report also highlights the destruction of border crossings and the damage in the educational sector that thas suffered severe disruption since October 2023, as a result of Israeli attacks and the subsequent displacement to schools and educational facilities being turned into shelters.

The National Council for Scientific Research offers this report as a comprehensive reference for Lebanese authorities, covering the period from October 8, 2023, to November 27, 2024. CNRS-L continues its efforts to monitor attacks and assess the damage, stressing the importance of coordinated action among all Lebanese stakeholders. This collaboration is essential for crafting and executing a response and recovery plan that fully addresses the needs of all citizens impacted by the Israeli offensive.

Tamara ELZEIN







Methods & Number of Israeli Attacks on Lebanon

The methods of Israeli attacks on Lebanese territory were varied and classified as follows: Airstrikes & Bombardments, Incendiary/ Flare Bombs, Phosphorus Shells, Phosphorus Shells & Bombardment, Planting & Detonating Explosives, Demolition, Cluster Bombs, Shooting and Unexploded Shells.

The total number of all attacks reached 14, 775, distributed as follows:



Airstrikes & **Bombardments**

13,774



Phosphorus Shells

284



Phosphorus Shells & **Bombardment**

89



Incendiary / Flare **Bombs**

286



Shooting

196



Unexploded Shells

60



Cluster Bombs

28



Planting & Detonating **Explosives**



Demolition

Note: Shooting does not include the clashes that occurred between the resistance and the enemy.

Since October 8, 2023, Israeli attacks on Lebanese territory have been numerous and employed diverse methods, resulting in significant repercussions.

Initially, the attacks were concentrated in the border regions of Southern Lebanon, particularly in the Governorates of Nabatieh and the South, affecting the districts of Bint Ibeil, Marjayoun, and Tyre. Targeted operations also extended to the Southern Suburbs of Beirut, with occasional violations recorded.

By September 23, 2024, the intensity and scale of the attacks escalated, impacting multiple regions across Lebanon. Continuous airstrikes carried out by fighter jets and naval forces struck areas in the South, the Bekaa Valley (both Eastern and Western), the Southern Suburbs of Beirut, and their surrounding regions. Simultaneously, Lebanon experienced intensified reconnaissance flights and precise strikes, including in the capital, Beirut.

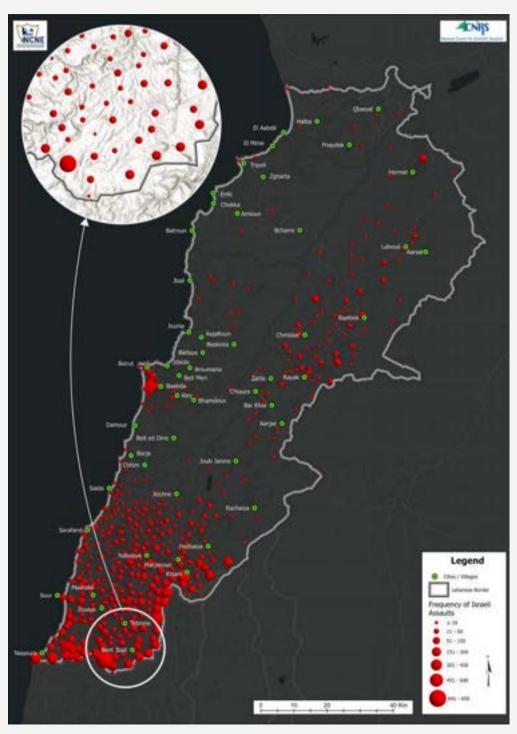
On October 1, 2024, Israeli forces initiated ground invasion into Southern Lebanese territory. These operations included heavy artillery shelling targeting border villages and residential areas. Employing a scorched earth policy, Israeli forces caused widespread destruction, systematically demolishing villages and carrying out explosions that left extensive damage in their wake.

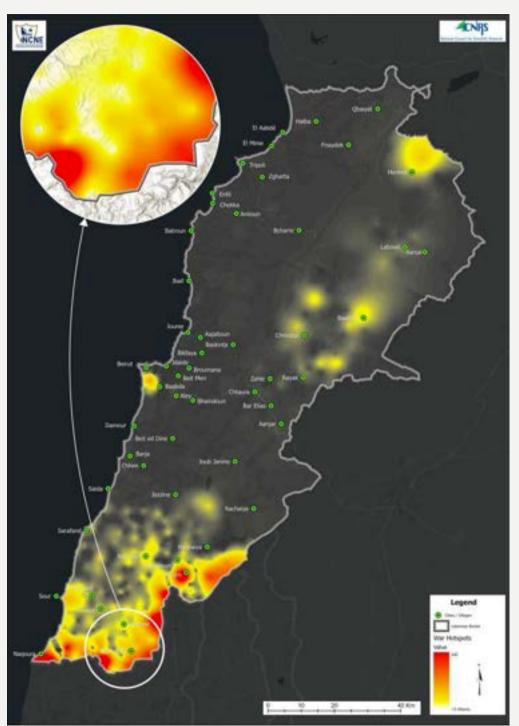






The cumulative number of Israeli attacks on Lebanese villages and towns from October 8, 2023, to November 27, 2024





Israeli Attacks on Lebanon: Numbers, Types, and Intensity



10



5

Methods & Number of Israeli Attacks on Lebanon

Nabatiye and the South were the most affected governorates by the attacks:



Airstrikes & **Bombardments**

4,365



Phosphorus Shells



Phosphorus Shells

66



South

62

& Bombardment

221

23



Incendiary / Flare **Bombs**

Nabatiye 179

105 South



Shooting

135

61



Unexplode<u>d</u> Shells

43

12



Cluster Bombs



Planting & Detonating **Explosives**



18



Demolition

The Israeli attacks were distributed across the various Governorates as follows:

Nabatiye South Baalbek-Hermel Mount Lebanon 762 476 8,574 4.657 Akkar North Beirut Bekaa

24

The Nabativeh and South Governorates have borne the brunt of the Israeli aggression on Lebanon, enduring the highest number of attacks and widespread devastation. Meanwhile, Baalbek-Hermel, Bekaa, and Mount Lebanon Governorates have also faced substantial and systematic destruction, further compounding the scale of the crisis.

The governorates of North Lebanon, Beirut, and Akkar were not exempt from the onslaught, suffering devastating attacks that resulted in numerous casualties, including a significant loss of lives. These strikes, often carried out without prior warning, were described as massacres, with entire buildings reduced to rubble.



267



Nabatiye

South

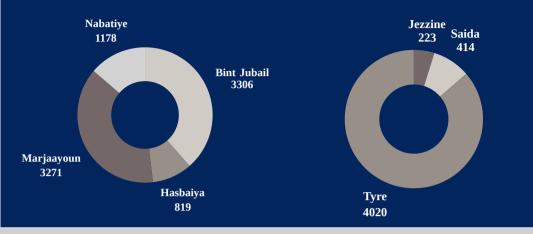
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Israeli Attacks on Lebanon: Numbers, Types, and Intensity

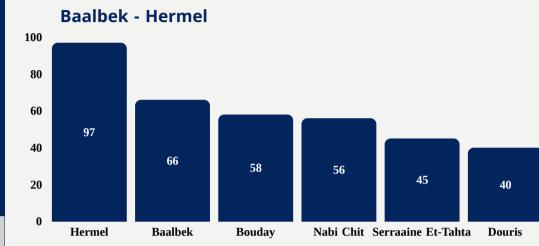




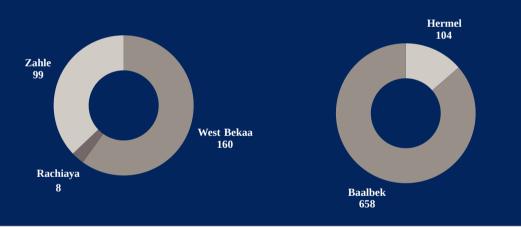




The villages and cities that were most frequently attacked per district:

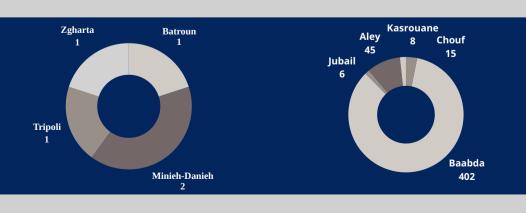








Bekaa Baalbek-Hermel



15
10
16
15
12
8
6
Aali En-Nahri Riyaq Maallaqa Chtaura Raait

Zahle

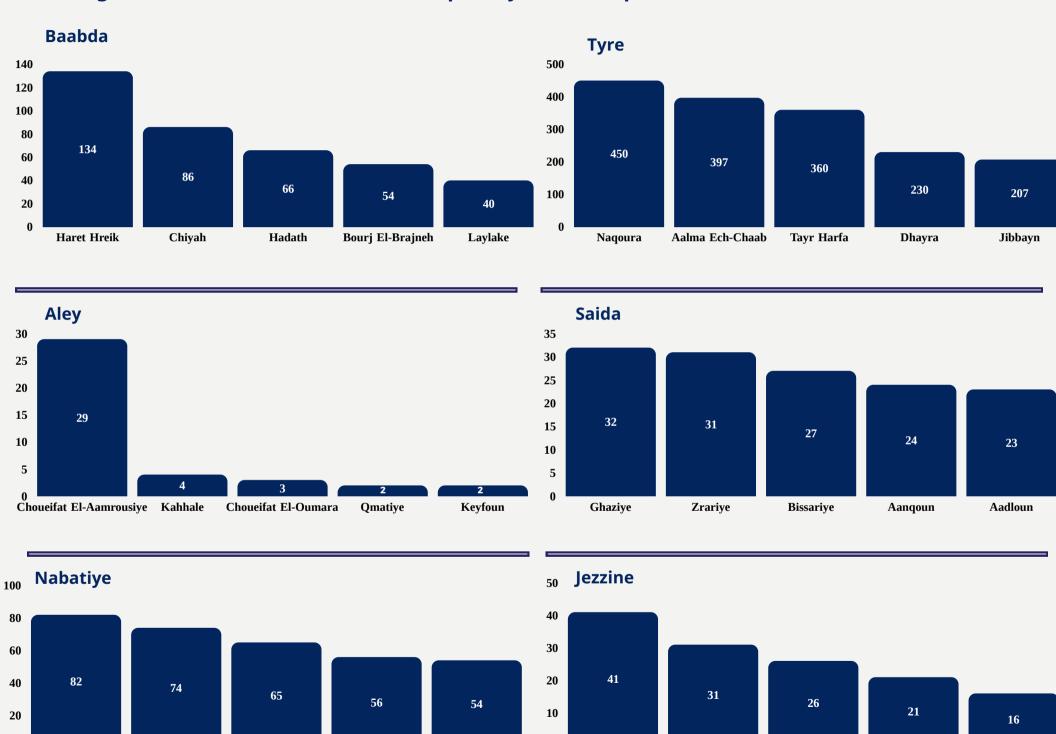
20

North Mount Lebanon





The villages and cities that were most frequently attacked per district:



