



ENVIRONMENTAL POLITICS SERIES

# RESPONDING TO ECOCIDE IN LEBANON: RECOMMENDATIONS FOR OFFICIAL AND COMMUNITY ENGAGEMENT IN SUSTAINABLE RECOVERY

*Christina Abou Rouphaël  
Yara Abdelkhalek*



Arab  
Reform  
Initiative

انشغال عامة  
**PUBLIC WORKS**

## Published by:

### Arab Reform Initiative

The Arab Reform Initiative is an independent Arab think tank working with expert partners in the Middle East and North Africa and beyond to articulate a home-grown agenda for democratic change and social justice. It conducts research and policy analysis and provides a platform for inspirational voices based on the principles of diversity, impartiality, and gender equality.

### Public Works Studio

Public Works Studio is a Lebanon-based action research organization that uses a multidisciplinary approach to spatial justice. It addresses, mobilizes around, and actively responds to the chronic challenges facing just cities, inclusive urban governance and equitable development in Lebanon.

**Research and Writing:** Christina Abou Rouphaël & Yara Abdelkhalek

**Maps & Graphs Design:** Asmaa Ghrawi and Imad Kaafarani

**InDesign :** Ahmad Salhab

## About the authors

Christina is an architect and urban researcher who graduated with a Master's degree in Architecture (2015) and Urban Planning (2017) from the Faculty of Architecture and Fine Arts of the Lebanese University. She is currently working on various research projects related to urban issues, public property and the right to the city.

Yara is an architect and urban researcher who graduated with a MA in Architecture from the Lebanese University in 2017, and a MA in Urban Planning in 2023. She is interested in urban activism and the way in which local organizing shapes the city. Her work focuses on urbanism in relation to law and the state, using a lens on the right to the city violation, as well as networking to raise advocacy on urban-related issues.

## About the Project

Over the past year, Public Works Studio, in partnership with the Arab Reform Initiative, has conducted research and fieldwork documenting environmental and agricultural damage caused by Israeli attacks on southern and border villages in Lebanon. The project also included workshops and interviews with affected community members to identify priorities for return, recovery, and reconstruction from both environmental and social perspectives. This work culminated in a joint research paper that assesses current policies and offers recommendations to promote sustainable recovery and environmental justice in the impacted areas.

## Disclaimer:

The information and views set out in this report are those of the author(s) and do not necessarily reflect the views of the Arab Reform Initiative, its staff, its board or its funders.



© 2026 Arab Reform Initiative.

This license allows re-users to distribute, remix, adapt, and build upon the material in any medium or format for non-commercial purposes only, and only so long as attribution is given to the creator. If you remix, adapt, or build upon the material, you must license the modified material under identical terms.

Cover photo: A view from Serda, a town in the Marjayoun region of Lebanon's southern Nabatieh province, after the Israeli army withdrew, leaving behind massive destruction, on February 2025.

© Ramez Dallah / Anadolu

**February 2026**





# Table of Contents

<b>Introduction</b>	<b>7</b>
<b>Assessing the Damage Caused by Ecocide in Southern Lebanon</b>	<b>9</b>
Environmental and Agricultural Damage and Losses in Figures	9
White Phosphorus, Ammunition, and War Debris as Tools for Environmental Destruction	12
Preventing Return to Border Villages and Turning the Land into a Buffer Zone	18
Assessing the Damage in Light of Ecocide	21
<b>Kfarkela as a Case Study</b>	<b>23</b>
About Kfarkela before the War	23
Environmental and Agricultural Repercussions of War on Kfarkela and Its Farmers	27
<b>Forms of Environmental Response</b>	<b>31</b>
Lessons Learned from the Environmental and Legal Response after the July 2006 War	31
The Current Fragmented Official Response to the Environmental and Agricultural Disaster in the South	36
Scattered Community Efforts in Light of State Failure to Act	47
<b>Pillars and Recommendations: Towards an Integrated Response to Address Ecocide in Southern Lebanon</b>	<b>55</b>
Ensure Return	56
Environmental and Agricultural Rehabilitation	56
Support Farmers and Residents	57
Documentation and Judicial and Administrative Accountability	58
Strengthen Environmental and Institutional Governance for Recovery	59
Establish a National Vision that Promotes Natural and Residential Values to Border Areas	60



## Introduction

In Kfarkela, beekeepers place their hives near the border strip, taking advantage of almond orchards in the occupied Palestinian territories where bees graze. Many tree types are found in Kfarkela, including eucalyptus, olive, walnut, citrus, thyme, and thorn trees, which produce the highest quality honey. In the lakes and ponds of the fertile Khiam plain, near Kfarkela, geese carry fish eggs from Lake Tiberias. These fish grow in the lakes of the meadow, turning lakes into a fishing destination for the people from surrounding areas. Bees and birds move around without regard for borders and dividing walls. Nature knows no borders and does not recognize them.

This may be reflected in natural situations involving humans. The residents of Kfarkela, Upper and Lower Zouk, Houla, and al-Mutallah in Palestine have a long history of trade and farm in overlapping fields. Kfarkela was one of the southern crossings to the plains of Palestine through customs and public security checkpoints.<sup>1</sup> The residents of Kfarkela also have land inside occupied Palestine, for which they still hold title deeds. However, the borders, as we know them today, are nothing more than the product of a colonial era that sought economic and political gains, drew arbitrary lines on maps, took control of lands that did not belong to it, and led to the isolation of parts of the land and peoples from each other. This brings us to the issue of border and southern villages in general, and what is known as Jabal Amel –bordered by the Awali River and Jezzine to the north and Palestine to the south – and has historical trade relations with the people of Palestine.<sup>2</sup> These areas continue to suffer from the consequences of a colonial border legacy, adjacent to an occupying Zionist entity.

In a quick review of some of the minutes of the Lebanese Parliament,<sup>3</sup> we note several discussions

about Israeli attacks on border villages. In 1949, during a speech by Representative Adel Asiran,<sup>4</sup> the House was informed of a tragedy in which “after the Jews expelled the people from these [border] villages, they found a trench in the village of Houla, where they placed most of the villagers alive and then shot them all,” adding, “The situation of the people of Houla is precarious because they were unable to plant their land this year, and many used to make a living from farming land located in Palestine.” That same year, Israelis attacked shepherds near Kfarkela and stole cows, donkeys, and mules.<sup>5</sup> In 1952, the people of Rmeish submitted a petition<sup>6</sup> to protest against Israeli police officers for stealing their sheep and goats from the Marj al-Afush al-Taroush area. In 1953, a resident of Bint Jbeil sent a telegram<sup>7</sup> to protest against Israelis looting their livestock after entering Lebanese territory. In 1961, MP Khaled Shihab confirmed in his speech: “there are 7,000 Lebanese citizens whose money has been stolen in Israel, amounting to no less than 100 million pounds sterling, property that has been seized by Israel.”<sup>8</sup> In 1968, the residents of Mays al-Jabal sent a telegram<sup>9</sup> condemning the Israeli attack on their

1 Hussein Saad, “Kfarkela: Village of the Bride, Fatima’s Gate, and the ‘Official’ Crossing into Palestine” [Arabic], Al-Modon, 26 June 2024, <https://tinyurl.com/yc6tpj2f> [Saad, “Kfarkela: Village of the Bride”]  
2 Mariam Shuayb, “Jabal Amel and Palestine: 200 Years of Unity” [Arabic], Janoubia, 2 March 2014, <https://tinyurl.com/yf6x9a2f>  
3 Sara El-Yafi, “Exposing IŞR@€L’s Continuous Unprovoked Aggression towards Lebanon” (YouTube video), 3 April 2025, [https://www.youtube.com/watch?v=Yqi8\\_9wgMFs](https://www.youtube.com/watch?v=Yqi8_9wgMFs)

4 Center for Research and Studies in Legal Informatics, “Sixth Legislative Term - 6 - First Ordinary Session - Minutes of the Fourth Session - 1949” [Arabic], Lebanese University, 26 April 1949, <https://tinyurl.com/yx4aurf9>  
5 Jabal Amelah, “Kfarkela and Suffering Under Occupation - 1949-1976” (blog)[Arabic], 19 June 2025, <https://jabalamelah.blogspot.com/2025/06/1949-1976.html>  
6 Center for Research and Studies in Legal Informatics, “Seventh Legislative Session - 7 - Second Extraordinary Session - Minutes of the Third Session – 1952” [Arabic], Lebanese University, 26 February 1952, <https://tinyurl.com/3zez6tms>  
7 Center for Research and Studies in Legal Informatics, “Eighth Legislative Session - 8 - First Extraordinary Session - Minutes of the Third Session – 1953” [Arabic], Lebanese University, 8 September 1953, <https://tinyurl.com/8845sps2>  
8 Center for Research and Studies in Legal Informatics, “Tenth Legislative Session - 10 - Second Extraordinary Session - Minutes of the Eighth Session – 1961” [Arabic], Lebanese University, 25 January 1961, <https://tinyurl.com/47uteys9>  
9 Center for Research and Studies in Legal Informatics, “Twelfth Legislative Session - 12 - First Extraordinary Session - Minutes of the First Session – 1968” [Arabic], Lebanese University, 18 June 1968, <https://tinyurl.com/2m68cvny> [Legal Informatics Center, “Twelfth Legislative Session”]

town and demanding that the villages be fortified and reinforced with shelters and hospitals. Ten telegrams<sup>10</sup> were also sent from various regions and organizations protesting the Israeli attack on the village of Houla and demanding that border residents be armed and compulsory conscription be implemented.

In a speech delivered in 1969, Deputy Ali Madi said:

Seven farms on the border with Lebanon are currently under Israeli occupation, and 4,000 Lebanese are displaced and unable to earn their daily bread, as their homes on the farms have been destroyed. The inhabitants of these vast lands have been prevented from exploiting them because it is dangerous for their lives and because they are exposed to enemy bombardment.<sup>11</sup>

On 30 June 1970, residents of border villages demonstrated to demand increased fortifications and better protection from Israeli raids.<sup>12</sup> Similarly, in 1974, MP Hamid Dakroub addressed the issue of:

The ongoing Israeli bombardment that affects border villages from Naqoura to Arqoub without exception, striking indiscriminately and destroying agricultural crops. The agricultural yield is completely destroyed, as the enemy aims to empty Lebanon's southern region by isolating farmers from their land.<sup>13</sup>

This is an example of the continuous, systematic, and organized Israeli attacks that border villages, in particular, and southern villages, in general, have been subjected to since the Palestinian Nakba in 1948, followed by invasion and occupation until 2000. More than 25 years after the withdrawal of Israeli forces, the same scene continues to repeat itself, with even greater brutality. Since 8 October 2023, with the start of the Israeli war on Lebanon,

its expansion on 23 September 2024, and the Israeli invasion on 1 October 2024, lead to what became known as the ceasefire agreement that began on 27 November 2024.<sup>14</sup> To this day, with Israel's daily violations, southern regions are witnessing vicious attacks. Israel has targeted homes, infrastructure, public, health, and educational facilities; heritage, cultural, and religious landmarks; and forests and agricultural land, causing severe damage to trees, crops, soil, and water, as well as damage to the local economy. Border villages have been nearly decimated. This, in effect, constitutes deliberate ecocide and spatial erasure.

In this paper, we address the ecocide suffered by southern villages in Lebanon. The aim is to develop policy recommendations on how the Lebanese state, local authorities and communities, and relevant CSOs can engage in addressing Israel's devastation.

We begin by highlighting, in general, the most affected border villages that suffered various types of attacks and destruction compared to other areas. We then focus on the border town of Kfarkela as a case study of these towns. We also seek to draw lessons from the environmental interventions carried out by the Lebanese state following the July 2006 war, and assess the current frameworks and policies for reconstruction and recovery, as well as local community initiatives from a conservational perspective, in order to identify various stakeholder responsibilities. Finally, we offer policy recommendations in line with the environmental needs and priorities of southern villages, supporting safe return, reconstruction, and environmental recovery.

In producing this paper, we relied on monitoring and documenting Israeli attacks and ceasefire violations on various Lebanese territories through an interactive map, analyzing the nature of targeted locations, and a participatory workshop on perceptions of return and recovery in the town of

---

10 Legal Informatics Center, "Twelfth Legislative Session".

11 Center for Research and Studies in Legal Informatics, "Twelfth Legislative Session - 12 - First Extraordinary Session - Minutes of the First Session - 1969" [Arabic], Lebanese University, 30 January 1969, <https://tinyurl.com/5cnpnxn84>

12 old Beirut Lebanon (@oldbeirutlebanon), "Lebanon Beirut 1970: Border Villagers Demonstrate for Better Protection against Israeli Raids" Instagram video, 9 July 2025, <https://www.instagram.com/reel/DL4WDphMpKi/>

13 Center for Research and Studies in Legal Informatics, "Thirteenth Legislative Session - 13 - Second Extraordinary Session - Minutes of the Second Session - 1974" [Arabic], Lebanese University, 23 February 1974, <https://tinyurl.com/yeyasnnc>

---

14 Israeli forces were supposed to withdraw from southern Lebanon within 60 days after the agreement, but the deadline was extended to 18 February 2025. Israel failed to comply with the terms of the agreement and prohibited the residents of 66 villages and towns from returning to their homes.