Rihane

Mahmoudiye

Mlikh

Srayri

Kfar Houne

Yohmor

Kfar Roummane

Zaoutar

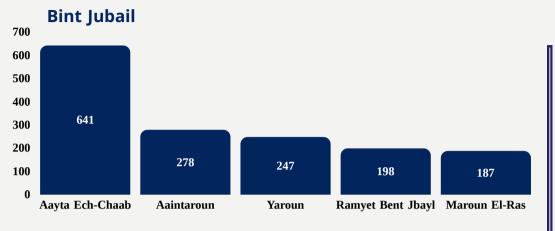
Nabatiyeh El-Faouka

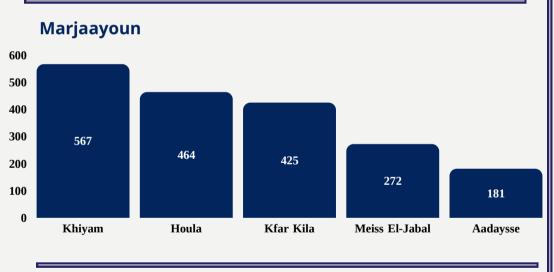
Nabatieh Et-Tahta





The villages and cities that were most frequently attacked per district:











Israeli Attacks on Lebanon: Numbers, Types, and Intensity





Attacks with Phosphorus Bombs



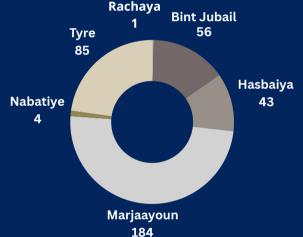




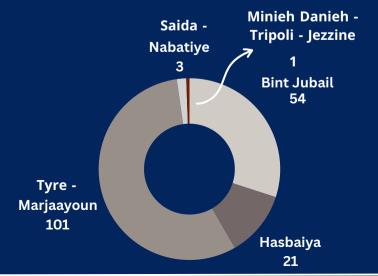
Attacks with Phosphorus & Incendiary/Flare Bombs

The enemy deliberately used phosphorus during its offensive against Lebanon, in addition to incendiary/flare bombs, and polluting the environment with cluster munitions, which led to the deterioration of the soil and the environment.

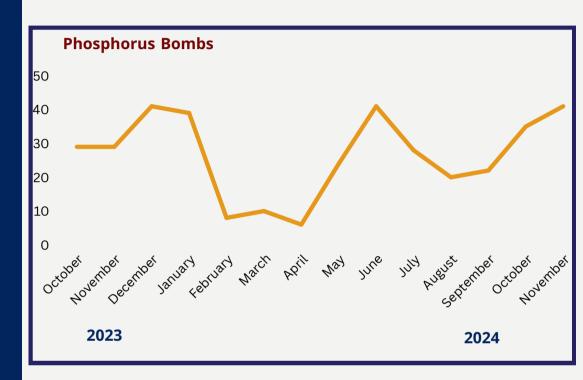
The villages that suffered the most from attacks with phosphorus :

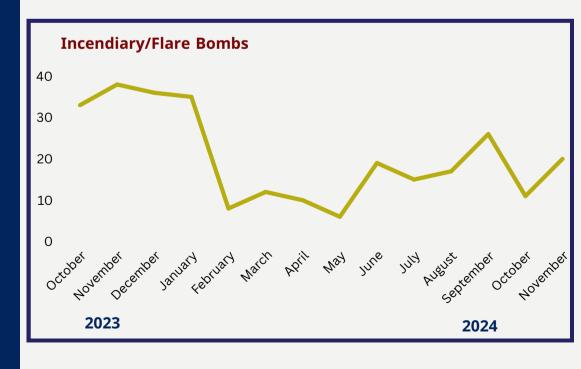


The villages that were targeted by incendiary bomb attacks:



Cumulative Number of Incendiary/Flare and Phosphorus Bombs by month:





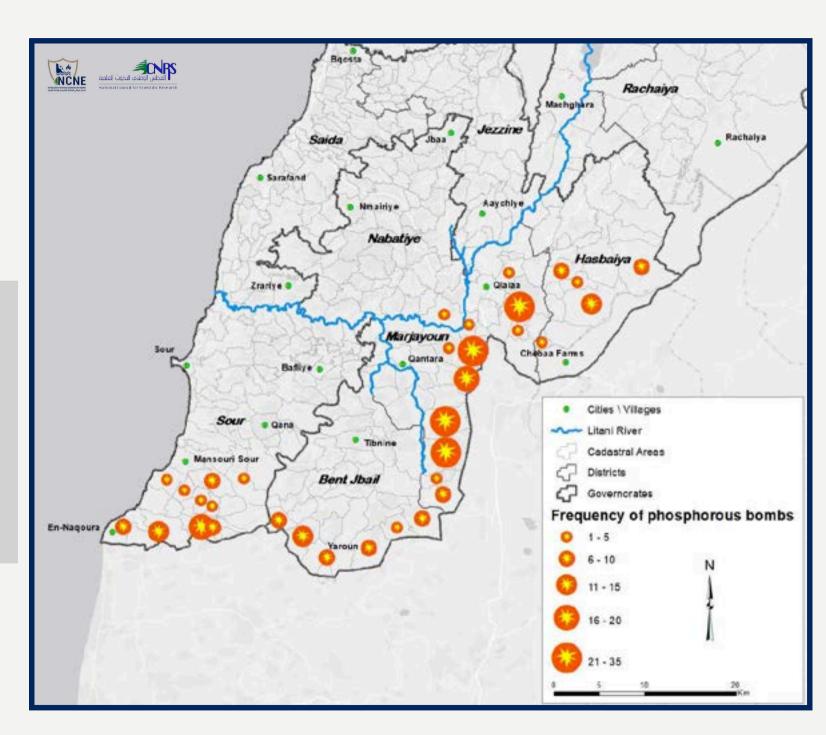
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Mapping of Israeli Attacks with Phosphorus Bombs

This map illustrates the frequency of Israeli attacks on Lebanese villages and towns involving phosphorus bombing between 8, 2023, to November 27, 2024.



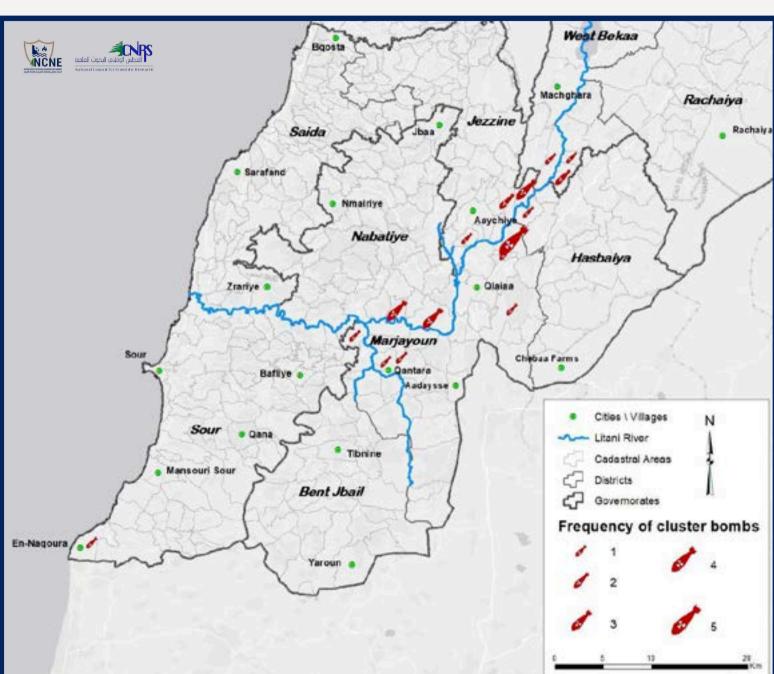




Attacks with cluster bombs

The Israeli forces systematically employed internationally banned cluster bombs, targeting villages situated near the Litani River with deliberate and repeated shelling.

This map illustrates the Frequency of Israeli Attacks on Lebanese Villages and Towns with Cluster Bombing from October 8, 2023, to November 27, 2024



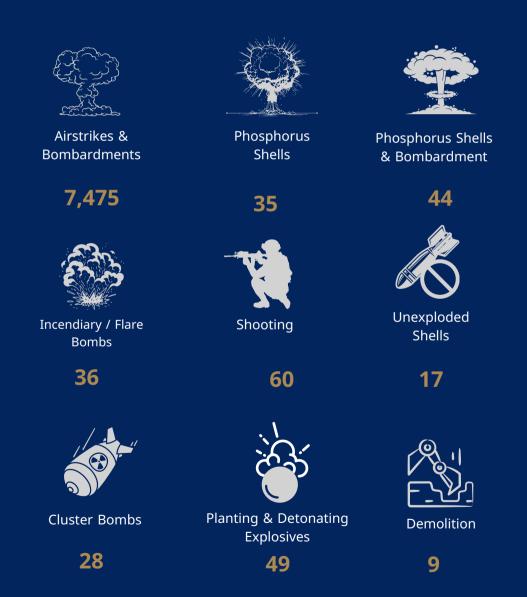
Israeli Attacks on Lebanon: Numbers, Types, and Intensity





Escalation of Israeli attacks on Lebanon since September 23, 2024

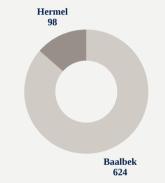
From September 23 to the Ceasefire on November 27, 2024, The total number of all attacks reached **7,753** attacks, distributed as follows:

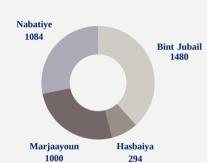


Note: Shooting does not include the clashes that occurred between the resistance and the enemy.

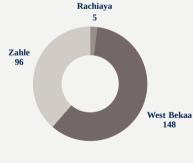
These attacks affected several areas of Lebanon, distributed across various governorates as follows:





















1. Martyrs and Injuries

The total number of martyrs and injuries since the start of the offensive until November 27, 2024 (according to the Ministry of Public Health - MoPH) is:







The offensive against Lebanon involved grave violations against unarmed civilians, who were directly targeted in their homes. Humanitarian relief efforts were severely hindered as roads were blocked, preventing rescue teams from reaching affected areas. Among the targets was a shelter center operated by the Dar Al-Salam Association for Cultural Trips in Wardaniyeh - Chouf, which housed over 15 families. Additionally, buildings in areas deemed safe, where displaced families had sought refuge from the shelling, were also attacked, resulting in horrific massacres and the loss of entire families. These actions constitute a blatant violation of human rights and international laws, amounting to deliberate targeting of civilians.







736 **Martyrs** 2,678 **Injuries** 12,527 2,827 1,436







2. Booby-Trapping "Pagers" & "Walkie Talkies"

The explosions occurred in two different waves: the first involving AR-924 pager devices on Tuesday, September 17, 2024, at around 3:30 PM, and the second involving ICOM v82 walkie-talkie devices on Wednesday, September 18, 2024, at approximately 5:15 PM.

The devices that exploded on Wednesday were two-way "walkie-talkie" communication devices, unlike the pager devices that exploded on Tuesday, which were receivers only.

The explosions were recorded in various Lebanese areas, with the majority concentrated in Southern Lebanon and the Southern Suburbs of Beirut. It is important to note that there were no specific areas targeted, as the operation affected anyone carrying these devices, regardless of their location. As a result, some injuries were also reported within Syrian territories.

The injuries exceeded three thousand, with the majority occurring in the eyes, hands, and sides.

39 Martyrs



3200

Injuries







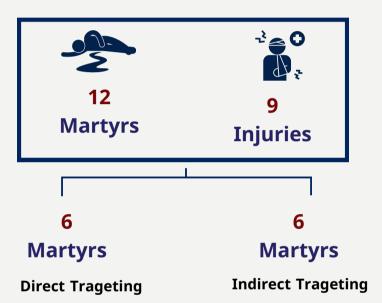






3. Journalists & Media Workers

Journalistic teams were also targeted during the Israeli attacks on Lebanon, facing deliberate assaults that led to:







Since the beginning of the offensive, the Israeli enemy deliberately and directly targeted and killed:

- Issam Abdullah (photographer at Reuters) on October 13, 2023, in Alma al-Shaab.
- Farah Omar and Rabi' Ma'amari (correspondent and photographer for Al-Mayadeen channel) on November 21, 2023, in Tair Harfa.
- Ghassan Najar (photographer at Al-Mayadeen channel), Mohammad Reda (technician at Al-Mayadeen channel), and Wissam Qasim (photographer at Al-Manar channel) on October 25, 2024, at a media residence while asleep in Hasbaya.

Indirectly, each of the following:

- Hadi Al-Sayyid (editor at Al-Mayadeen website) on September 24, 2024, in Sirifa.
- Hassan Romieh (correspondent for Al-Wadi News Group) on October 23, 2024, in Ma'alaqa.
- Mohammad Ghadhboun (photographer at Al-Ittihad Foundation) on October 16, 2024, in Qana.
- Mohammad Bitar (media officer at the Nabatieh Municipality) on October 16, 2024, in Nabatieh.
- Ali Yassin (photographer at Al-Manar channel) on October 22, 2024, in the Southern Suburbs.
- Sakina Mansour Kawtharani (journalist at Radio Nour) on November 5, 2024, in Joun.

Direct attacks occurred without resulting in casualties or injuries

- The Israeli army fired warning shots into the air, intimidating the NBN channel crew on the Khyam road, opposite the Metula settlement.
- From the "Miskaf Aam" position, Israeli forces opened fire on the road in Addaysseh as the Al-Mayadeen team was passing, striking their vehicle without causing harm.
- The Al-Mayadeen channel's office in Beirut was also targeted by the Israeli army, fortunately without any reported injuries.

17





4. Israeli attacks on the Lebanese Army

The Lebanese Army has been subjected to a series of direct attacks and violations by the Israeli occupation forces, with repeated targeting of its positions and patrols during the recent offensive on Lebanon. These assaults, which included artillery shelling, drone strikes, and heavy machine gun fire, represent a clear escalation and a blatant violation of Lebanese sovereignty and international law. The systematic and deliberate nature of these attacks underscores that the enemy's offensive was not confined to civilians but extended to the Lebanese Army. A total of 40 direct attacks and 26 indirect attacks were documented.

These violations took various forms, including artillery shelling during an army mission to evacuate the wounded, leading to the martyrdom of one soldier and injury of another. Additional incidents included the targeting of a Lebanese Army observation tower in Ras al-Naqoura, a soldier injured by an Israeli drone strike while reopening the road between Marjayoun and Hasbaya, and the martyrdom of Lebanese Army personnel in an attack on a military center in Kfara, South Lebanon. The enemy also repeatedly targeted vehicles near army checkpoints across various areas, endangering soldiers' lives and causing injuries. The map highlights the classification and distribution of these direct and indirect attacks.

During their missions



2 Mar

Martyrs

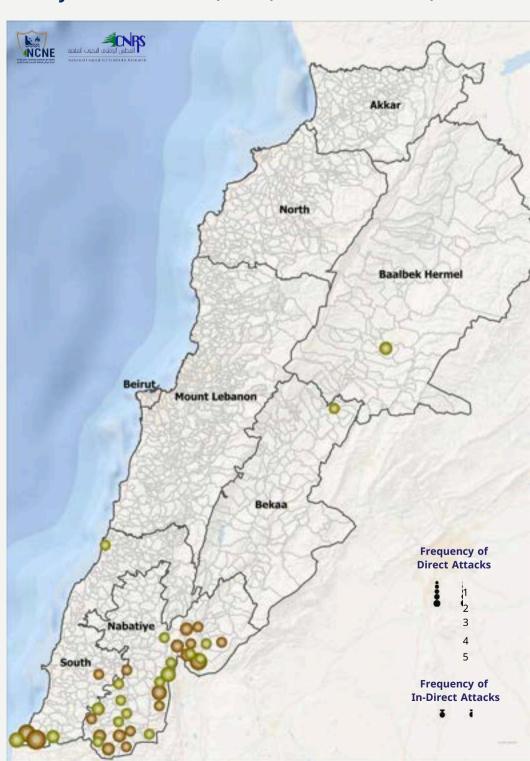


52

Injuries

were affected by the smoke emitted from phosphorus bombs near their center.

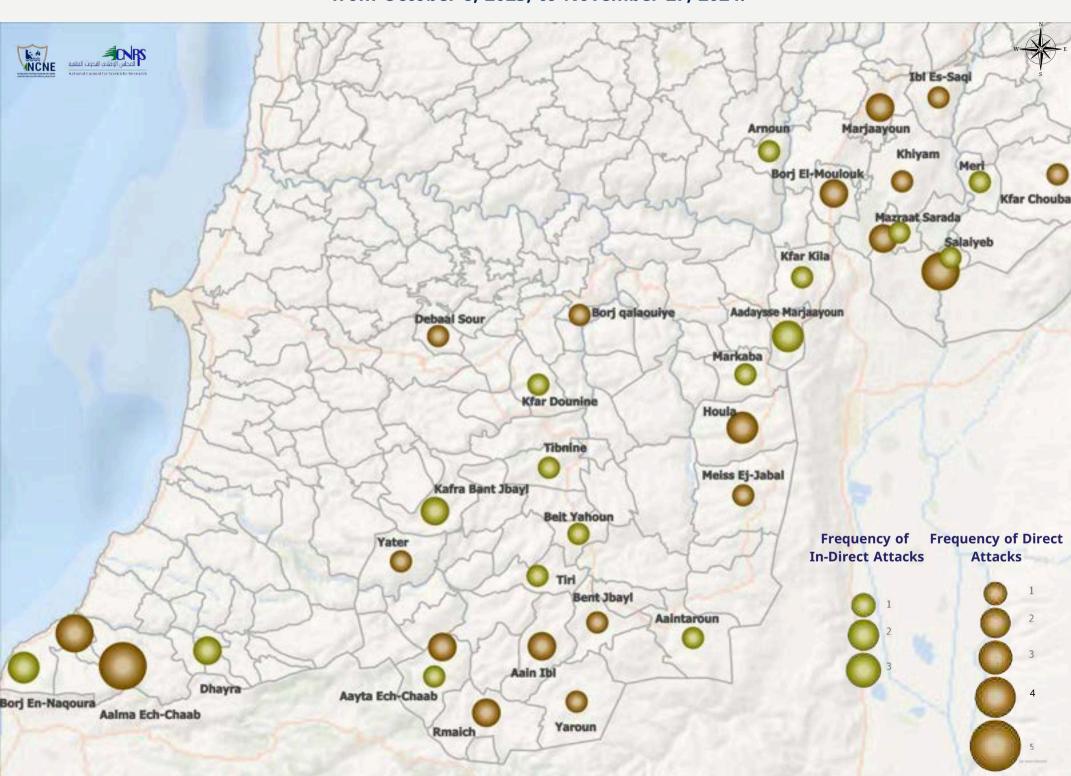
The frequency of Israeli Attacks on the Lebanese Army from October 8, 2023, to November 27, 2024.







The frequency of Israeli attacks on the Lebanese Army, specifically in the Nabatieh and South governorates, from October 8, 2023, to November 27, 2024.







4. Israeli Attacks on UNIFIL

UNIFIL forces are stationed between the Litani River and the southern Lebanese border, with their headquarters in the border town of Naqoura. Since the onset of the offensive against Lebanon, UNIFIL has been subjected to multiple attacks targeting its personnel, leading to casualties among its soldiers. These Israeli attacks have also extended to UNIFIL's headquarters, sparking widespread international condemnation and diplomatic criticism. Given UNIFIL's pivotal role in maintaining stability in the southern region, such actions are seen as a direct threat to peacekeeping efforts.

The targeting of UNIFIL by Israeli forces marks a serious escalation and a violation of United Nations Security Council Resolution 1701, which provides the legal framework for UNIFIL's mission since the cessation of hostilities in 2006. Amid rising border tensions, the United Nations and key international stakeholders have underscored the need to respect UNIFIL's mandate, ensuring the safety of its personnel and avoiding hostile actions that jeopardize their mission to uphold security and stability.

Despite these calls, UNIFIL has documented numerous violations in its official reports, including attacks on its positions, the landing of shells and bombs near its facilities, direct gunfire, and injuries to its soldiers. These incidents have resulted in extensive damage to infrastructure, including buildings, accommodations, observation towers, vehicles, and communication systems. Protective walls at some sites collapsed due to excavation activities carried out by Israeli forces, further undermining UNIFIL's operations. Additionally, the Israeli military has obstructed UNIFIL's activities by issuing repeated evacuation orders and interfering with their operations, further complicating the mission's efforts to maintain peace in the region.





15

They were affected by the thick smoke emitted as a result of gunfire bursts.