Kfarkela.<sup>15</sup> We conducted a series of interviews with relevant official bodies,<sup>16</sup> environmental experts and activists, institutions, associations, and initiatives,<sup>17</sup> in addition to reviewing a wide range of relevant references and monitoring recovery efforts after the Israeli war on Lebanon: surveys, debris removal, compensation, reconstruction funding, policies, projects, initiatives, displacement, and return. In addition, we held a group discussion bringing together affected citizens/farmers and activists, CSOs, researchers, and decision-makers<sup>18</sup> with the aim of developing joint recommendations that prioritized return, reconstruction, and addressed ecological harm.

15 A workshop was held on Friday and Saturday, 20-21 June 2025, from 9:30 a.m. to 4 p.m. in Satiha, Kfar Ruman, entitled “The Implications of Spatial and Environmental Genocide in Kfarkela”, as part of a series of local discussions in three areas that were severely damaged during the war. The workshop was attended by about 12 residents of Kfarkela. [workshop, “Environmental Genocide in Kfarkela”]

16 Interviews were conducted with the mayor of Kfarkela and former Minister of Environment Yaacoub Sarraf after the July 2006 war, as well as informal interviews with a source from the National Council for Scientific Research and the Ministry of Environment.

17 Research interviews or introductory meetings with Hadi Awada, farmer and activist from Kfarkela, Maya Nehme from the Lebanon Reforestation Initiative (LRI), Yasmine Fakhri from the Institute for Migration Studies (IMS) at the Lebanese American University, Jamal Shuayb from the Wattawou Association, Samar Morcos from the Environment and Sustainable Development Unit (ESDU) at the American University of Beirut, Abbas Baalbaki from the Southern Greens, the Agricultural Movement in Lebanon (Sara Salloum, Ghassan Makarem, and Bashir Abu Saifan), Ramzi Qais from Human Rights Watch, Wael Yamine from SOILS, and Ali Suidan from Legal Agenda.

18 The discussion session was held on Thursday 9 October 2025 from 9:30 a.m. to 4 p.m. at the “Public Works Studio” center in Furn el Chebbak, entitled “Environmental and Spatial Genocide in South Lebanon: Towards Visions of Return and Recovery”. It was supported by the PORTICUS Foundation, and its findings contributed to the writing of this paper in partnership with the Arab Reform Initiative (ARI). The session was attended by three residents of Kfarkela, and representatives from the Association of Southern Border Villages, the administrative body of the Southern Farmers’ Association, the National Council for Scientific Research, the head of the Nabatieh Department at the Ministry of Agriculture, the Wattawou Association, Legal Agenda, the Agricultural Movement, Jibal, Human Rights Watch, the Environment and Sustainable Development Unit at the American University of Beirut, the Lebanese Forest Association, ARI, the United Nations Human Settlements Program, and a government advisor for reconstruction, and two experts in urban planning.

## Assessing the Damage Caused by Ecocide in Southern Lebanon

In this section, we attempt to highlight the ecological devastation suffered by southern villages in Lebanon as a result of the recent Israeli war. This is usually measured in terms of figures showing the extent of losses and damages. These results cannot be limited to numbers alone. We must also consider ecologies that were wiped-out, damaged, or uprooted; the vast areas of land that were burned, poisoned, and destroyed; and the long-term effects on the environment, agriculture, and people’s livelihoods. Therefore, we must start with the scale of direct losses resulting from attacks on southern villages, and demonstrate the impact of the use of white phosphorus and war remnants on the environment, soil, and water. Conversely, we also seek to highlight other systematic methods used by Israel to complement its direct attacks on forests, woodlands, agricultural land, and farms, including targeting prefabricated structures, bombings, bulldozing, occupying land, preventing farmer access, and prohibiting any form of return, the latter of which has been used particularly in border villages.

### Environmental and Agricultural Damage and Losses in Figures

Based on available figures and according to the World Bank’s Rapid Damage and Needs Assessment report in March 2025,<sup>19</sup> the Israeli aggression against Lebanon caused environmental devastation amounting to approximately US\$501 million and destroyed 9,700 hectares of forests and woodlands; 32,000 hectares of pastureland; 21,000 hectares of riverine ecosystems; 100 hectares of wetlands; and 1,000 hectares of coastal areas. The environmental losses amount to US\$759 million over a period of

19 World Bank Group, Lebanon Rapid Damage and Needs Assessment (RDNA), 6 March 2025, <https://tinyurl.com/n3bwxfc8>

## 10 Responding to Ecocide in Lebanon: Recommendations for Official and Community Engagement in Sustainable Recovery

26 months. Full restoration for the majority of these capacities could take in excess of 10 years.

For the agricultural sector, which contributes up to 80% of GDP in southern Lebanon,<sup>20</sup> the war caused an estimated US\$79 million in damages, mostly to infrastructure, crop production, livestock, fisheries, and irrigation systems, resulting in a deterioration of livelihoods and hindering the potential for subsequent recovery. Irrigated crops suffered the brunt of the damage (43% of the total), resulting in the loss of major crops, such as olives and avocados, while irrigation systems were directly targeted (20.3%). Around three million chickens lost, and more than 10,000 square meters of poultry farms damaged (14%). In addition, many fishing activities along the southern coast were halted, 472 fishing boats and 13 fish ponds were damaged, and around 5,000 beehives were completely destroyed. The report also noted that the Nabatieh governorate

was affected the most, followed by the South governorate.

In addition to the damage, the war caused losses in the agricultural sector estimated at around US\$742 million. They reflect lost revenue due to damage to and reduction in production, resulting from the inability to access land for cultivation or harvesting, as well as of uprooting trees. The largest losses were recorded in the South governorate, followed by the Bekaa governorate, and then the Nabatieh governorate. According to the National Council for Scientific Research (NCSR),<sup>21</sup> agricultural activity was disrupted and land and crops were destroyed across 130,000 hectares of agricultural land, representing a quarter of Lebanon's agricultural area, with 100% destruction in Bint Jbeil,<sup>22</sup> 92%-100% in Marjayoun,<sup>23</sup> and 88%-100% in Tyre.<sup>24</sup> Recovery and reconstruction needs in the agricultural sector were estimated at approximately US\$412 million.

**Table 1: Extent of Damage, Losses, and Recovery Needs According to Different Sources**

Source	Damage	Losses	Needs
<b>World Bank</b> March 2025	Environment: US\$501 million Agriculture: US\$79 million 9,700 hectares of forests and woodlands; 32,000 pastures; and 21,000 river systems	Environment: US\$759 million Agriculture: US\$742 million	More than 10 years to recover Environment: US\$444 million Agriculture: US\$412 million
<b>FAO</b> Oct 2023-Nov 2024	Agriculture: US\$118 million 814 hectares of olive trees, 637 citrus trees, 461 banana trees, 192 fruit trees, 4,946 forests, etc.	Agriculture: US\$586 million	Agriculture: US\$263 million (US\$95 million are a priority)
<b>NCSR</b> Oct 2023-Nov 2024	Agricultural activity destroyed; land and crops destroyed across 25% of agricultural areas 2,192 hectares of area burned (873 dense forests, 530 sparse forests, 134 olive groves, 48 citrus groves, etc.)		
<b>UNDP</b> Oct 2023-Nov 2024	Destruction of 48% of agricultural assets covered by the survey 58% Nabatieh, 52% Tyre, 33% Bint Jbeil		
<b>Jihad al-Bina</b> Jan 2025	4,000 properties south and 2,000 properties north of the Litani river		

20 ESCWA and UN-Habitat, The Multidimensional Impact of Israeli Attacks on Lebanon (E/ESCWA/CL6.GCP/2024/Policy brief.1), 2024, <https://tinyurl.com/2ua5mhmb>

21 National Council for Scientific Research (NCRS) and National Center for Natural Hazards and Early Warning (NCNE), Israeli Offensive on Lebanon 2023-2024: Overview of Attacks and Damages across Key Sectors, 10 December 2024, <https://tinyurl.com/mvjjujy79> [NCRS and NCNE, Israeli Offensive on Lebanon]

22 Agricultural crops, fruit trees, olives, plastic tents, and citrus fruits.

23 Ninety-nine percent of agricultural crops, 98% of fruit trees, 100% of olive trees, 92% of vineyards, 100% of banana trees, citrus trees, and plastic tents.

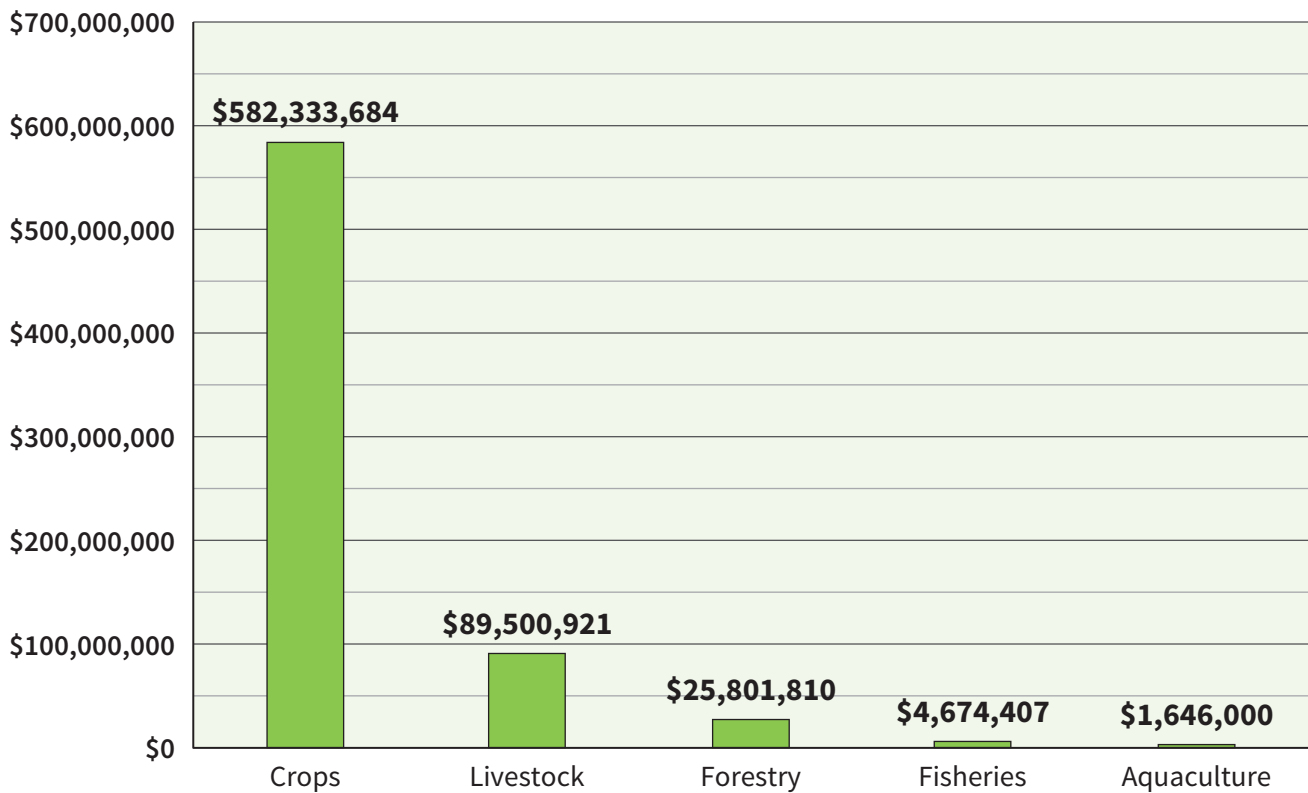
24 Eighty-eight percent of agricultural crops, 92% fruit trees, 90% olive trees, 98% citrus trees, 100% plastic tents, and 93% banana trees.

**11** Responding to Ecocide in Lebanon: Recommendations for Official and Community Engagement in Sustainable Recovery

A Food and Agriculture Organization of the UN (FAO) report,<sup>25</sup> which covered the period from October 2023 to November 2024, revealed that Lebanon’s agricultural sector suffered significant damage, estimated at approximately US\$118 million, including damage to more than 814 hectares of olive trees, 461 hectares of banana trees, 192 hectares of fruit trees, 637 hectares of citrus trees, 4,496 hectares of forests, and the loss of approximately

two million animals, including poultry, goats, sheep, cows, and bees. This devastation is estimated at approximately US\$586 million. The most affected areas are concentrated in southern Lebanon and the Bekaa Valley. The agricultural sector’s needs for reconstruction and recovery amount to approximately US\$263 million, of which US\$95 million is a priority for the period 2025/2026.

**Figure 1: Extent of Damage and Losses by Sub-Sector**



Source: FAO, Lebanon: Agricultural Damage and Loss Assessment report.

An impact assessment prepared by the UN Development Program (UNDP) between 5-15 December 2024,<sup>26</sup> found that 58% of agricultural assets in the Nabatieh district were destroyed, followed by 52% in Tyre, and 33% in Bint Jbeil between October 2023 and November 2024. According to the report, the damage is expected to

have serious and long-term consequences.