33
Direct Attacks

15

ttacks Indirect Attacks

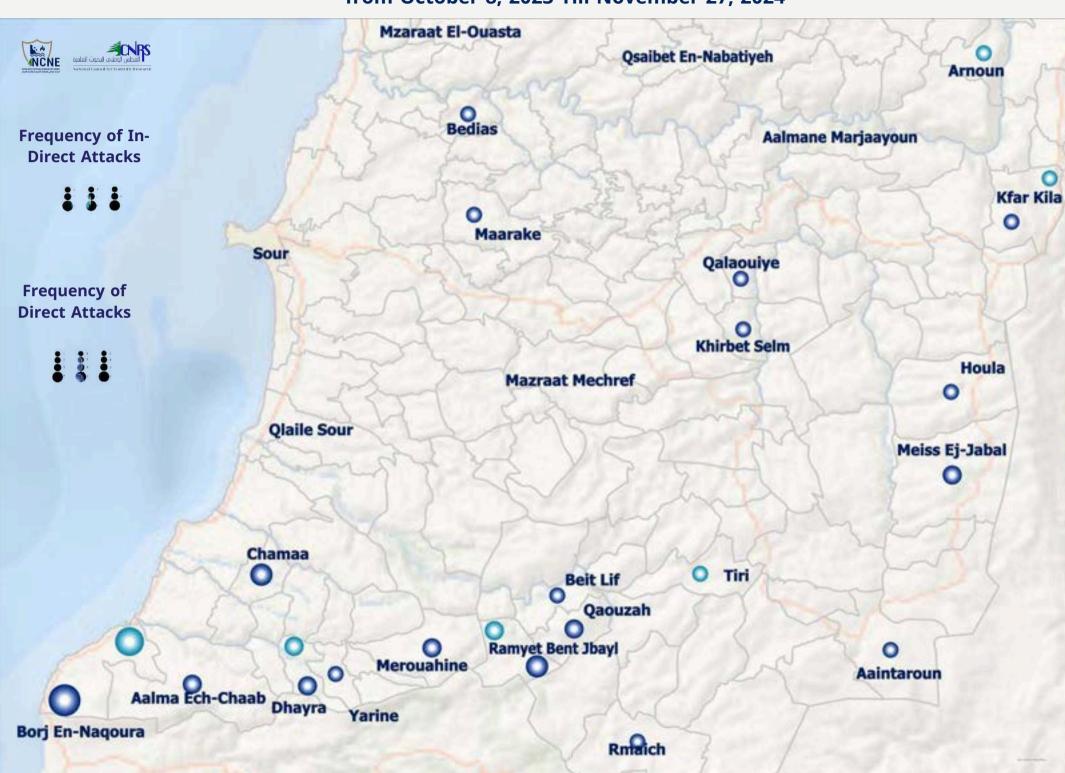








The frequency of Israeli attacks on UNIFIL from October 8, 2023 Till November 27, 2024







6. Forced evacuation of residents

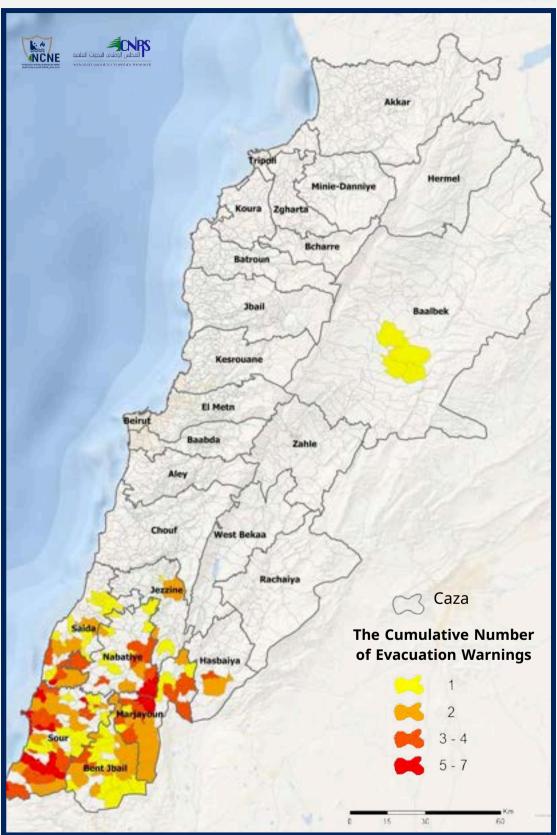


25%

OF LEBANESE TERRITORIES HAD THEIR RESIDENTS SUBJECTED TO ISRAELI WARNINGS TO EVACUATE (ACCORDING TO A UNHCR OFFICIAL).

Israel Strategy of Forcibly Evacuating Villages

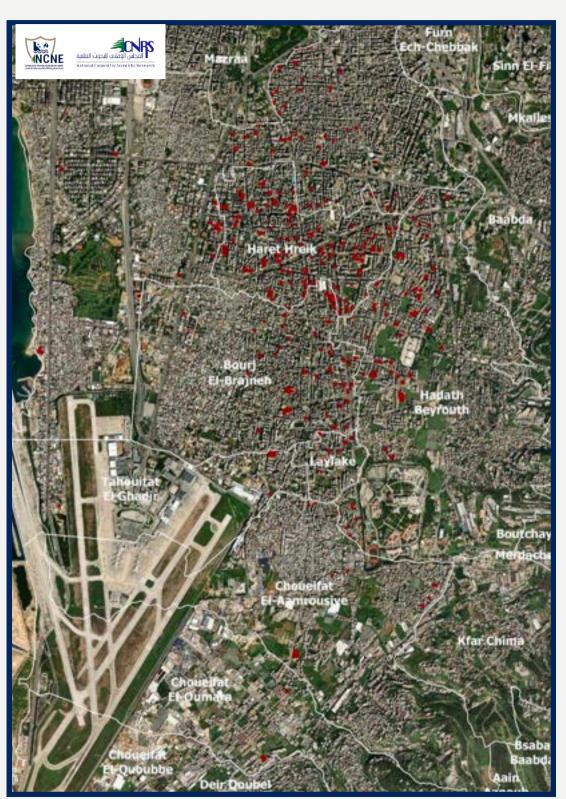
- The majority of displaced individuals originate from the Southern and Bekaa regions, as well as the Southern Suburbs of Beirut, primarily due to the intensified and indiscriminate shelling in these areas. This displacement was further exacerbated by repeated evacuation warnings issued by the enemy, targeting the regions outlined on the accompanying map.
- The enemy systematically destroyed Lebanese border villages and towns through relentless shelling and the coordinated detonation of explosives in multiple homes simultaneously. This scorched-earth strategy resulted in widespread devastation, particularly in areas such as Muhaybib, Aita al-Shab, Al-Atrash neighborhood in Mais al-Jabal, Houla, Kafr Kila, Blida, Ramya, Hanin, Marwahin, Khyam, and Addaysseh.
- Evacuation warnings were often followed by strikes within a matter of minutes, with many occurring in the middle of the night, leaving residents with little to no time to respond. Additionally, fishermen were specifically warned to avoid the shores and boats south of the Litani River, particularly beyond Saida, further emphasizing the breadth of the threat to civilian livelihoods.







The evacuation warnings targeted the Southern Suburbs of Beirut

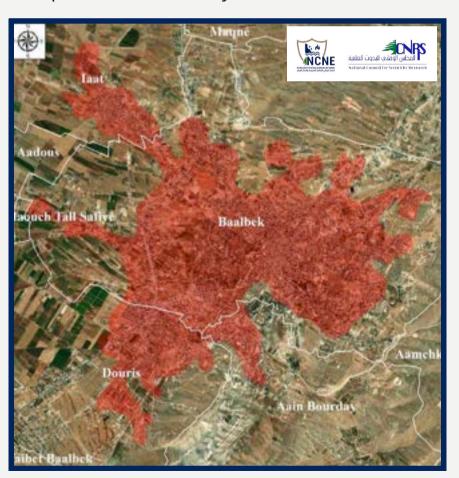




The evacuation warnings included **366 buildings** in the Southern Suburbs of Beirut

99

Evacuation warnings issued targeting the Baalbek-Hermel Governorate, encompassing the areas of Baalbek, Iaat, Douris, Housh Tel Safiyeh, and parts of Ain Bourday







7. Shelters

As of November 22, 2024, according to the National Committee for Disaster and Crisis Response Coordination:



1,177 Centers

capacity

Designated to receive displaced persons in public schools, educational complexes, vocational institutes, and universities identified by the Ministry of Education and Higher Education, as well as institutes under the Ministry of Agriculture and public schools, in addition to centers in private facilities across various Lebanese regions.

976 Centers Reached maximum Registered in the shelter centers listed in the

issued

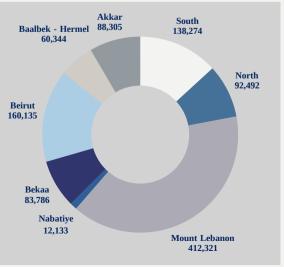
National Operations Room.

reports

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The offensive resulted in the displacement of over one million individuals, with the majority finding refuge in the homes of relatives or securing rental accommodations at their own expense.



Crossed the Lebanese borders into Syrian territory:

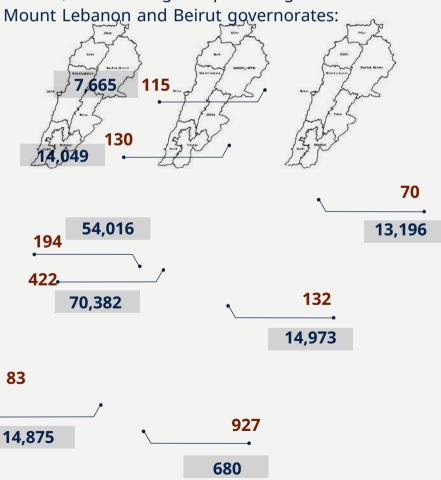


234,242 Lebanese citizens 390,656 Syrian citizens

(according to General Security)

From September 23 to November 22, 2024

The distribution of shelter centers by governorates and the number of displaced persons in these centers, with the highest percentage recorded in the





Damage Assessment in key Sectors: Environment





Since October 8, 2023, the Israeli forces have perpetrated environmental crimes. severe deliberately burning of forests. vast areas woodlands, and agricultural lands. These actions systematically destroyed ecosystems, transforming southern villages into a desolate "Biosphere of War." The concept of **Ecocide** aptly describes the extensive and intentional environmental destruction caused by the Israeli occupation army.

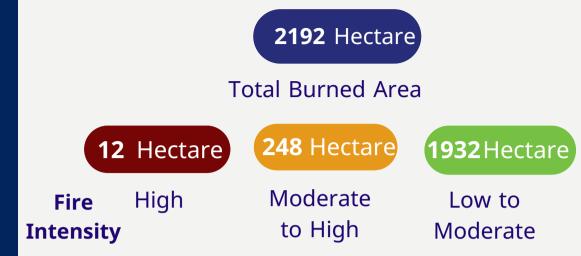
The use of **white phosphorus** exacerbated this destruction, igniting fires that devastated natural habitats and agricultural lands. Furthermore, the heavy bombardment with various types of missiles and shells contaminated the soil with harmful pollutants, significantly degrading its health and fertility. These deliberate actions constitute long-term environmental damage, meeting the criteria of Ecocide as a crime against the environment and humanity.



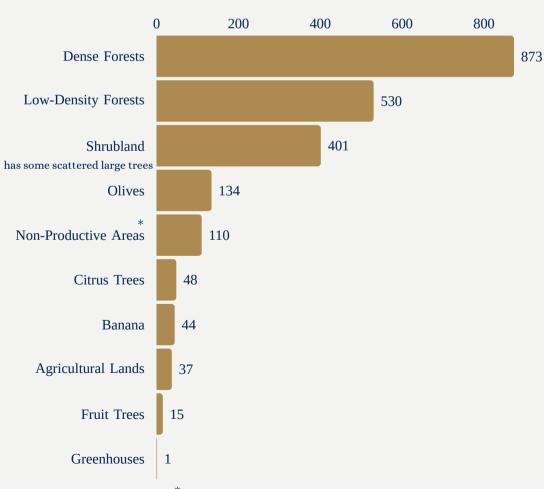
Fire Assessment

The National Center for Natural Hazards and Early Warning has been establishing maps showing the extent of the fires that happened in the south since the beginning of the Israeli offensive on the southern border areas. The burned areas in each region are calculated and categorized based on the type of forest and agricultural cover affected.

This assessment is conducted using satellite images (Sentinel S2A MSIL2A) by comparing images taken before and after the attacks.



Burned areas (in hectares) by each type of vegetation cover

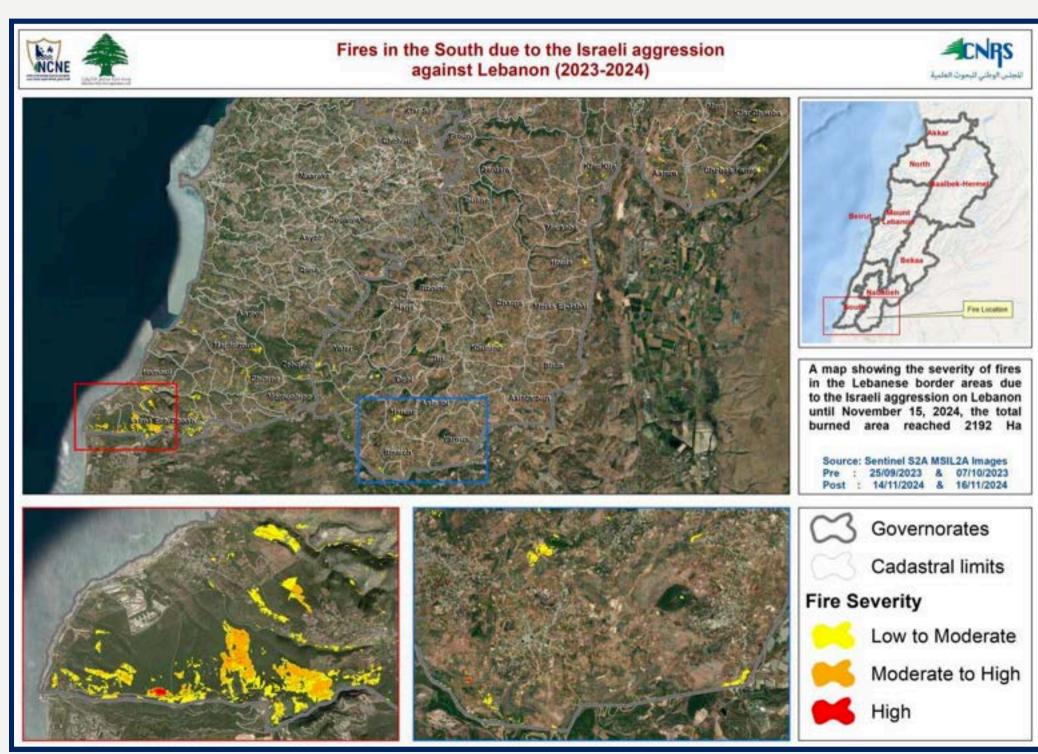


Tt includes bare soil, bare rocks, rocky outcrops, and grasslands.





The intensity of fires in the Lebanese border areas due to the Israeli offensive on Lebanon from October 8, 2023, to November 25, 2024





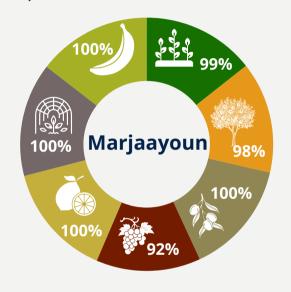
Damage Assessment in Key Sectors: Agriculture

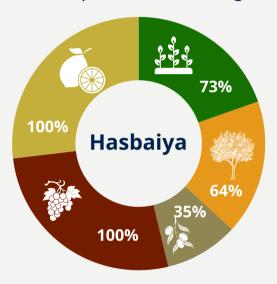


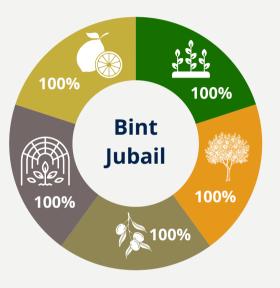


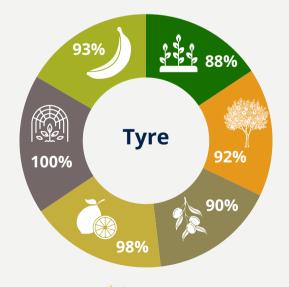
In addition to the fires that ravaged agricultural lands, the Israeli attacks on Lebanon have severely disrupted agricultural activities, causing widespread destruction to lands and crops, particularly in South Lebanon.

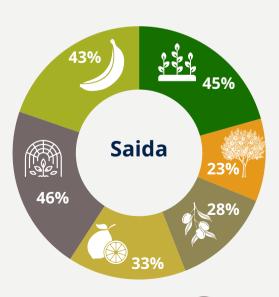
The National Center for Natural Hazards and Early Warning (NCNE) conducted a preliminary assessment of the agricultural lands affected by the ongoing aggression. This evaluation was based on the frequency of attacks on villages and calculated the impacted areas as a percentage of the total agricultural lands for each crop type. The analysis, categorized by district, utilized the 2023 Land Use Map previously developed by the center, providing a comprehensive overview of the damage and disruption caused to agricultural activities.

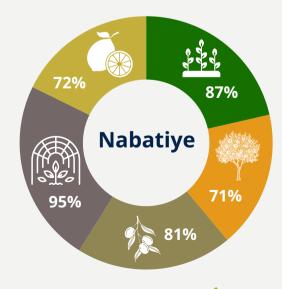


























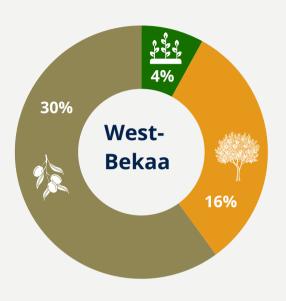


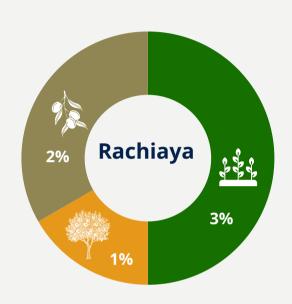
Banana

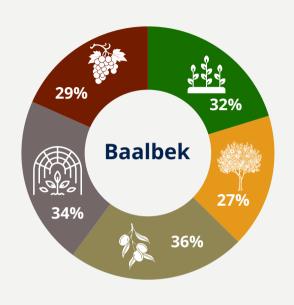


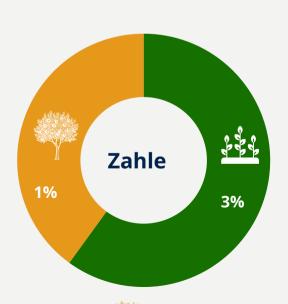


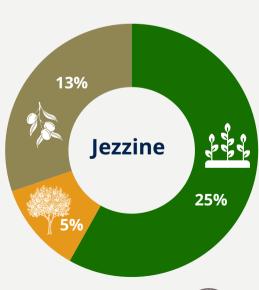
According to these estimates, the most affected districts were Bint Jbeil, Marjayoun, Hasbaya, Nabatieh, Saida, and Tyre, while the damage was less severe in the districts of Baalbek, Rachaya, West Bekaa, Zahle, and Jezzine.

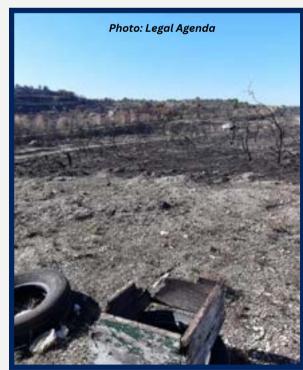






















Damage Assessment in key Sectors: Destruction





During this offensive, the Israeli military deliberately inflicted extensive destruction on residential buildings and properties. Initially, this devastation was concentrated in southern villages, but after September 23, 2024, the scope of the attacks expanded to include the Southern Suburbs of Beirut and the offensive intensified.

The Israeli forces employed a strategy of "Urbicide", systematically obliterating entire neighborhoods through bombing and planting explosives. This tactic aimed to disrupt the social fabric while pursuing political, demographic, and military objectives.

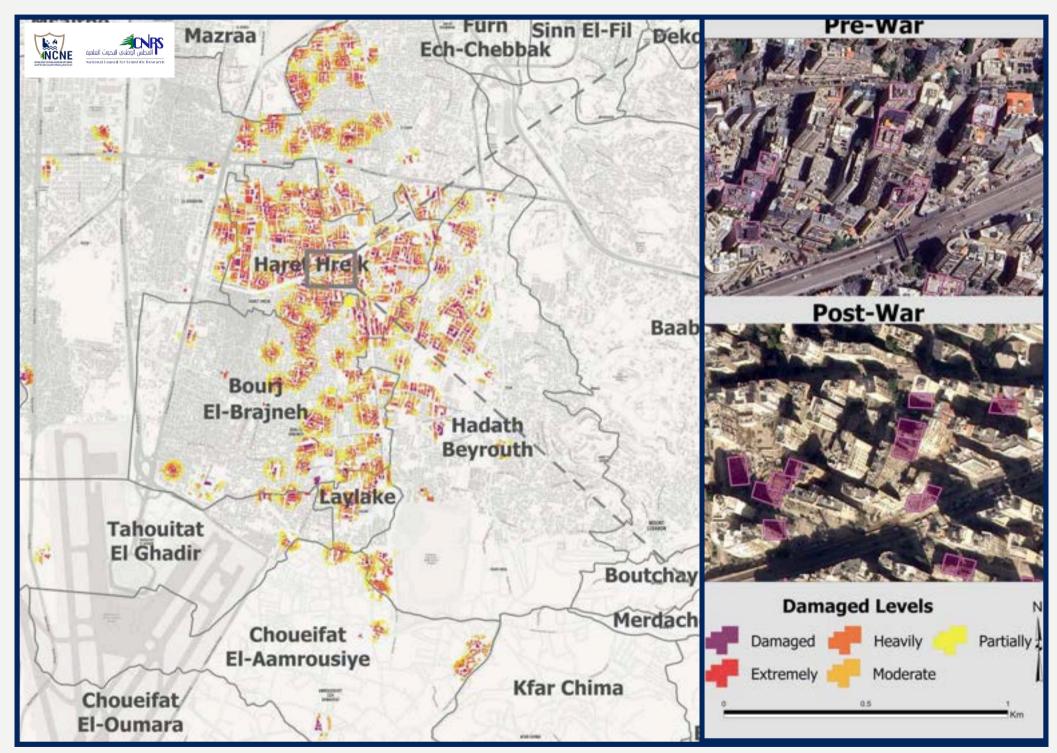
The National Center for Natural Hazards and Early Warning is actively working to estimate the scale of destruction across the South, the Bekaa, and the Southern Suburbs of Beirut using satellite imagery, providing critical data to inform recovery and reconstruction efforts.