Statistics from the Directorate of Agriculture and Environment at the Jihad al-Binaa Foundation, as of January 2025, show 4,000 properties were damaged in villages south of the Litani river and more than 2,000 properties north, noting that there were

25 UN Food and Agricultural Organization (FAO), Lebanon: Agricultural Damage and Loss Assessment on the Impact of Conflict (DIEM-Impact report October 2023–November 2024), April 2025, <https://doi.org/10.4060/cd5013en> [FAO, Lebanon: Agricultural Damage and Loss Assessment]

26 UNDP Lebanon, From Crisis to Recovery: Local Authorities Confronting Post-War Realities in Lebanon Rapid Impact Assessment, 21 January 2025, <https://tinyurl.com/3rvc6z3p>

villages that survey teams were unable to reach.<sup>27</sup> The damage reached 90% in the livestock sector and 100% in the beekeeping sector, in addition to severe damage caused to greenhouses, bananas, citrus fruits, and tropical fruits.

Ultimately, with the continuation of Israeli attacks on Lebanon, these figures need to be constantly updated. Despite their variability<sup>28</sup> and the multiple sources that issued the estimates, they all point to the direct and widespread destruction caused by the Israeli war, not only on ecosystems, forests, and pastures, as figures show, but also on the agricultural sector with its economic, livelihood, and cultural dimensions. It is impossible to understand the depth of the destruction without considering the weapons that Israel used intensively, foremost among them white phosphorus, a primary means of destroying the environment and agriculture and displacing the population.

## White Phosphorus, Ammunition, and War Debris as Tools for Environmental Destruction

Israeli forces used phosphorus intensively and at unprecedented levels in Lebanon – having previously used it in 1982, 1993, 1996, and 2006<sup>29</sup> – targeting populated and agricultural areas and civilians in towns along the border. In its latest war on Lebanon, white phosphorus was the first weapon Israel used against border village residents who remained in their homes. With each attack, toxic smoke suffocated them, trapping them in flames that consumed their forests and fields. In the first three months of war, the forests, woodlands, and agricultural lands of the South were among the

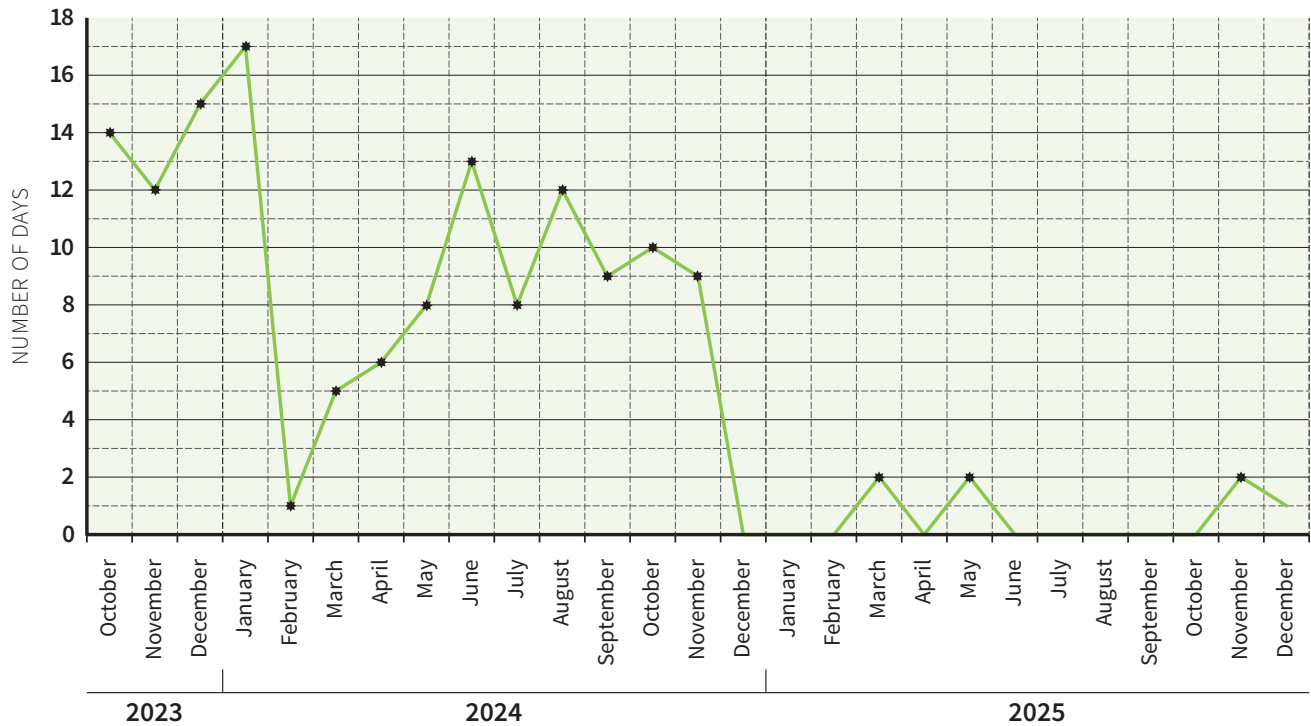
most heavily bombed targets, including livestock and poultry killing and burning green spaces. White phosphorus was used to bomb them in broad daylight, deliberately scorching them as part of war tactics to reduce the agro-dependent population's resolve, as well as allowing surveillance cameras to detect military movements that would otherwise be camouflaged by natural cover. The resumption of targeting forests intensified in September 2025, using incendiary bombs to cause fires.

27 Sara Olayan, "In Figures: Restoration and Reconstruction Efforts Continue as Compensation Payments Accelerate" [Arabic], Municipal Work Association, 11 January 2025, <https://amalbaladi.org.lb/details/2207/>

28 According to informal interviews with the National Council for Scientific Research and the Ministry of Environment, figures vary depending on research methodology, which should not be seen as contradiction but rather as complementary.

29 Antoine Kallab and Leila Rossa Mouawad, *The Socio-Environmental Impact of White Phosphorus Ammunition in South Lebanon: Analysis and Risk Mitigation Strategies*, Nature Conservation Center, American University of Beirut, November 2023, <http://hdl.handle.net/10938/24618> [Kallab and Mouawad, *The Socio-Environmental Impact of White Phosphorus*]

Figure 2: Daily Frequency of White Phosphorus Targeting by Month



Source: Public Works Studio, “Israeli Attacks on Lebanon”.

Here, white phosphorus<sup>30</sup> is not a chemical weapon because it works primarily with heat rather than toxins, making it an incendiary weapon. The use of incendiary munitions is regulated by the Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons.<sup>31</sup> The Protocol allows the use of incendiary munitions in certain circumstances, but prohibits their use against civilians, against military targets in areas densely populated by civilians, or to target vegetation. Furthermore, customary international humanitarian law – a legal framework applicable to all states – requires states to take all feasible precautions to avoid causing harm to civilians and unnecessary loss or excessive suffering. Human Rights Watch (HRW) and Amnesty International

have confirmed that Israel used white phosphorus munitions in predominantly civilian areas in a manner that did not distinguish between civilians, civilian locations, combatants, and military targets, which may amount to a war crime.<sup>32</sup> Furthermore, the deliberate technique used for airburst white phosphorus shells exposes a greater number of civilians and civilian infrastructure to potential harm compared to ground burst.

According to our monitoring,<sup>33</sup> from the start of the war until the end of 2025, Israel used white phosphorus to target at least 61 towns in southern Lebanon. The town of Kham was one of the areas most exposed to white phosphorus, with 29 days of bombing, followed by the town of Kfarkela (26 days), and Mays al-Jabal (21 days).

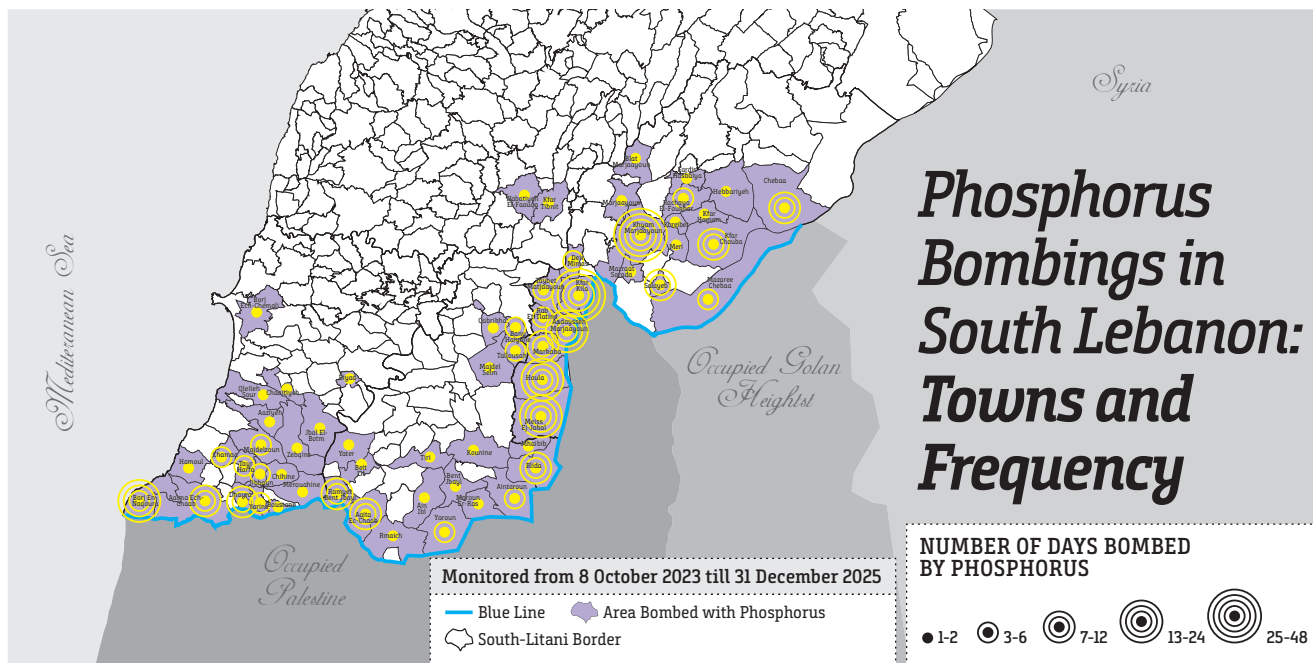
30 White phosphorus is a waxy, solid chemical that ranges in color from white to yellow. It ignites spontaneously in air at high temperatures and continues to burn until it is completely oxidized. It is used for military purposes in illumination and smoke screening, as well as an incendiary agent. However, its incendiary properties are not the primary purpose behind its use, rather as a side effect. There are less harmful alternatives for achieving the same military objectives.

31 Protocol III of the Convention on Conventional Weapons, which Lebanon and Palestine joined in 2017. Israel has yet to ratify this protocol.

32 Rebekah Yeager-Malkin, “Washington Post: Israel Used US-Made White Phosphorus Munitions in Lebanon”, Jurist News, 11 December 2023, <https://tinyurl.com/yhej75uv>

33 Public Works Studio, “Israeli Attacks on Lebanon: Types of Bombing, Nature of Targets, and Number of Civilian Casualties” [Arabic], 2 August 2024, <https://publicworksstudio.com/israeli-attacks-map/> [Public Works Studio, “Israeli Attacks on Lebanon”]

Figure 3: Areas Targeted with Phosphorus in Southern Lebanon<sup>34</sup>



Source: Public Works Studio, “Israeli Attacks on Lebanon”.

NCSR documented 284 attacks with phosphorus shells, 89 attacks with phosphorus and conventional shells, and 286 attacks with incendiary bombs from 8 October 2023 to 27 November 2024.<sup>35</sup> The Marjayoun district suffered the largest share of phosphorus and incendiary bomb attacks (184).

The use of white phosphorus munitions causes widespread direct damage, as well as indirect and long-term damage. In terms of direct damage, it has caused fires that have affected forests, woodlands, and agricultural land. We have observed a correlation between the locations targeted with phosphorus and the locations of forests and agricultural land. The total area burned was 2,192 hectares,<sup>36</sup> including

873 hectares of dense forest with gum trees and vast areas covered with oak and pine trees, 530 hectares of sparse forest, 134 hectares of olive groves, as well as citrus and banana trees, agricultural land, fruit trees, and greenhouses.<sup>37</sup> The fires continued even after the ceasefire, with approximately 162 hectares burned as a result of Israeli attacks between 18 August-21 October 2025.<sup>38</sup> Lebanese Ministry of Health figures also indicate that 10.66% of injuries were caused by phosphorus between 8 October 2023 and 20 August 2024.<sup>39</sup> Phosphorus attacks burned 20% of agricultural land – and thus crops – and forests in 55 villages, according to sources from the Jihad al-Binaa Foundation.<sup>40</sup> Our monitoring also

34 A modified version of this map was used in Reem Shadid et al., “Dignified Life: Outliving Impossible Ecologies”, Beirut Art Center and the Mosaic rooms, September 2025, <https://tinyurl.com/3psuzsja> [Reem Shadid et al., “Dignified Life”]