The severity of damage in the affected buildings in the Southern Suburbs of Beirut



This map shows all the affected buildings according to the severity of their damage



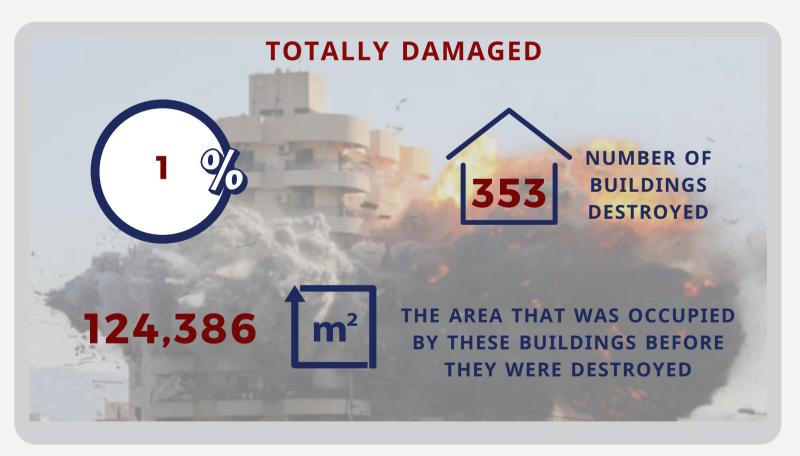




The buildings Totally Destroyed in the Southern Suburbs of Beirut

In the southern suburbs of Beirut, for example, since the beginning of the offensive on Lebanon, damage assessment through satellite imagery revealed the **complete destruction of 353 buildings**, representing **1% of the total number of buildings**. It is worth noting that this percentage includes only the buildings that were completely destroyed as a result of Israeli bombardment.

The center matched evacuation warnings with damaged buildings, revealing that many buildings were bombed without any evacuation warning. Conversely, the Israeli enemy issued evacuation warnings for some buildings without any subsequent targeting.



It is worth noting that estimates based on satellite images provide a preliminary assessment of the damages and require field surveys to obtain accurate final results.



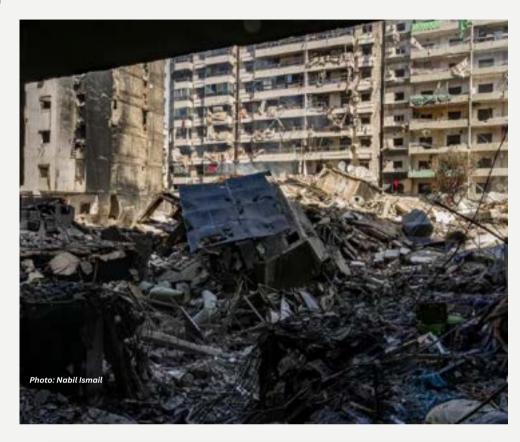


An estimate of the number of damaged buildings in the Southern Suburbs of Beirut by severity of damage



SEVERE DAMAGE









MODERATE DAMAGE



MINOR DAMAGE







Damaged Solar Panels

3,989

The number of completely damaged solar panels, which constitutes 3.2% of the total number of solar panels installed in the southern suburbs of Beirut

2.8%

The percentage of solar panels that may have sustained severe damage

23 %

The percentage of solar panels that may have sustained damage ranging from minor to moderate







Suspicious Use of Depleted Uranium in Israeli Weapons

During the September offensive, the Lebanese Atomic Energy Commission, in collaboration with the Army Command - Engineering Regiment, conducted six field visits to eight suspected sites targeted by Israeli airstrikes. These included two locations in Beirut, five in the Southern Suburbs, and one in the Bekaa Valley, all bombed using high-explosive and bunker-buster missiles.

A comprehensive radiological survey was carried out at these sites, resulting in the collection of 38 credible samples from missile craters and areas near the points of impact. The samples comprised 14 soil samples, 7 dust smear samples, 11 building debris samples, and 6 metal fragments from missile remnants. These samples were meticulously analyzed in the laboratory, with key findings detailed in Figures 1& 2.

Figure 1: Photos of some of the sites from which samples were taken in the Southern Suburb of Beirut





Up red inco: Ashes

Up red inco: Ashes

Up red inco: Ashes

Up red inco: Ashes

Figure 2: Photos showing some of the samples of dust traces, soil, building debris, and missile remnants.

Lebanese Atomic Energy Commission





Suspicious Use of Depleted Uranium in Israeli Weapons

The radiological field surveys conducted at the sites indicated radiation levels within the natural background range. Laboratory analyses performed at the Isotopic Analysis and X-Ray Fluorescence Laboratories of the Commission confirmed that all collected samples were free from any traces of depleted uranium. The activity ratios of uranium isotopes U-235 and U-238 in the soil and building debris samples matched those of natural uranium isotopes typically found in the Earth's crust, as illustrated in Figure 3.

Additionally, the Lebanese Atomic Energy Commission; Since October 15, 2024, has been conducting daily sampling of fine particulate matter (PM-2.5) from two locations: the Ghobeiry area in the southern suburbs of Beirut (Figure 4), and the Cola area in Beirut, approximately 2 kilometers away, designated as a reference site outside the targeted zones.

Elemental analyses were performed on **40** air particulate samples collected from both sites. Within the detection limits of the applied analytical techniques, no traces of uranium were identified in any of the samples, as shown in Figure 5

Figure 3: The radioactivity ratio of Uranium 235/238 for fourteen soil samples collected from the targeted areas. The red line represents the radioactivity ratio of natural uranium 235/238.

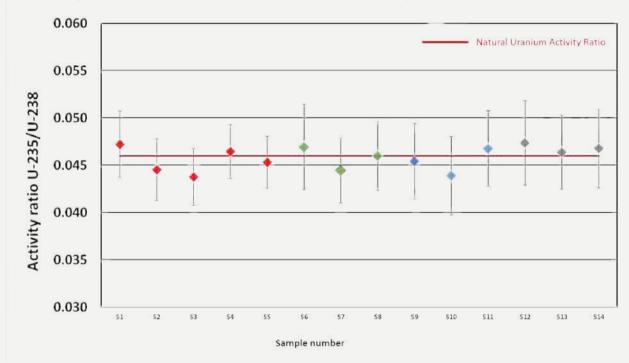
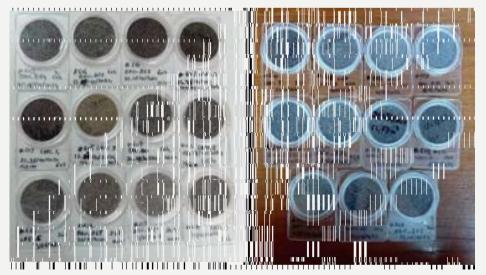


Figure 4: Air particulate sampling station in Ghobeiri and photos of some air particulate samples (PM-2.5) that were collected.

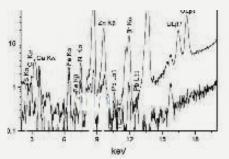


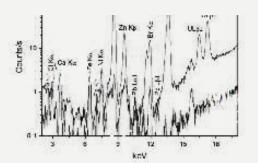


Lebanese Atomic Energy Commission



Suspicious Use of Depleted Uranium in Israeli Weapons





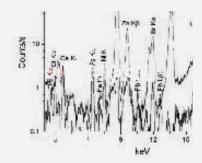


Figure 5: The X-ray fluorescence energy spectrum of a standard sample containing uranium salts (black) compared to the typical X-ray fluorescence energy spectrum of PM2.5 air particulate samples collected from the Ghobeiry area during the intensive bombardment of the southern suburbs (red). The logarithmic scale demonstrates the absence of any detectable traces of uranium in the air particulate samples.

These findings are limited to the specific sites that underwent radiological surveys and sampling and should not be construed as absolution of the Israeli forces, which continue to violate international conventions and perpetrate war crimes. The Lebanese Atomic Energy Commission, in collaboration with the Army Command, remains steadfast in its efforts, conducting ongoing field visits to additional suspected sites identified by the army to perform comprehensive radiological surveys and collect samples for laboratory analysis.

Lebanese Atomic Energy Commission



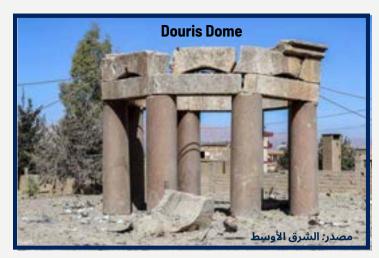
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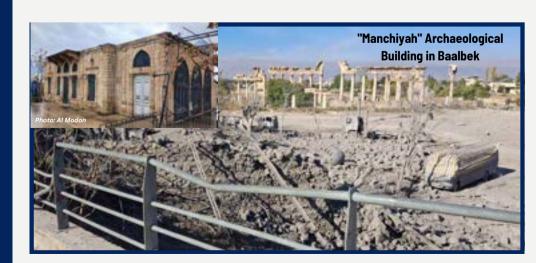
Impact on Cultural and Historical Heritage Sites

- Baalbek Castle and its Temples: Although not directly targeted, Israeli bombings within 500–700 meters of the site caused structural vibrations and scattered explosive remnants. These factors threaten the stability and integrity of the ancient stones, leading to potential erosion. Additionally, the "Manchiyah" archaeological building, an Ottoman-era structure adjacent to the castle, was completely destroyed by Israeli forces.
- **Castle of Tebnine:** This historic landmark, significant to the southern region, suffered direct shelling that partially damaged its iconic tower, undermining its role as a prominent tourist attraction.
- **Douris Dome:** The historic Douris Dome in Baalbek experienced damage resulting in a rock falling from its crown and destabilizing its columns, further jeopardizing its structural integrity.
- City of Tyre: Among the oldest cities in Lebanon, Tyre's Phoenician and Roman ruins, designated as UNESCO World Heritage Sites, were endangered by nearby shelling. Israeli forces established fire belts near the city, increasing risks to its archaeological treasures. The Archaeological Quarter was also directly affected, amplifying the threat to this globally recognized heritage.
- Nabatieh Commercial Market: This historic market, a vital part of Nabatieh's cultural and social identity, was deliberately targeted and completely destroyed. The market included 12 historical residential buildings and 40 shops dating back to the late 19th century, all of which were demolished. Surrounding heritage homes and historical structures in the city and its vicinity were also devastated.
- Archaeological Castle in Shemaa: The ancient castle, dating back to 1116 AD, was deliberately sabotaged by explosives planted by Israeli forces, resulting in extensive damage to this historic monument.

The systematic destruction of these cultural and historical landmarks represents a grave violation of international conventions protecting cultural heritage. The deliberate targeting of such sites is not only an assault on Lebanon's history but also on global human heritage.







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Religious Shrines, Places of Worship, and Cemeteries

Religious Shrines

Many religious sites were directly targeted by Israeli airstrikes, resulting in the destruction or damage of landmarks with religious and historical significance. Some of the most notable of these attacks include:

- The Shrine of Prophet Shimon Al-Safa in the town of Shama was rigged with explosives, leading to the loss of one of the historic religious landmarks in Southern Lebanon.
- The Shrine of Prophet Benjamin, son of Jacob, in Mhaibib: This shrine, over 2,000 years old, was subjected to a series of airstrikes in 2023, followed by a total demolition on October 16, 2024, which also affected the neighboring residential area.
- The **Shrine of Imam Mahdi** in Labweh.
- The **Shrine of Prophet Chailb** in the town of Bleida.
- The **Shrine of Prophet Khidr** in the town of Yaroun.

Mosques and Hussainiyas

The Israeli army intentionally planted explosives and detonated several mosques, especially in villages located at the border such as Yaron, Dhahira, and Yarin. They also directly bombed some mosques in the towns of Majdal Selm, Mansouri, Jibeen, and others. Additionally, mosques were affected due to attacks that occurred very close to their surroundings, constituting an additional violation of international humanitarian law, which protects religious buildings and sites of cultural significance from attacks during wars.

Attacks on Religious Shrines



Direct Bombing

Planting & Detonating **Explosives**

Indirect attacks shelling in the vicinity of religious shrines.

The attacks on mosques and Hussainiyas in Lebanese towns have been documented and categorized based on the nature of the assault.

Indirect attacks primarily involve airstrikes conducted by Israeli forces near mosques or Hussainiyas, significantly increasing the risk of damage. Notable examples include the destruction of the cemetery, prayer hall, and Hussainiya in the town of Harouf, the historic mosque of Shagra, the mosque in Al-Maaysra, and the Hussainiyas in the towns of Houla and Aita al-Shaab, among others.

Direct attacks, on the other hand, encompass deliberate acts such as shelling, planting and detonating explosives, and outright demolition, resulting in targeted and severe damage to these religious and cultural landmarks.

The frequency of Attacks on Mosques and Hussainiyas



Direct Bombing

Planting & Detonating **Explosives**

Demolition





Indirect attacks and repeated shelling around the mosques and Husseiniyas



Direct shelling of the Husseiniya.

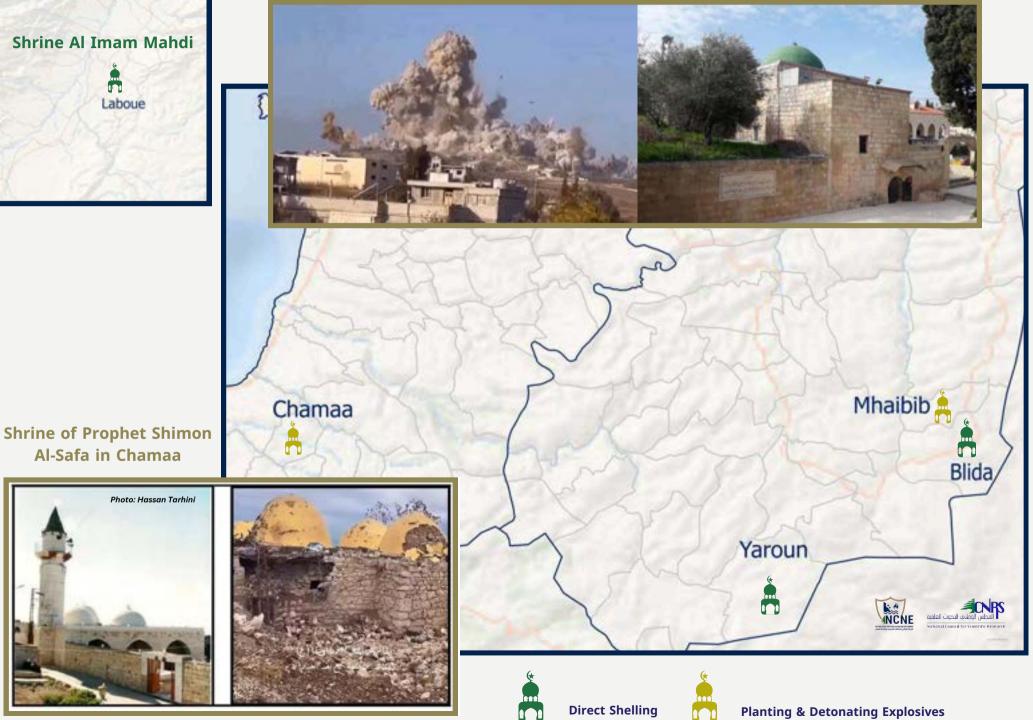






Map of Direct Israeli Attacks on Religious Shrines (From October 8, 2023, to November 27, 2024)

Shrine of Prophet Benjamin, son of Jacob, in Mhaibib

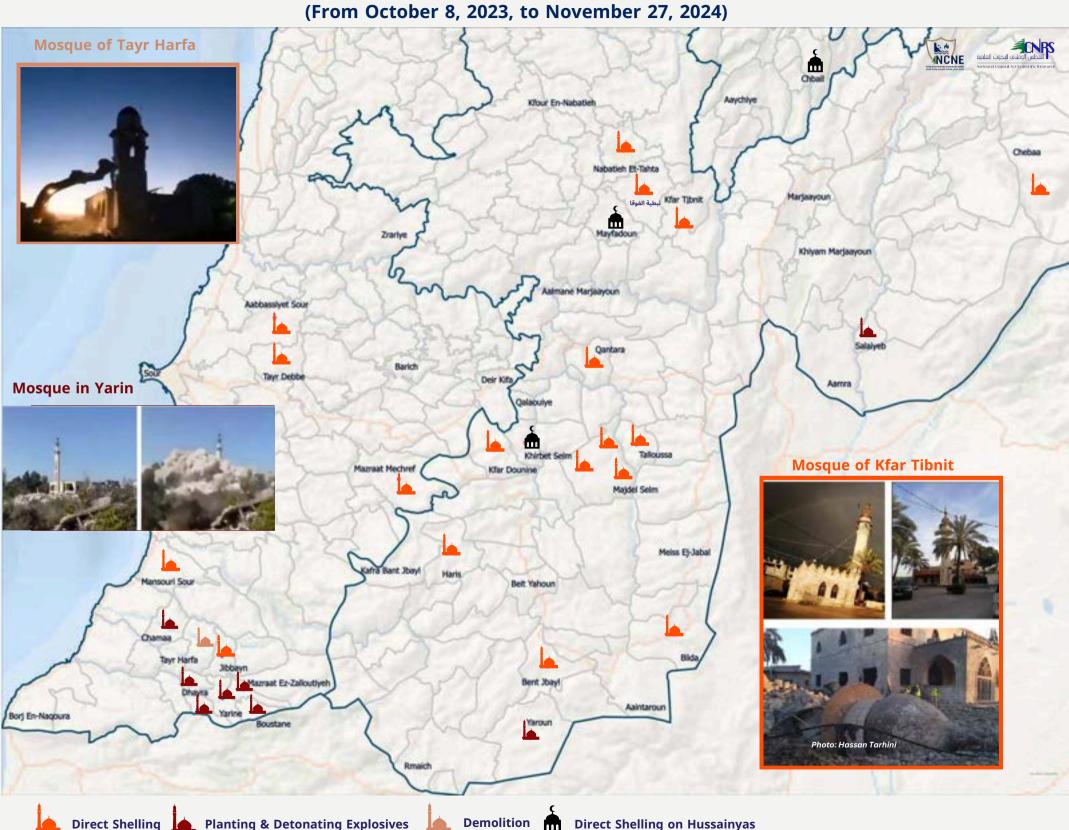


Al-Safa in Chamaa





Map of Direct Israeli Attacks on Mosques and Hussainiyas (From October 8, 2023, to November 27, 2024)







Religious Shrines, Places of Worship, and Cemeteries

Churches

The Israeli army directly bombed three churches. Additionally, some others were damaged due to attacks that occurred very close to their surroundings, including: significant damage to the Church of Our Lady of the Assumption and the parish house in Nabatieh, the Church of Our Lady of the Salvation in Hadath, and others. This constitutes an additional violation of international humanitarian law, which protects religious buildings and sites of cultural significance from attacks during wars.

Cemeteries

Many cemeteries were directly targeted through shelling, planting explosives, demolition, or shooting, leading to their destruction.

Additionally, damages were recorded due to indirect Israeli attacks near the cemeteries, causing significant damage. These include the Bashoura, Nabatieh, Majdal Selm, Harouf, Dhahira, Yaron, and Riak al-Fouga cemeteries, and many others.

Radouf Cemeteries - Bourj Al-Barajneh



Bashoura Cemeteries



The Frequency of Attacks on Churches



Direct Shelling

Churches that were damaged or whose surroundings were targeted

The Frequency of Attacks on Cemeteries

Direct Shelling

Planting & Detonating **Explosives**

Demolition

Shooting

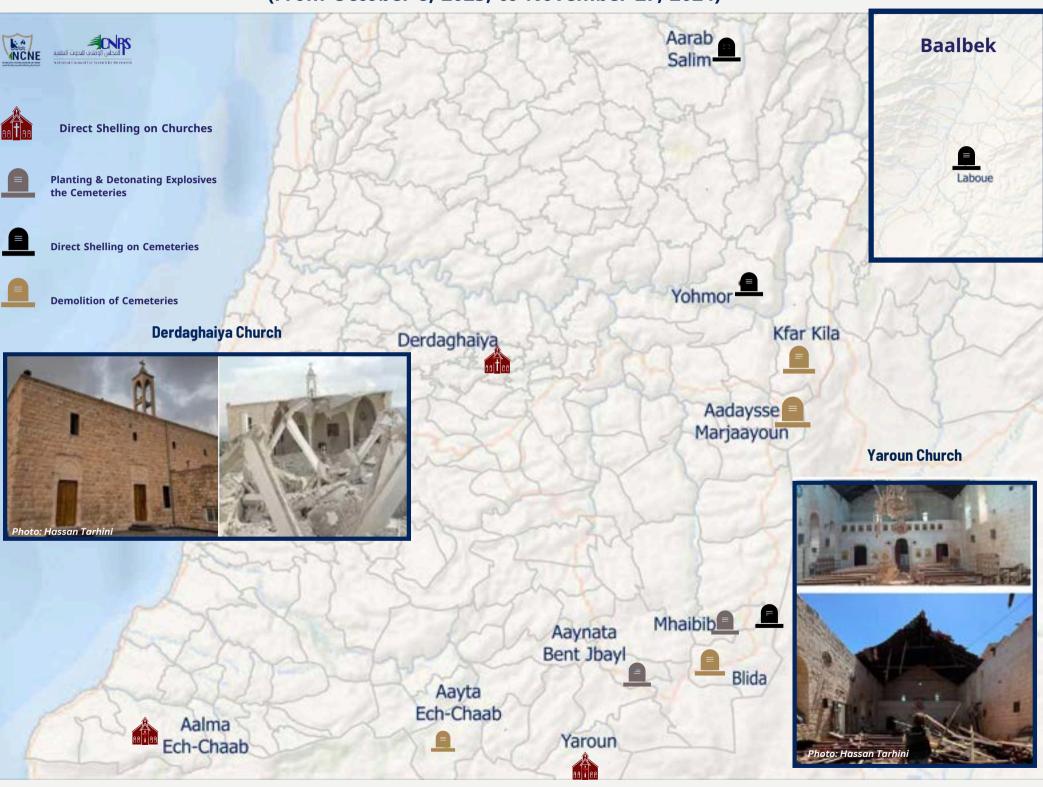
Indirect targeting affected the surroundings of cemeteries

These attacks constitute a violation of the sanctity of religious landmarks and represent an infringement on the spiritual and cultural heritage of communities. Such actions deprive both current and future generations of their right to preserve and access these significant historical and cultural assets.