35 NCRS and NCNE, Israeli Offensive on Lebanon.

36 Twelve hectares of high intensity and 248 of medium- to high-intensity.

37 NCRS and NCNE, Israeli Offensive on Lebanon.

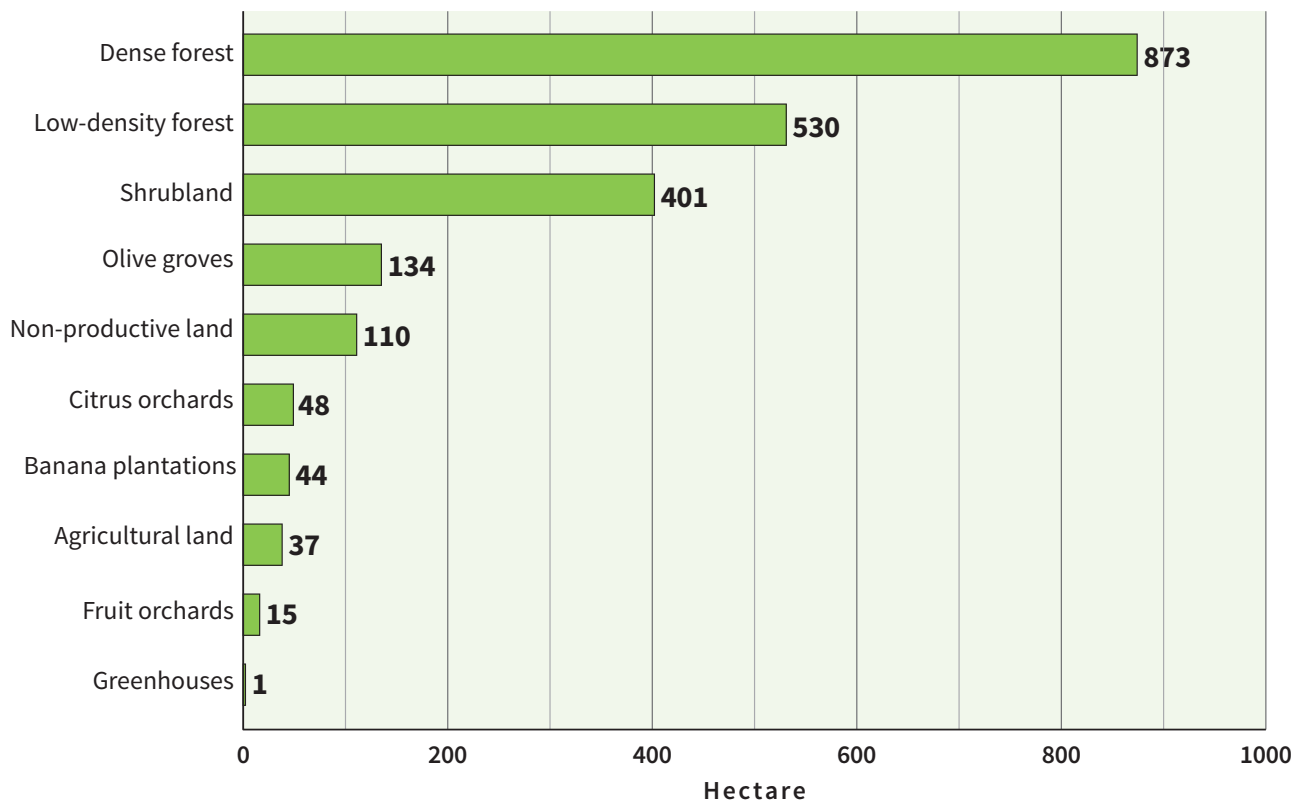
38 National Center for Natural Hazards and Early Warning (NCNE), “As part of the efforts undertaken...”, Facebook, 27 October 2025, <https://tinyurl.com/z8numsj7>

39 Nourhan Sharaf Eddine, “Forced Desertification in Lebanon: Israeli Phosphorus Bombing Destroys Farmland”, Arij, 23 March 2025, <https://arij.net/reports/phosphorus/en/> [Sharaf Eddine, “Forced Desertification”]

40 Hussein Shaaban, “White Phosphorus Aggression: Destruction, Harm, and Psychological Warfare” [Arabic], The Legal Agenda, 4 July 2024, <https://tinyurl.com/pvjhv62r>

shows that Israel targeted forests and woodlands, as well as agricultural land and farms, in about 80 areas. These attacks have been almost exclusively targeted at southern Lebanon.

Figure 4: Areas burned in hectares by type of vegetation cover



Source: NCRS and NCNE, Israeli Offensive on Lebanon

It is important to highlight the highest targeted areas: olive groves. Israel deliberately bombed the groves to ensure that no olives remained for the resistance. Southern Lebanon produces about 38% of the country’s olive crop,<sup>41</sup> but Israeli attacks burned at least 65,000 olive trees, including perennial trees, and, until the end of 2024, losses in the olive sector were estimated at in excess of US\$236 million, as a result of harvest disruption.<sup>42</sup> Olive cultivation creates indispensable income for local communities. It is also linked to local cultural and social practices, passed down over generations.

Consequently, olives are targeted in Lebanon, as in Palestine, because they are a source of life and represent a deep connection to the land, a form of attachment to it.

There are few studies on the longer-term environmental impacts of white phosphorus when used in such high concentrations and with such intensity. The only entities that have conducted these studies are the suppliers of white phosphorus, the US military, and some of its victims, including researchers from Gaza<sup>43</sup> who confirm that white

41 Ministry of Environment and UNDP, “Climate Change Vulnerability and Adaptation: Agriculture” (Lebanon’s Second National Communication report), 2011, <https://tinyurl.com/y992rp5d>

42 National News Agency, “Hani Launches ‘Together for Lebanon’s Olive Trees’ Project to revive Damaged Farms: We Will Soon Launch a National Campaign to Highlight the Importance of Agriculture and Its Pivotal Role in the Economy” [Arabic], 26 April 2025, <https://tinyurl.com/4u9wvh5f>

43 Justin Salhani, “Israel’s Toxic Legacy: White Phosphorus Bombs on South Lebanon”, Al Jazeera, 24 March 2024, <https://tinyurl.com/bdezhz9b> [Salhani, “Israel’s Toxic Legacy”]

phosphorus, in the quantities we have witnessed, is harmful if it remains in the soil for a long time. Based on other countries' experiences, there have been several attempts to restore ecosystems and remove contamination. However, comprehensive measures specific to white phosphorus have not yet been developed, and studies on Agent Orange in Vietnam,<sup>44</sup> white phosphorus in the United States,<sup>45</sup> and white phosphorus in Ukraine<sup>46</sup> show how complex and costly the process is.<sup>47</sup>

The use of "these munitions leaves 10% of phosphorus in the soil or water",<sup>48</sup> and it is believed that it remains active, highly toxic, and flammable whenever it is exposed to oxygen, and for much longer than the available information on the subject indicates. This brings to mind people's bitter experience with cluster bombs, which were heavily used in the July 2006 aggression,<sup>49</sup> and which were also used in the recent war,<sup>50</sup> continuing to claim victims, contaminating people's fields, as well as affecting access to these fields due to their explosive

nature.<sup>51</sup>

Lebanese researchers and experts warn that Israel's methods cause long-term and possibly irreversible damage.<sup>52</sup> Plants can suffer harmful effects including drought, root damage, wilting, desiccation, retroactive death, and stunted growth, which may affect current and future production seasons. This is after villages lost their entire agricultural seasons during the war. Repeated phosphorus strikes, along with intensive shelling with various types of rockets and missiles, saturate the soil with pollutants that cause its degradation and threaten the land with desertification, erosion, or soil loss. The accumulation of phosphoric acid, along with highly toxic heavy metals, such as cadmium, lead, and zinc, can reduce microbial diversity, deplete soil fertility, decrease agricultural productivity, reduce the marketability of products from contaminated areas, and result in the loss of grazing land for livestock. Phosphorus can become a silent killer, seeping into food, water, and air, and causes gradual damage over the years. In this context, in January 2024, the Ministry of Environment (MoE) announced high levels of heavy metals and phosphorus concentrations, exceeding the normal limit by 900 times in southern soils, based on tests conducted on five samples from sites exposed to shells, including white phosphorus.<sup>53</sup> For its part, following the ceasefire agreement, the Ministry of Agriculture (MoA) took samples through the Agricultural Research Service and international organizations, and UNIFIL received some of them as well. The results regarding the impact of phosphorus were reassuring, but the damage caused by phosphorus was due to direct fires, and no samples were taken to detect the impact of heavy metals, such as uranium.<sup>54</sup>

As for the impact of phosphorus on water sources, in places where phosphorus use was high, it caused freshwater pollution. Indeed, due to the phosphorus bombs dropped by Israel on border villages and

---

44 The US military's use of Agent Orange during the Vietnam War continues to have harmful effects on nature and humans. The US government has allocated US\$400 million for environmental remediation. Landfills are used to dispose of contaminated soil and sediments, and heavily polluted soil is treated using thermal conductive heating.

45 Eagle River Flats, a salt marsh in Alaska, was declared a highly toxic site after years of white phosphorus munitions testing by the US military. Efforts to clean it up by pumping out ponds and drying sediments were carried out from 1982 to 2006.

46 Russia used white phosphorus munitions against Ukraine, causing widespread contamination of soil, water, agricultural fields, and forests. Ukraine is currently investigating the environmental damage caused by the war to claim compensation. Researchers are collecting data with the support of local communities. Preliminary results show that plots of land require a strategy for recultivation, while water bodies need to be decontaminated.

47 Kallab and Mouawad, *The Socio-Environmental Impact of White Phosphorus*.

48 Siba Mroueh, "Trapped by White Phosphorus: Israel Causes an Environmental and Humanitarian Catastrophe in Lebanon", *Raseef* 22, 5 June 2024, <https://tinyurl.com/3mnmnrj>

49 The United Nations estimates that Israel planted at least 40,000 mines along the "Blue Line" before its withdrawal in 2000, and between 2.6 and 4 million cluster munitions in the final days of the July 2006 war. According to recent statistics, approximately 24 million square meters of land – 75% of which could be used for agriculture – remained contaminated with mines by the end of 2023, after 84% of it had been cleared.

50 Al-Modon, "The Guardian Documents Israel's Use of Cluster Bombs in Lebanon" [Arabic], 19 November 2025, <https://tinyurl.com/3rup5csm>

---

51 UN News, "UN Efforts to Clear Southern Lebanon of War Remnants and Pave the Way for Recovery", 4 April 2025, <https://news.un.org/ar/story/2025/04/1140461>

52 Salhani, "Israel's Toxic Legacy".

53 William Christou, "Lebanese Government Finds Soil Polluted by Israel's White Phosphorus, Artillery Shells", *The New Arab*, 24 January 2024, <https://tinyurl.com/y2w76prb>

54 Ghawa Kanaan, "Olive Season in the South between the Ravages of War and the Challenge of Survival" [Arabic], *Manateq*, 13 October 2025, <https://tinyurl.com/d9z4ps54> [Kanaan, "Olive Season in the South"]

towns, water sources in southern Lebanon, including groundwater, springs, and ponds, pose a threat to plants and humans, nearby fish traps, birds, aquatic organisms, amphibians, small mammals, and agricultural crops irrigated with mixed water. This human impact extends through consumption, threatening local food security, affecting human health, and undermining the local economy.<sup>55</sup>

According to estimates, there has been an increase in cancer rates in the South as a direct result of wars,<sup>56</sup> especially among children in areas that were heavily bombed during the July 2006 war.<sup>57</sup> Medical reports have linked Israel's use of unconventional weapons to increased rates of birth defects and miscarriages, and a study by the American University of Beirut (AUB) indicated that pollution from the war raised levels of carcinogens in the air, soil, and water, doubling the risk of cancer over the coming decades. The town of Houla was one of the border towns where cancer cases spread mostly after the July 2006 war.<sup>58</sup>

Israeli targeting reached the Litani river, affecting the color and odor emanating from its tributary. The National Litani River Authority confirmed, through samples collected on 30 December 2024, a significant increase in phosphorus and phosphate levels, approximately 20 times the average over the past five years.<sup>59</sup> This increase is attributed to the war, as bombing and explosions likely led to the leakage of these substances into the river, either directly or through contaminated soil. The samples also showed that the concentration of lead and cadmium exceeded the maximum permissible limit, due to the spread of dust and explosive materials resulting from rocket explosions and the drift of contaminated soil into the river, etc. However, according to the Litani River Authority, the levels began to decline and return to their previous levels after the river and its estuary were restored, but there is no doubt that the soil along the banks may

be contaminated with hazardous materials that could leak into the river.<sup>60</sup>

In this context, the Lebanese MoA has warned against using water from the Janam pond in the Shabaa district of Hasbaya,<sup>61</sup> whether for irrigating crops or watering livestock, after unknown substances were dumped into the pond by Israeli occupation forces. Farmers also documented a decline in the abundance of pigeons in southern Lebanon after the war.<sup>62</sup> The Green Southerners had previously addressed this issue, recording the exposure of bird migratory routes and resting sites during three seasonal migrations from October 2023 to September 2024. The Association documented severe disruption to bird's routes in the districts of Marjayoun, Hasbaya, Nabatieh, Bint Jbeil, and Tyre due to the intensive and indiscriminate use of white phosphorus. This has serious repercussions on the safety and behavior of birds and may affect their reproductive and vital functions.<sup>63</sup> This is also confirmed by birdwatcher Shadi Saad who stated that the migration route between Lebanon and Palestine has been disrupted for two years as a result of the Israeli wars, which lead to a significant decline in bird numbers, displacing them from their original habitats in search of safer havens and increasing their risk of starvation and death.<sup>64</sup>

It is clear that Israel is using white phosphorus as a strategic psychological weapon, thereby practicing systematic environmental terrorism. Its deliberate use, as we have already mentioned, along with various other weapons and means, has burned forests, nature reserves, environmentally sensitive areas, pastures, land, and crops in an otherwise fertile region that enjoys climatic conditions and environmental richness conducive to agriculture, and whose inhabitants depend on agriculture as their primary source of livelihood. It has also

55 Sharaf Eddine, "Forced Desertification".

56 Maya Al-Khoury, "Cancer Is a Direct Result of War: Do Not Neglect Regular Checkups and Treatment!" [Arabic], Nida' Al-Watan, 3 December 2024, <https://tinyurl.com/3bna8br7>

57 Nada Abdul Razzaq, "On World Cancer Day: Alarming Figures in Lebanon amid a Dire Health Situation!" [Arabic], Al-Diyar, 3 February 2025, <https://tinyurl.com/2rcz8ajv>

58 Dani Al-Amin, "Cancer Is Rampant in Houla" [Arabic], Al-Akhbar, 18 May 2011, <https://tinyurl.com/yphd4d4u>

59 Al-Jadeed, "High phosphorus levels: 'Dangerous' Test Results for Litani River Water" [Arabic], 7 January 2025, <https://tinyurl.com/3aje4s46>

60 Interview with Sami Aloua, head of the Litani River Authority, 4 November 2025.

61 Megaphone News (@megaphonenews), "Israeli Forces Dumped Unknown Substances into Shebaa Lake" [Arabic], Instagram photo, 17 June 2025, <https://tinyurl.com/m4tfmpfe>

62 Manateq (@manateq\_), "Birds of the South after the War Are Dead, Injured, and Displaced" [Arabic], Instagram photo, 25 March 2025, <https://tinyurl.com/bdpe79rv>

63 Kataeb.org, "Even Bird Migration in Southern Lebanon Is at Risk!" [Arabic], 5 September 2024, <https://tinyurl.com/2xh4ft4c>

64 Christine Habib, "Birds on the Front Line from Lebanon to Gaza and Sudan: Even Birds Pay the Price of War" [Arabic], Al-Sharq Al-Awsat, 4 October 2025, <https://tinyurl.com/5eejy5ws>

resulted in the killing of animals, insects, birds, and reptiles, and the destruction of their habitats, thereby damaging the region’s diversity.

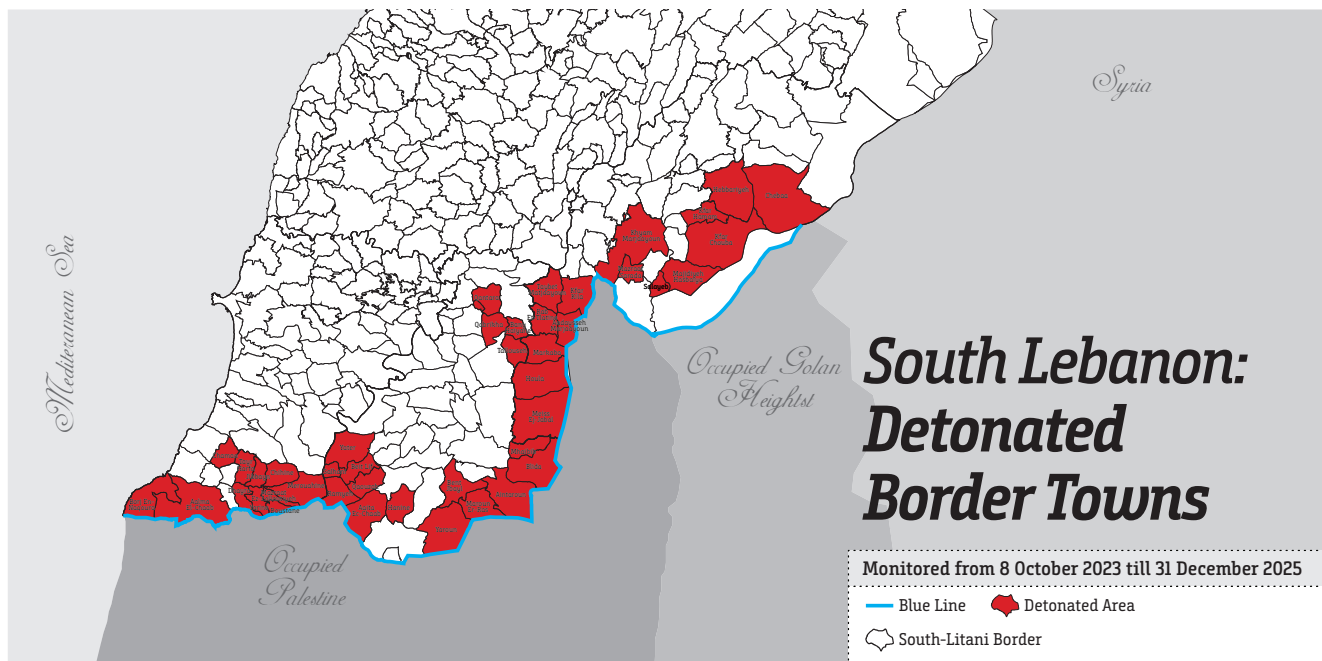
In the long run, it may cause soil and water contamination, contributing to the destruction of the ecosystem, which cripples the local economy, severs the connection between the people and their land, and their ability to resist, return, and rebuild their lives. It is not an isolated act but comes in the context of a broader aggression: imposing forced displacement of people en masse.

## Preventing Return to Border Villages and Turning the Land into a Buffer Zone

Phosphorus bombs, incendiary bombs, and other munitions were not the only means used to destroy

the environment and sever the connection between southerners and their land. Israel used various other methods: shelling, bulldozing, burning, and using massive detonation tools in neighborhoods – completely decimating about 45 southern towns during the post-ceasefire period – as well as razing their agricultural land, trees, and plants. Amnesty International, which analyzed satellite images of the 26 municipalities along the Lebanese border, found that most of the destruction occurred while the Israeli army was in control of those areas, a strong indication that the destruction took place outside the context of actual combat. In the absence of urgent military necessity, as required by international humanitarian law, Amnesty International called for an investigation into this as a “war crime”.<sup>65</sup> According to the International Information Company, 22 of the 29 villages along the border strip, from Naqoura in the west to Shebaa in the east, were almost completely destroyed, including Kfarkela.<sup>66</sup>

Figure 5: Border Towns that Were Detonated<sup>67</sup>



Source: Public Works Studio, “Israeli Attacks on Lebanon”.

The enemy continues to violate the ceasefire agreement through daily attacks that targets civilians and aims to prevent residents returning to their destroyed border villages. Despite the fact

65 Amnesty International, Nowhere to Return: Israel’s Extensive Destruction of Southern Lebanon, 26 August 2025, <https://tinyurl.com/2p9rc326>

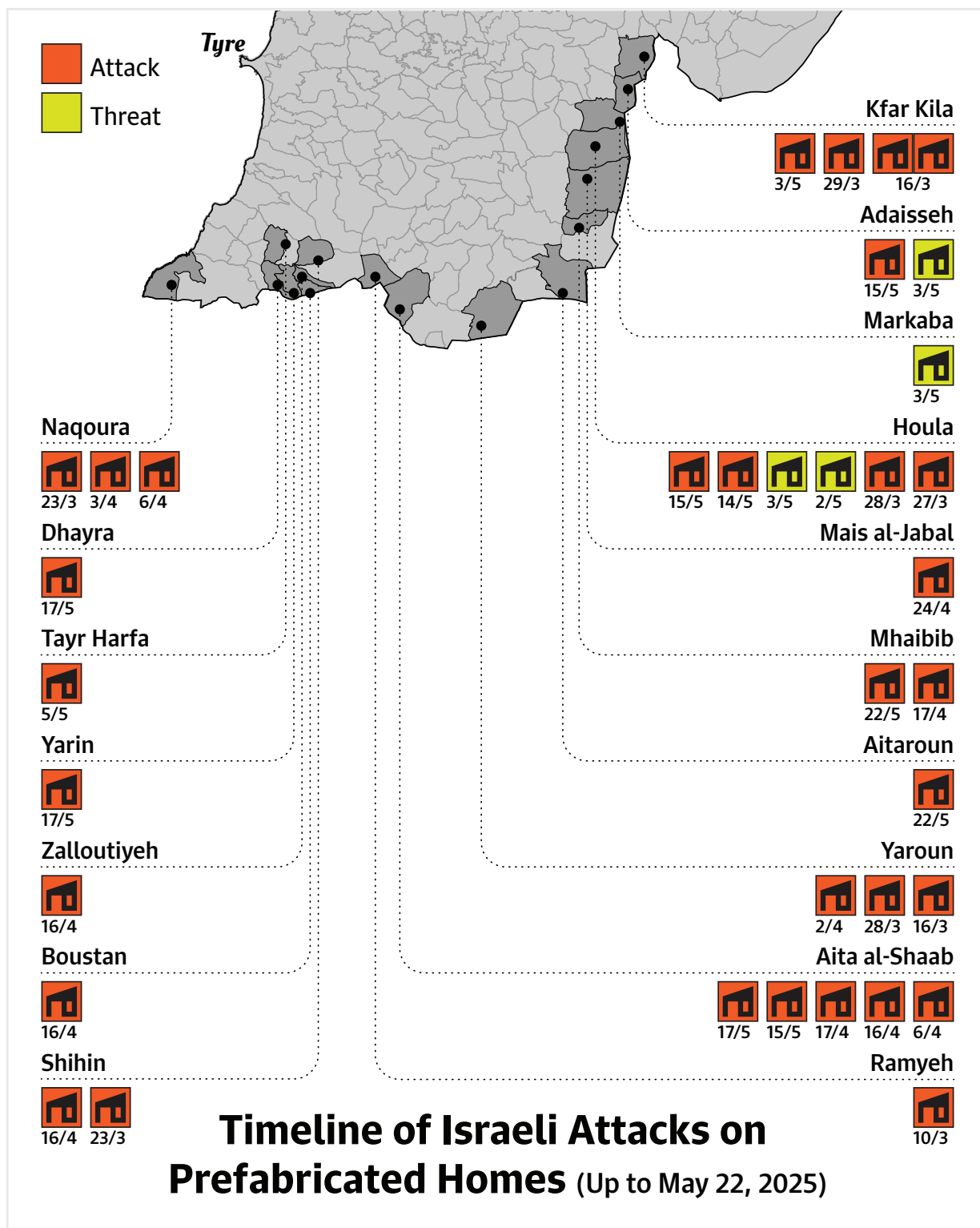
66 Lebanon 24, “Rebuilding the Destroyed Villages of Southern Lebanon: Is It difficult?”, 9 March 2025, <https://tinyurl.com/swxan3cs>

67 A modified version of this map was used in Reem Shadid et al., “Dignified Life”.

## 19 Responding to Ecocide in Lebanon: Recommendations for Official and Community Engagement in Sustainable Recovery

that there are no homes for residents to return to, Israel targets temporary prefabricated structures that citizens have set up as temporary shelters or farmers use to store equipment, as well as vital temporary facilities, such as water tanks, first aid centers, and cafes. The aim is to thwart any attempt to remove rubble, visit homes, collect what remains of residents' belongings that would restore "normal" life. Since 10 March 2025, the Israeli occupation has intensified its targeting of prefabricated structures and civilian facilities in villages in southern Lebanon: searching, bombing, burning, and destroying them in Ramieh, Kfarkela, Yaroun, Sheheen, Naqoura, Houla, Aita al-Shaab, Bustan, Zaloutieh, Mahibib, and Mays al-Jabal.

Figure 6: Targeting of Prefabricated Houses in Southern Lebanon



Source: Public Works Studio, "Israeli Attacks on Lebanon".

Currently, the Israeli army occupies five locations, known as the five points, and is working to fortify, reinforce, and stabilize them. It has also established a new location in Khallet al-Mahafar, south of the town of Adisa.<sup>68</sup> In Kfarkela, it has maintained a fortified guard post on the wall. But in reality, the five points are fictitious in the face of an undeclared occupation of all the villages adjacent to the border. On 14 August 2025, Israel designated this occupied buffer zone in southern Lebanon for the first time as a “restricted security zone”, a closed security belt, through leaflets marked in red, prohibiting Lebanese citizens from approaching it. The area covered by the new Israeli measure is approximately 50 square kilometers<sup>69</sup> and extends from Ras al-Naqoura to the heights of Mount Hermon, reaching approximately 3km deep (500 meters to 3 km). The enemy moves freely in this area as infantry or in small vehicles, and no machinery may be used to remove rubble or build structures without permission from the Lebanese army.

Consequently, Israeli attacks seek to transform the border area – classified in the “National Physical Master Plan for the Lebanese Territory (NPMLT)”<sup>70</sup> as areas of agricultural wealth of national importance, or valleys, forests, and areas of natural contiguity – into barren, scorched, uninhabited land that is exposed militarily, and a buffer zone unfit for human or natural life and impossible to cultivate. We can only see this as an extension of the Zionist project: hostile to the land and its people and seeks its control. The Trump administration’s real estate approach to transforming the villages of southern Lebanon<sup>71</sup> into an economic zone by converting the

land into common property and seizing it<sup>72</sup> intersects with Israel’s executive plan to displace Lebanese border-area residents, stretching from Naqoura to towns in the Marjayoun district and includes lands of some 27 towns with Shiite, Sunni, and Christian majorities. The project calls for the displacement of the population in exchange for attractive financial compensation, without guaranteeing any Lebanese sovereignty over the area, and would be under direct US security administration. It would involve some 1,500-2,000 US soldiers, with security coordination between Lebanese and Israeli armies, and allow Israel to set up observation points or even enter the area when necessary. The project also includes the establishment of solar energy facilities, large-scale agriculture, and technological industries, in addition to limited eco-tourism projects.<sup>73</sup> It should be noted that all historical experiences with this type of “economic buffer zone” show that the economic function always declines over time, leaving only the security buffer function.<sup>74</sup> It should also be noted that the idea of converting post-war contaminated areas into industrial zones is not new.<sup>75</sup> This is what happened in Western Europe, with greater efforts being made to restore agricultural activity, often at great cost, to rural agricultural areas in Italy, Belgium, and Eastern Europe after the First and Second World Wars.