Map of Direct Israeli Attacks on Churches and Cemeteries (From October 8, 2023, to November 27, 2024)









Water Facilities

According to a statement by the Lebanese Minister of Energy and Water, the Israeli aggression has inflicted losses estimated at approximately \$400 million on Lebanon's electricity and water sectors. These losses are categorized as follows:

- 1.Emergency Relief Costs: Expenses incurred from rapid response efforts to secure essential services in displacement areas.
- 2.Infrastructure Investment Losses: Costs associated with improving services in displacement areas to accommodate increased demand.
- 3. Direct Damage to Infrastructure: Destruction of electricity and water infrastructure caused directly by the attacks.
- 4. Revenue Collection Losses: Financial shortfalls resulting from disruptions in revenue collection processes.



More than thirty water facilities were damaged as a result of the Israeli offensive on Lebanon from October 8, 2023, until the date of the ceasefire.



Damage Assessment in key Sectors: Critical Infrastructure





The main water carrier of the Litani River

Multiple Israeli airstrikes targeted the main water carriers of the Litani River, including a critical segment in the Erzi area, which forms an essential part of the Qasmiyeh irrigation project. The latter carrier transport over **260,000 cubic meters of water daily, irrigating approximately 6,000 hectares of agricultural land** along Lebanon's southern coast. Such attacks, which blatantly violate international humanitarian law, have severely disrupted the Litani River's availability for use in the southern region, intensifying concerns over the enemy's ambitions regarding Lebanon's vital water resources.

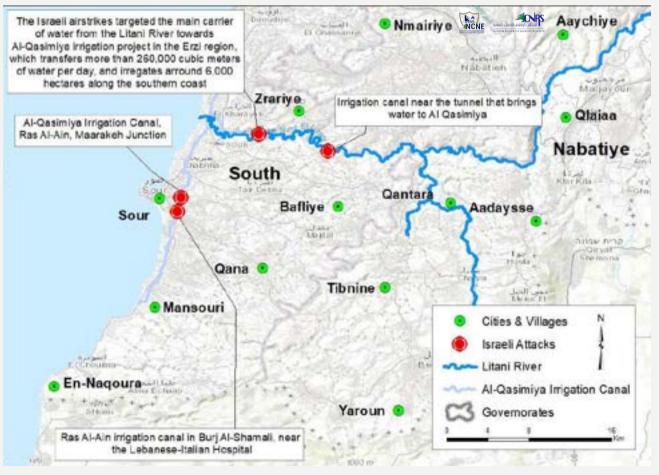
In response, the Litani River Authority has implemented temporary measures to divert water and prevent flooding of agricultural lands and roads. The authority is also taking the necessary steps to restore the project's operation and ensure the continued supply of water to agricultural lands.

The Litani River Authority announced that, based on the inspection results, maintenance teams began preparing the necessary machinery, equipment, and materials for urgent temporary repairs, particularly to the main water carrier along the canal in the Arzi area. This is to restore the operation of the canal and supply it with water, enabling farmers to irrigate their lands and protect their crops.

Source: Litani River Authority



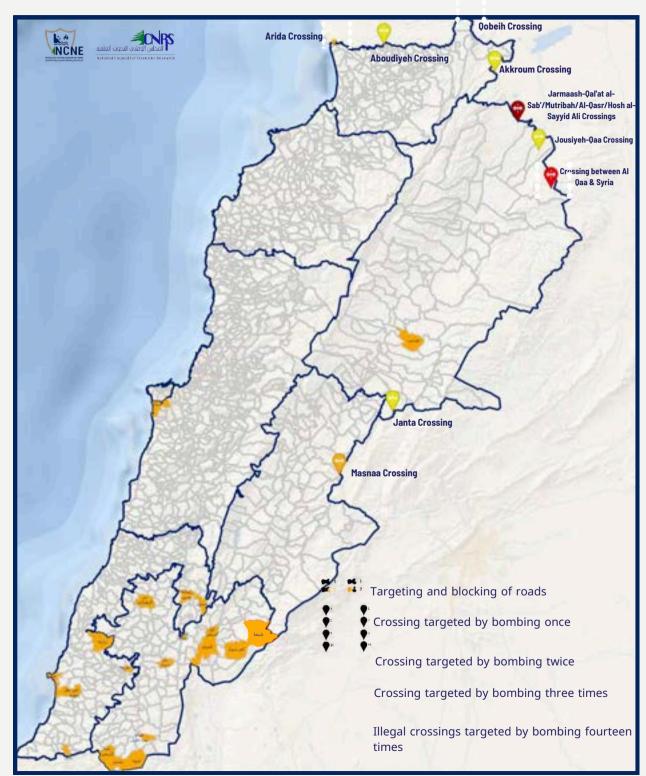








Crossings & Roads



The enemy deliberately targeted roads and key crossings along the Lebanese-Syrian border, severely disrupting the movement of people between the two countries. Despite these attacks, many individuals continued their departures from Lebanon on foot. Strikes included legal crossings such as the Masnaa Crossing, Mutribah Crossing, and Jousiyeh-Qaa Crossing, as well as unofficial crossings like Janta Crossing, Jarmaash-Qal'at al-Sab' Crossing, and Qabsh Crossing, among others. Additionally, the assaults extended to critical infrastructure, including the bridge connecting Kafratoun and Akkar in northern Lebanon. In the final hours before the ceasefire, the enemy targeted the Arida Crossing bridge between Syria and Lebanon, as well as the Aboudiyeh and Qobeih crossings.

The attacks also encompassed major roads linking various regions, further hindering movement, isolating villages, and complicating access to affected areas. Key roads targeted included the Ibl al-Saqi-Kawkaba road, the Kfar Kila-Adaisseh road, the Mashghara-Ain al-Tineh road, the Kfar Hamam-Kfar Shuba road, and the Ain Ibl-Rmeish road, among others, as indicated on the accompanying map. These actions exacerbated the humanitarian crisis and isolated numerous communities from essential support.



Damage Assessment in key Sectors: Critical Infrastructure





The vicinity of Rafic Hariri International Airport was targeted by several airstrikes, posing a threat to air navigation and causing material damage to the airport building. Furthermore, air traffic to and from Lebanon was significantly affected, as many airlines suspended their flights due to the Israeli Offensive.







Targeting of Cars & Motorcycles



The enemy conducted targeted assassinations using drones, specifically striking cars, motorcycles, and other vehicles traveling on Lebanese roads. These attacks resulted in casualties and widespread panic among citizens. Occurring primarily during daylight hours, the strikes impacted multiple towns and areas across Lebanon, further heightening fear and insecurity among the population.





Damage Assessment in key Sectors: Critical Infrastructure



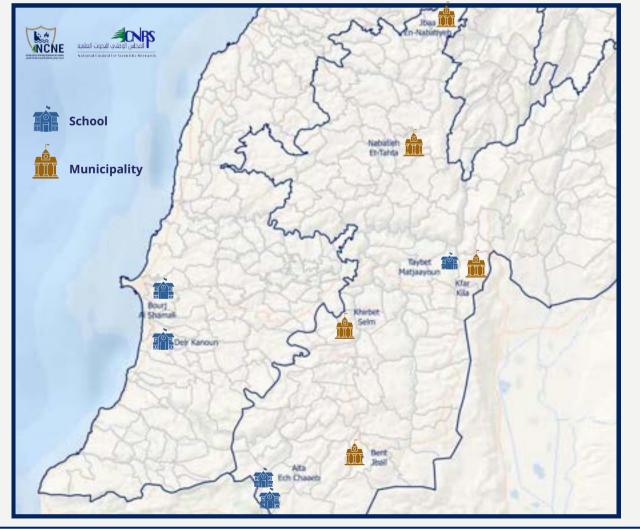


Israeli attacks on Schools and Municipalities

Schools and municipalities were not spared from the enemy's brutality. Five schools were directly targeted by shelling, in addition to damage inflicted on other schools due to surrounding strikes. Examples include: "Mar Charbel" School in Jiyyeh, the school in the town of Al-Maaysra, Tayybeh High School, Yater Public School, Al-Mustafa Schools in Nabatiyeh, Seven Moons High School in Haret Hreik, and others.

Additionally, five municipal centers were directly targeted, and six municipal buildings or affiliated facilities sustained damage due to Israeli attacks in their vicinity.

Map of Direct Israeli Attacks on Schools and Municipalities (From October 8, 2023, to November 27, 2024)



The rate of attacks on schools



5

Schools directly targeted by the enemy

Schools whose surroundings were targeted

The rate of attacks on municipal centers



5 Directly targeted by the enemy

6 Damage to municipal buildings or facilities belonging to them

Direct targeting of the municipality building in Nabatieh, which led to the martyrdom of the mayor, several members of the municipal council, and civilian employees



53

Overview of Attacks and Damages Across Key Sectors





The health sector



The Lebanese healthcare sector was not spared from direct and deliberate Israeli attacks, which targeted hospitals, ambulance teams, and rescue crews.

Total number of martyrs and injured in the healthcare sector:



Martyrs

330 **Injuries**

- Among the martyrs, there were **8 paramedics** in ambulances in the "Adaisseh Triangle", where the enemy repeatedly refused to allow the retrieval of the bodies.
- In Baraachit, 6 firefighters remained missing for an extended period under the rubble due to the inability to reach them.



Targeting of vehicles and healthcare centers belonging to various organizations operating in the healthcare sector (Lebanese Civil Defense Directorate, Islamic Scout Association, Lebanese Red Cross, Lebanese Ambulance Association, Fire and Ambulance Brigade of the Union of Municipalities of Bint Jbeil).



Ambulance, Fire Truck, & Rescue Cars



94

Centers for primary healthcare, ambulance, and rescue services.

231

Attacks on **Emergency Services**



67 Attacks targeting hospitals, including 40 direct strikes.

Source: MoPH







Pharmaceutical Sector



Pharmacies were closed, destroyed, or damaged

In areas under Israeli offensive in the South, Southern Suburbs, and Bekaa, according to the head of the Pharmacists Syndicate



Some pharmacies continued to operate in areas subjected to Israeli attacks

Hasbaya

11

Al-Hermel

20

Baalbeck District

20



The pharmacies that closed contained medications worth hundreds of thousands of dollars.



The owners faced significant difficulties in obtaining medicine after companies refused to reach their areas. They launched appeals as their stock began to deplete, especially for chronic disease medications.

The closed or damaged pharmacies were distributed according to local pharmaceutical distributors as follows:

Beirut Suburbs

200

Some of them were completely destroyed

Tyre, Bint Jbeil, and Marjayoun

500

Some of them were completely destroyed

Al-Bekaa & Baalbek Al-Hermel

180

Some of them were completely destroyed



Source: Al-Wafaa Pharmacy

(Source: Legal Agenda (21/10/2024))

Conclusion





This report presents a comprehensive overview of the Israeli assaults during the offensive spanning from October 8, 2023, to November 27, 2024, and highlights a preliminary assessment of sectoral damages. These insights aim to serve as a foundation for developing a recovery plan that holistically addresses the multifaceted impacts of the conflict.

The National Council for Scientific Research (CNRS-L) emphasizes the importance of robust coordination among all government bodies and relevant stakeholders in reconstruction and recovery efforts. Such collaboration is essential to ensure a unified methodology for damage assessment, enabling a more efficient and effective recovery process.

The CNRS-L, through its teams and specialized centers, remains committed to contributing to this framework, providing scientific expertise and actionable data to support informed decision-making and sustainable rebuilding efforts.