## Assessing the Damage in Light of Ecocide

After a tour of the Lebanese-Palestinian border on 8 May 2025, the minister for the environment confirmed that a closer look at the results of the Israeli aggression added another dimension to the meaning of destroyed cities and environmental crimes committed by the enemy in southern Lebanon – burning millions of square meters with incendiary shells and phosphorus bombs, and bulldozing operations after the ceasefire, not to mention uprooting and thieving hundreds of ancient olive

68 Lebanon ON, “In Pictures: After Hamam Hill, the Occupation Fortifies Its Position in Jabal al-Bat, South of Aytarun!” [Arabic], 31 August 2025, <https://www.lebanonon.com/news/340421>

69 Al-Sharq Al-Awsat, “Israel Draws Up a Buffer Zone in Southern Lebanon and Distributes Maps to Residents Concentrated in Shebaa: Including the Former Site of the ‘Hezbollah tent’” [Arabic], National News Agency, 15 August 2025, <https://tinyurl.com/sfj34t3e>

70 Decree No. 2366 of 2009 issued the “Comprehensive Plan for the Arrangement of Lebanese Lands”. It is a fundamental document for sustainable development and planning in Lebanon, and is the general guiding framework for urban planning and land use. Detailed designs for cities and towns must comply with its directives. [Decree 2366/2009, “Comprehensive Plan”]

71 Rabih Jamil, “Trump’s Economic Zone in Southern Lebanon: Real Estate Development as US Foreign Policy”, Al-Sifr, 29 February 2025, <https://tinyurl.com/reuxadm>

72 Ziad Majid, “US Real Estate Culture and Israeli Buffer Zones”, Megaphone, 5 September 2025, <https://tinyurl.com/ba88uukx>

73 Radwan Aqil, “‘Trump’s Economic Zone’ in the South: US Administration Displaces 27 Towns?” [Arabic], An-Nahar, 1 September 2025, <https://tinyurl.com/2fwafydb>

74 Ali Nour Eddine, “The ‘Economic Buffer Zone’ in South Lebanon: A History of Failed Experiments”, Al-Modon, 27 August 2025, <https://tinyurl.com/28cbmfcy>

75 Interview with Wael Yamine from Tarab for Environmental Education Lebanon.

trees. She reiterated this for the first time in an official MoE document entitled “Reference Framework for Defining the Methodology and Mechanisms of Intervention within the Reconstruction Process” at the request of the Prime Minister on 16 December 2025, asserting that Israel turned southern Lebanon into a “Biosphere of War” in order to disrupt life there.<sup>76</sup>

“Ecocide” is defined as “unlawful or deliberate acts committed with the knowledge that there is a substantial likelihood of serious, widespread, or long-term damage to the environment as a result of those acts”.<sup>77</sup> This definition was formulated in 2021 by an independent team of international legal experts, at the invitation of Stop Ecocide Foundation. “Wanton” refers to gross indifference to damage that is clearly disproportionate to the anticipated military benefits, and “severe” means that the damage causes extremely serious changes, disruption, or harm to any element of the environment, including serious impacts on human life and natural, cultural, or economic resources. “Widespread” means that the damage extends beyond a limited geographical area, crosses national borders, or affects an entire ecosystem, species, or a large number of people. “Long-term” refers to damage that is irreversible or cannot be repaired through natural recovery within a reasonable period of time.<sup>78</sup>

In this context, the concept of ecocide first appeared in 1970 in the context of chemical warfare in Vietnam,<sup>79</sup> as an expression of concern about large-scale environmental destruction as a crime similar to genocide. The roots of the concept are mainly linked to military conflicts,<sup>80</sup> as the two world wars, other wars,<sup>81</sup> and the arms race have caused serious environmental damage. As a result, the use of weapons of mass destruction and chemicals,

deforestation, destruction of ecosystems, and the forced and permanent displacement of living organisms for military purposes causes a loss of biodiversity, pollutes vital resources, endangers human communities, and disrupts the normal lives of populations.

International law has gradually recognized the importance of protecting the environment, despite limited legal recognition. In 1997, the International Court of Justice affirmed that “the environment is not merely a theoretical concept, but represents the vital space, quality of life, and health of human beings, including future generations”.<sup>82</sup> Environmental damage was included as a war crime in the Rome Statute in 1998,<sup>83</sup> albeit with strict conditions<sup>84</sup> that make its application rare. However, despite mounting evidence, deliberate environmental destruction during wars continues to be viewed as an unfortunate side effect, and existing rules of international humanitarian law and international criminal law have proven ineffective and insufficient to curb this type of destruction.<sup>85</sup> Parallel to this limited legal path at the international level, the concept of ecocide has been more widely adopted in the discourse of civil society, environmental and human rights movements, and some states<sup>86</sup> that are pushing for its recognition as a separate international crime, given the inadequacy of current legal frameworks to hold perpetrators of deliberate environmental destruction accountable, particularly in the context of armed conflict.

Returning to Lebanon, what we have revealed in terms of documented damage in figures, and

76 Ministry of Environment, “Framework for Defining the Methodology and Mechanisms of Intervention within the Reconstruction Process” [Arabic], 18 December 2025, <https://tinyurl.com/2n258cuy> [MoE, “Framework for Defining the Methodology”]

77 Stop Ecocide Foundation, “Independent Expert Panel for the Legal Definition of Ecocide: Commentary and Core Text”, Stop Ecocide International, June 2021, <https://www.stopecocide.earth/legal-definition> [Stop Ecocide Foundation, “Independent Expert Panel”]

78 Stop Ecocide Foundation, “Independent Expert Panel”.

79 Nathalie de Pompignan, “Ecocide”, SciencesPo: Mass Violence and Resistance, 3 November 2007, <https://tinyurl.com/439bs25k> [de Pompignan, “Ecocide”]

80 de Pompignan, “Ecocide”.

81 For example, the Vietnam War, the Gulf War, and the invasion of Iraq.

82 International Court of Justice, Case Concerning the Gabcikovo-Nagy-maros Project (Hungary/Slovakia), 25 September 1997, <https://www.icj-cij.org/case/92/judgments>

83 The 1998 Rome Statute of the International Criminal Court classifies as a war crime all acts that cause widespread, long-term, and severe damage to the natural environment and violate the principle of proportionality. Other specific provisions prohibit the destruction of agricultural land and drinking water facilities with the intent of harming the civilian population.

84 The level of damage must be very high and must be “intentional, widespread, long-lasting, and serious” at the same time, and the environmental damage must clearly outweigh the expected military benefits, making it difficult to prove the crime. To date, no charges have been brought under this article.

85 Steven Freeland, “Crimes against the Environment And International Criminal Law”, International Bar Association, May 2025, <https://tinyurl.com/4pxhbun7>

86 Pacific Island countries have proposed recognizing ecological genocide as an international crime before the International Criminal Court.

what we have seen in terms of tangible effects on the land, people, and natural resources, leaves no room for doubt that Israel's deliberate attacks on the environment in southern Lebanon constitute systematic act of ecocide. The severe and widespread losses were not limited to the environmental and agricultural infrastructure, but also affected people's connection to their land, their memories, and their livelihoods, turning nature into a theater of devastation and displacement in the long term.

## Kfarkela as a Case Study

After reviewing the extent of environmental and agricultural destruction resulting from ecocide, and identifying the tools and mechanisms that contributed to this destruction, we highlight the town of Kfarkela as a case study of southern border villages. Based on an examination of the lives of Kfarkela's residents, their relationship to their land, and their agricultural practices before the war,<sup>87</sup> Kfarkela reveals systematic mechanisms of ecocide at the local level, clearly highlighting how bombing, burning, and bulldozing policies intersect with measures that prevent residents from returning to their villages. From this perspective, Kfarkela reflects the direct relationship between systematic military operations and the long-term socio-economic and environmental impact on the land and its inhabitants.

### About Kfarkela before the War

Kfarkela is a southern border town "fenced with olive trees" located in the Marjayoun district of the Nabatieh governorate.<sup>88</sup> It covers an area of approximately 5,000 dunams (5 km<sup>2</sup>). It is located on a slope facing Palestine and considered the closest to the border<sup>89</sup> without any terrain obstacles.<sup>90</sup> Its

land and houses are separated from the Metula settlement to the east by the Israeli-built separation wall after the liberation of the South in 2000, once the last Israeli soldier had withdrawn through Fatima's Gate in Kfarkela on 25 May. Israel completed the wall's expansion after the July 2006 war.<sup>91</sup>

87 Some of the information here is based on the workshop, "Environmental Genocide in Kfarkela".

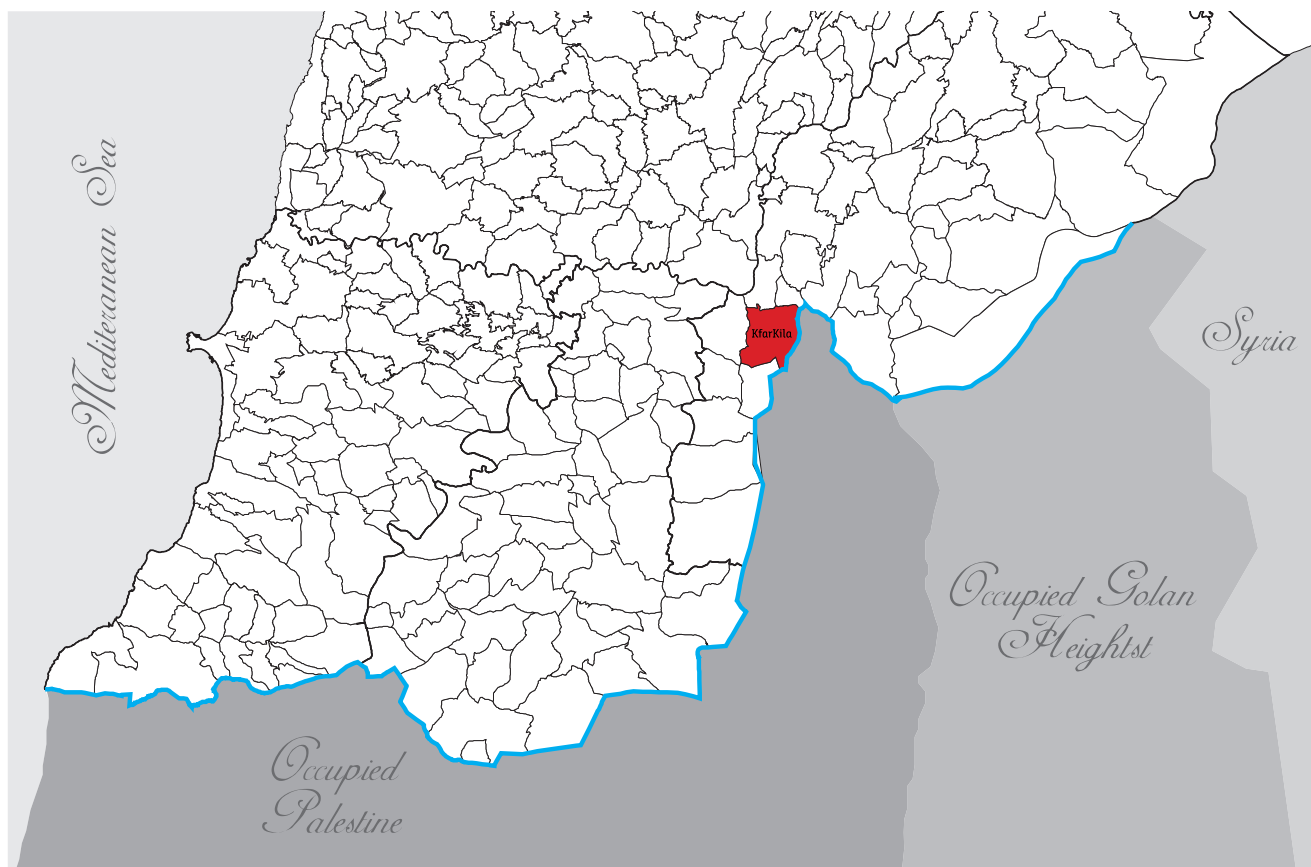
88 Saad, "Kfarkela: The Village of the Bride".

89 Less than a kilometer from the Israeli town of Metula.

90 Kamel Jaber, "Kfarkela Has Been Paying the Price for Its Location on the Border since 1948" [Arabic], Manateq, 22 August 2024, <https://tinyurl.com/mrttfc43> [Jaber, "Kfarkela Has Been Paying the Price"]

91 Ahmed Muntash, "Kfarkela, the Border Town in Southern Lebanon, Is One of the Most Devastated Towns... and Returning to Normal Life Is a 'Long Story'" [Arabic], An-Nahar, 27 February 2025, <https://tinyurl.com/yzdtfpx7> [Muntash, "Kfarkela, the Border Town"]

Figure 7: Location of the Town of Kfarkela



Kfarkela can only be understood by looking at its distinctive terrain and slopes, which were fundamental to the town's formation and growth into the shape we know today. It is located in the bosom of Mount Al-Owaidah, starting north of El-Aazziye hill, which borders Deir Mimas. It runs westward in a straight line to the Shakhroub hill, bordering the town of Taybeh, and reaches eastward to the Dhour hill, meeting the Palestinian Galilee mountain range. It curves toward the Sarda hill and the Metula settlement, ending southward at the Qaboua and Wazani hills, reaching the town of Adaysa. Thus, Kfarkela (the old village) was originally established in an elevated area where water springs are concentrated. The town gradually expanded towards the relatively flat area adjacent to the border.

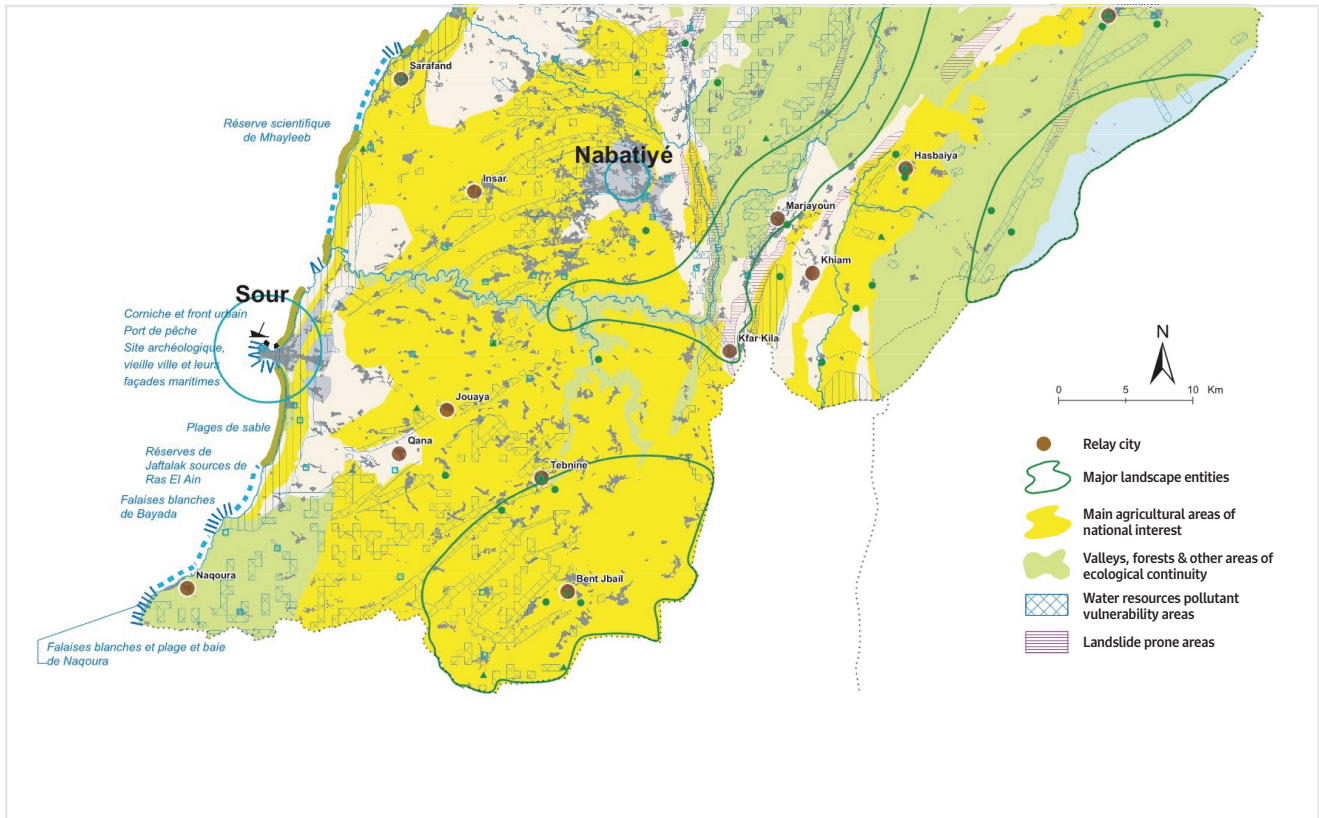
Kfarkela has a population of approximately 5,500 in both summer and winter.<sup>92</sup> Some of the population works in agriculture, while others work in concrete

carpentry and construction, freelance and craft professions, as well as in the government sector (security forces or the army).

The town is characterized by its red soil, with green spaces covering more than 70% of its area, and most of its land (4,500 dunams) is suitable for agriculture. According to NPMPLT, Kfarkela is a rural area that constitutes one of 12 relay cities in the Nabatieh governorate. Its western part also includes a large area of agricultural wealth of national importance.

92 Interview with the mayor of Kfarkela.

Figure 8: Classification of the Town of Kfarkela and Its Land Uses



Source: Decree 2366/2009, “National Physical Master Plan for the Lebanese Territory (NPMPLT)”.

In the agricultural sector, olives, grains (wheat), citrus and other fruits, and vegetables are the most commonly grown products in this region. Olive cultivation is widespread throughout Kfarkela and within its property boundaries. Other crops are grown in Kham Plain (or Marjayoun Plain), where ownership is divided between private and public property,<sup>93</sup> waqf, and Jewish Agency property.<sup>94</sup> As for agriculture within Kfarkela, residents usually build their two- to three-story houses on large plots of land outside the old village, using the remaining space to grow olives and vegetables. Next to each house, there is a pomegranate tree, a lemon tree,

and an “Israeli” walnut tree – or pecan tree, as the locals call it. This pattern of construction and agriculture is due to the fact that the area is rural and unplanned, even though Kfarkela has been a surveyed town since around 2006.<sup>95</sup>

Kfarkela oil is one of the finest types of olive oil, as is the oil from its neighbor Deir Mimas, which was ranked the best oil in the world in 2023.<sup>96</sup> This is due to environmental factors, such as soil type, climate, water, etc. Olive cultivation spread in the town to replace fig tree cultivation when its inhabitants began to migrate to Africa, as the olive tree is a perennial tree that does not require constant care, unlike the fig tree. Kfarkela also produces a range

93 According to a farmer who pays US\$20 per year for each dunam (1,000 m<sup>2</sup>) to use state land for agriculture.

94 We monitored 90 properties owned by the Jewish Colonial Palestine Company within the Kham real estate area, which shows Israel’s historical greed for this agricultural plain. Documents from French archives in 1934 show that the Palestinian Jewish Colonial Society acquired an estimated 380 hectares in Kfarkela, Ibl, Matal (Lebanese side), Abal al-Qamh, and Kham.

95 The building regulations in unregulated and unplanned rural areas are as follows: Twenty percent surface area, 0.4 floor area ratio, 7m height, 750m<sup>2</sup> buildable area, and 1200m<sup>2</sup> plot size.

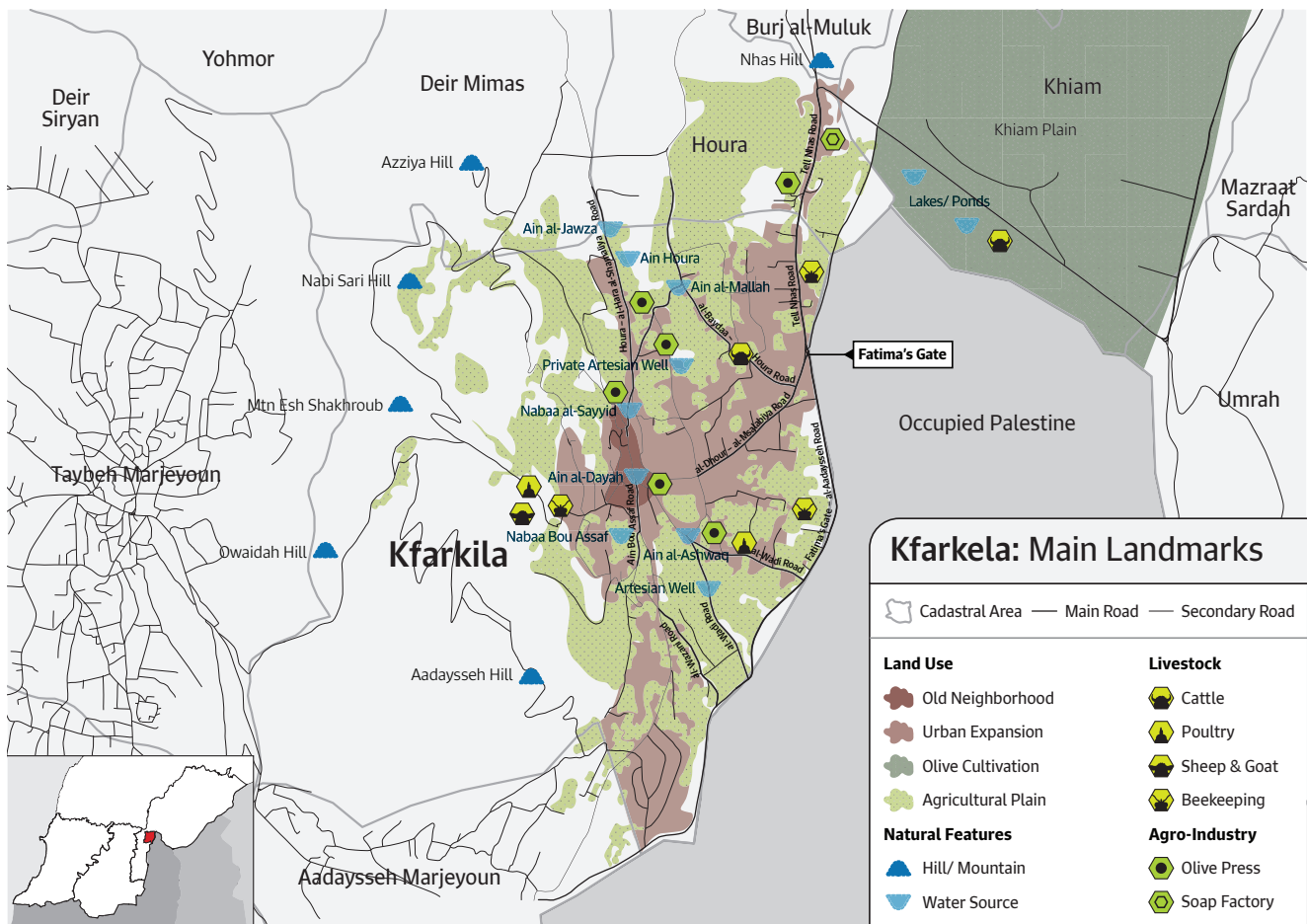
96 Farah Nasour, “Lebanese Woman Wins Gold Medal for ‘Best Olive Oil of 2023’ in New York... ‘Deir Mimas Al-Asal’” [Arabic], An-Nahar, 11 April 2023, <https://tinyurl.com/zbbtm3ca>

of agricultural and industrial products, including soap, bulgur, wheat flour, freekeh, and za'atar. The residents of Kfarkela raise cattle, sheep, goats, and bees. They produce milk daily, which is partly consumed by the town's residents, and partly sold to neighboring towns, especially Nabatieh. The town was almost self-sufficient in terms of agriculture and economy.

Kfarkela is also known for its many crafts, commercial, and industrial activities.<sup>97</sup> It established commercial relations, attracting buyers from neighboring villages to which it sells most of its agricultural and industrial products every Saturday at the town market.

Water was the basis for the town's establishment, as it contains an underground water reservoir and river that feed into the Litani river. The old town has six water springs and relies on an artesian well and the Taybeh project for its water supply. However, according to NPMPLT, Kfarkela is an area with fragile water resources, and its water was already at risk before the war began, which must be protected from widespread agricultural pollution in the region. Kfarkela also suffers from several other environmental problems, including the absence of a public sewage network, poor water, the spread of random artesian wells, and poor solid waste management – the absence of a landfill means the waste is collected and incinerated.

Figure 9: Key Landmarks in The Town of Kfarkela



97 The town has marble, tile, and cement factories, as well as the Jumaa Trading Company.

## Environmental and Agricultural Repercussions of War on Kfarkela and Its Farmers

During the 33-day July 2006 war, the enemy was unable to occupy Kfarkela. Instead, 150 of its residents, both men and women, remained there with resistance fighters: baking bread for them, supplying them with house-hold provisions, and gathering fruit and vegetables from their gardens. Kfarkela did not suffer any damage because it was outside the target zone.<sup>98</sup>

In the recent war, however, the first Israeli air strike after the outbreak of war was directed at Kfarkela, preceded by artillery bombardment and heavy machine gun fire. Israeli air raids and continuous artillery shelling were concentrated on Kfarkela. The enemy carried out systematic aggression against the town, affecting all its neighborhoods, hills, orchards, and fields, no corner was spared. According to our monitoring of Israeli attacks on Lebanon,<sup>99</sup> as of 2 January 2025 Kfarkela was subjected to 338 days of bombardment, including 131 days of air raids, 130 days of artillery shelling, 16 days of flares, 26 days of phosphorus, 44 days of detonations from manually-planted explosives, 24 days of weapons sweeping, five days of bulldozing, 13 days of ground incursions, and four days of burning. Kfarkela was the third most targeted town in the Marjayoun district after Khiam and Houla, and the fifth most targeted in Lebanon.<sup>100</sup> Forests, woodlands, cemeteries, poultry farms, and agricultural areas were targeted. In addition, Kfarkela was subjected to the strongest attack on the evening of 13 August 2024, when Israeli aircraft raided the town using three heavy bunker-busting bombs that penetrated fortifications, the explosions of which were heard in various areas of the South.<sup>101</sup>

This forced about 500 families who were permanent residents of the town to flee in stages<sup>102</sup> and scatter among various displacement areas, under a barrage of almost daily shelling and attacks. Kfarkela's intensified raids affected all movement, to the point

where it became impossible to stay there. This is something that has never been witnessed in its history: total and collective displacement. By the end of June 2025, only one person had returned to the town because his house was located next to a UN Interim Force in Lebanon (UNIFIL) base, and the town's imam had also returned to live there. By early September, six families had returned to Kfarkela permanently,<sup>103</sup> while others checked on their property and the ruins of their homes from time to time before returning to their places of displacement.

As of 16 December 2024, 72% of buildings in Kfarkela had been completely destroyed, covering an area of 251,594m<sup>2</sup>, and 13% of buildings had been partially damaged.<sup>104</sup> Kfarkela was among the five most damaged villages in Marjayoun. According to preliminary figures from the mayor in June 2025, 85% of the town was destroyed. and of the 1,450 buildings, only 280-290 remain standing, including 50-60 buildings that were damaged to the point of requiring demolition. Those that were not completely destroyed were severely damaged. Other figures from August 2025, based on interviews with mayors in the absence of official statistics, showed that the number of completely destroyed units in Kfarkela was 2,100 (87.5%), while 300 units were partially destroyed.<sup>105</sup> The latest statistics from the NCRS show that the destruction rate reached 88% in Kfarkela during the war and after the ceasefire until 3 November 2025.<sup>106</sup> It was clear that the rate of destruction increased after the ceasefire came into effect at dawn on 27 November 2024 (26.5% of buildings were destroyed since the ceasefire). According to Amnesty International, Israeli forces continued to destroy parts of Kfarkela until late January 2025.<sup>107</sup>

98 Ghaleb Sarhan, "About Kfarkela... and its sisters" [Arabic], Khiyam, 16 October 2024, <https://khiyam.com/news/article.php?articleID=50025>

99 Public Works Studio, "Israeli Attacks on Lebanon".

100 NCRS and NCNE, Israeli Offensive on Lebanon.

101 Jaber, "Kfarkela Has Been Paying the Price".

102 Jaber, "Kfarkela Has Been Paying the Price".

103 Firas Khalifa, "Residents of Frontline Villages: Bring in the State and Take Away Even the Knives!" [Arabic], Khiyam, 10 September 2025, <https://khiyam.com/news/article.php?articleID=52180>

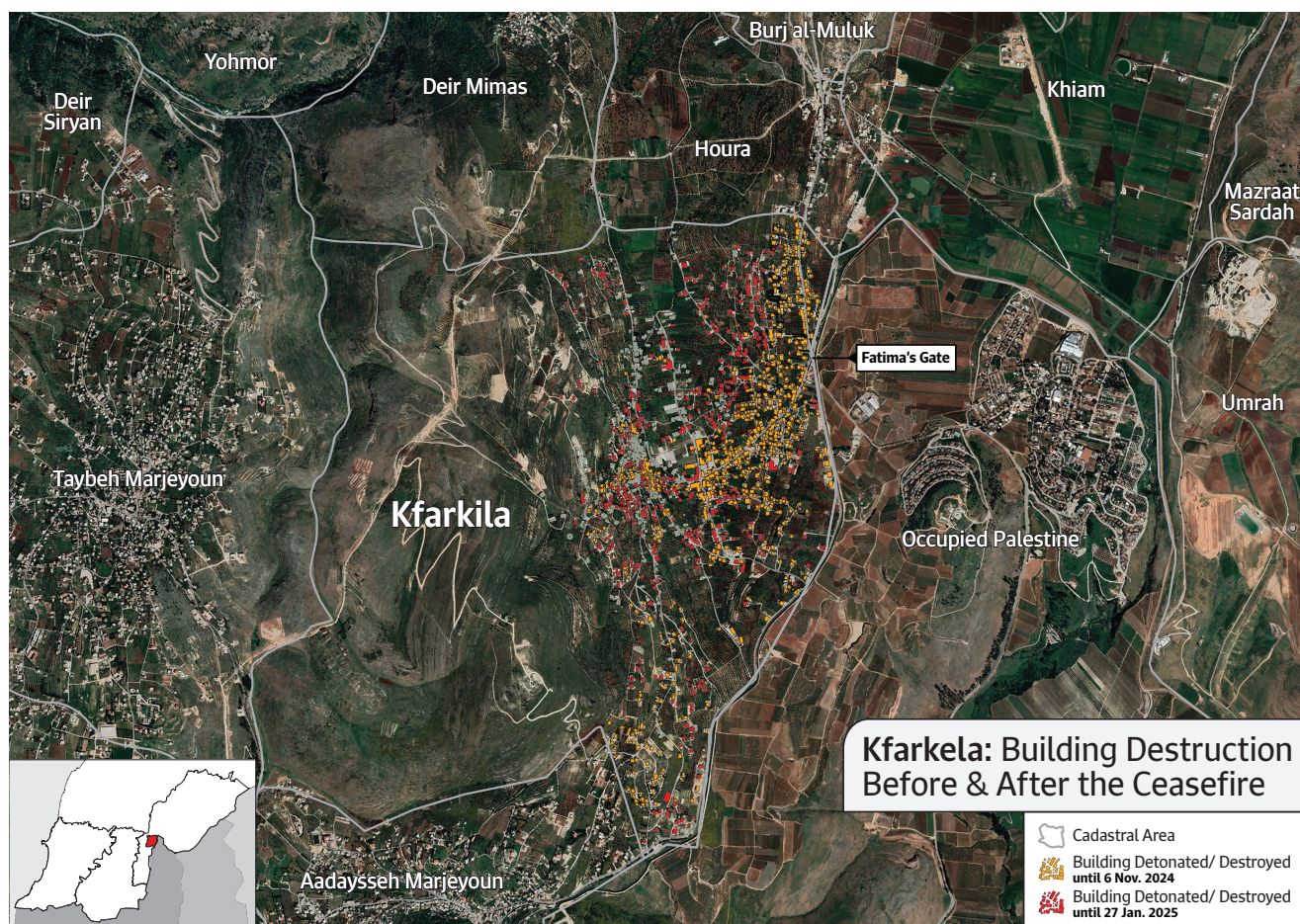
104 National Center for Natural Hazards & Early Warning (NCNE), "Damage Assessment: Gaza of Marjaayoun", Facebook, 13 January 2025, <https://tinyurl.com/spwrm5ju>

105 Manateq (@manateq\_), "In Numbers: Residential Housing Units Destroyed in 19 Border Villages" [Arabic], Instagram post, 27 August 2025, [https://www.instagram.com/p/DN3EpUn2Gus/?img\\_index=1](https://www.instagram.com/p/DN3EpUn2Gus/?img_index=1)

106 The Legal Agenda (@legal.agenda), "Damage in Southern Border Villages during the War and after the Ceasefire until 3/11/2025" [Arabic], Instagram post, 13 November 2025, <https://tinyurl.com/3r3eb2nd>

107 Amnesty International, Nowhere to Return.

Figure 10: Buildings Destroyed in Kfarkela between 4 November 2024 and 27 January 2025



Consequently, the destruction affected all homes, shops, and public and private facilities in Kfarkela following, in many cases, their systematic looting.<sup>108</sup> All public services in the town were also affected. Huge bulldozers cleared main and internal roads and infrastructure, including water and electricity networks.

As for the agricultural sector, aggressive escalation meant farmers could no longer access their land, which had been directly targeted from the outset, leaving them unable to harvest any of the season's crops, and trees began to wither. The land was within range of artillery and heavy machine guns, which targeted farmers whenever they went to water or tend to their orchards.<sup>109</sup> As the war expanded, the agricultural sector suffered in the

absence of residents. Crops and olive groves were bulldozed, some were burned, and others were uprooted.<sup>110</sup> According to Amnesty International, more than 133 acres (54 hectares) of orchards were severely damaged or destroyed in Kfarkela between 26 September 2024 and 27 January 2025.<sup>111</sup>

Beekeepers suffered heavy losses. Beehives were decimated. Bird breeders lost their birds and were forced to sell them due to displacement or lack of transport. Agricultural tools were stolen; olive presses, barns, and warehouses were burned; and animal feed, equipment, and agricultural machinery

108 Muntash, "Kfarkela, the Border Town".

109 Jaber, "Kfarkela Has Been Paying the Price".

110 Olive trees in the occupied buffer zone were uprooted and burned in the rest of Kfarkela. Olive trees are resistant to drought, disease, and fire, and their root system is capable of regenerating the tree even if its above-ground structure is destroyed. Therefore, the Israelis deliberately uproot the olive trees to ensure that they do not regenerate.

111 Amnesty International, Nowhere to Return.

were lost. As a result, farmers and townspeople have lost several seasons since 2023. These losses continue into the future, as farmers are unable to access their land, whether within the town or in the Marj area. If trees are replanted today, especially olive trees, they will need at least 10 years to produce again. There is also no compensation for uprooted trees. Most farmers are now out of work and have no interests, given the difficulty in securing land in other areas. This does not account for the damage to the interests they have built up over the years, the loss of their equipment, and the dearth of capital to start over. In this context, farmers in border villages, including Kfarkela, are allowed to harvest during the 2025 olive season, but only with prior permits and security restrictions. However, this season was poor, especially under such heavy tree loss.<sup>112</sup>

Due to bulldozing, the open spaces became boundless, and the land became a single mass with no landmarks separating it, to the extent that people could not locate their homes and plots when visiting the area. They now need to redraw boundaries. The bulldozing also destroyed infrastructure, water and electricity networks, and contributed to the destruction of sewage pits, causing them to leak and contaminate the groundwater.

Kfarkela ranked second in terms of phosphorus targeting and fourth in terms of fires caused by Israeli attacks. The mayor of Kfarkela estimates that during a white phosphorus attack in November 2023, approximately 50-70% of the population was still living there.<sup>113</sup> Phosphorus bombing in Kfarkela was documented for more than 26 days, with 92% concentrated between 8 October 2023 and 24 September 2024 (date of escalation). After the Israeli army entered Lebanon, the use of phosphorus declined. Analyses of eight sites, including agricultural land, residential areas, and fields, showed the presence of phosphorus residues in their non-reactive form in nature, posing a permanent threat to the population for up to 10

years.<sup>114</sup> Phosphorus directly burned agricultural crops and damaged homes.

However, it is still unclear to residents and farmers whether their land had been bombarded with white phosphorus, what its effects are, how badly the soil had been damaged, and how to treat it. The state has not yet taken soil samples and farmers are unable to inspect their land due to the security situation. As for livestock owners, some farms in the Marj area were directly exposed to white phosphorus, resulting in the death or direct harm to cows. For the cows that did not die, some medium-term repercussions appeared: high rates of deformity and death in livestock fetuses. Farmers did not receive any guidance on how to deal with their land, crops, or livestock, especially those exposed to white phosphorus.

Large parts of Kfarkela lands are adjacent to the separation wall and directly overlook the Metula settlement, stretching from the Tal al-Nahhas triangle to Adaysa. It remains under occupation at a distance of 300-500 meters.<sup>115</sup> No one is allowed to approach these areas, including the international force and the Lebanese army. The buildings and orchards there have been completely demolished, and the main road adjacent to the strip has been bulldozed and turned into a field of rubble and trenches. The Israelis continue to enter and exit the area behind the wall, stationing themselves at three mobile checkpoints inside Lebanese territory, which are different from the five points reported in the media. The town has also been isolated from Adaysa and the other villages in the border area in the district of Bint Jbeil. Landfills have blocked agricultural roads and residential passages and engulfed vast areas of land. For the people of Kfarkela, the war is not yet over. Their entire town remains a buffer zone where they are prevented from staying for long periods of time. Residents and

112 Sukaina Samra, "Olive Harvest in the South under Prior Permits and Security Restrictions" [Arabic], Manateq, 15 October 2025, <https://tinyurl.com/2xm6uj72>; Nagham Rabih, "Reconstruction and Real Estate Problems: The Need to Redraw Boundaries from Scratch!" [Arabic], Al-Modon, March 2025, <https://tinyurl.com/p8h3wxch>

113 Human Rights Watch, Lebanon: Israel's White Phosphorus Use Risks Civilian Harm, 5 June 2024, <https://tinyurl.com/4ytse6t8>

114 According to a preliminary, unpublished report in January 2025 by a local environmental association that conducted laboratory tests on eight samples taken from different locations in the town. The evidence shows that white phosphorus residue remains in the environment in its highly toxic elemental form (P4), demonstrating long-term environmental persistence. This, combined with its extreme toxicity to humans, wildlife, and ecosystems, is more consistent with the characteristics of chemical weapons than with those of incendiary or smoke devices. Evidence confirms the ability of white phosphorus to cause prolonged contamination, posing significant risk to soil, water, and air quality, as well as to the health of people exposed to its residues.

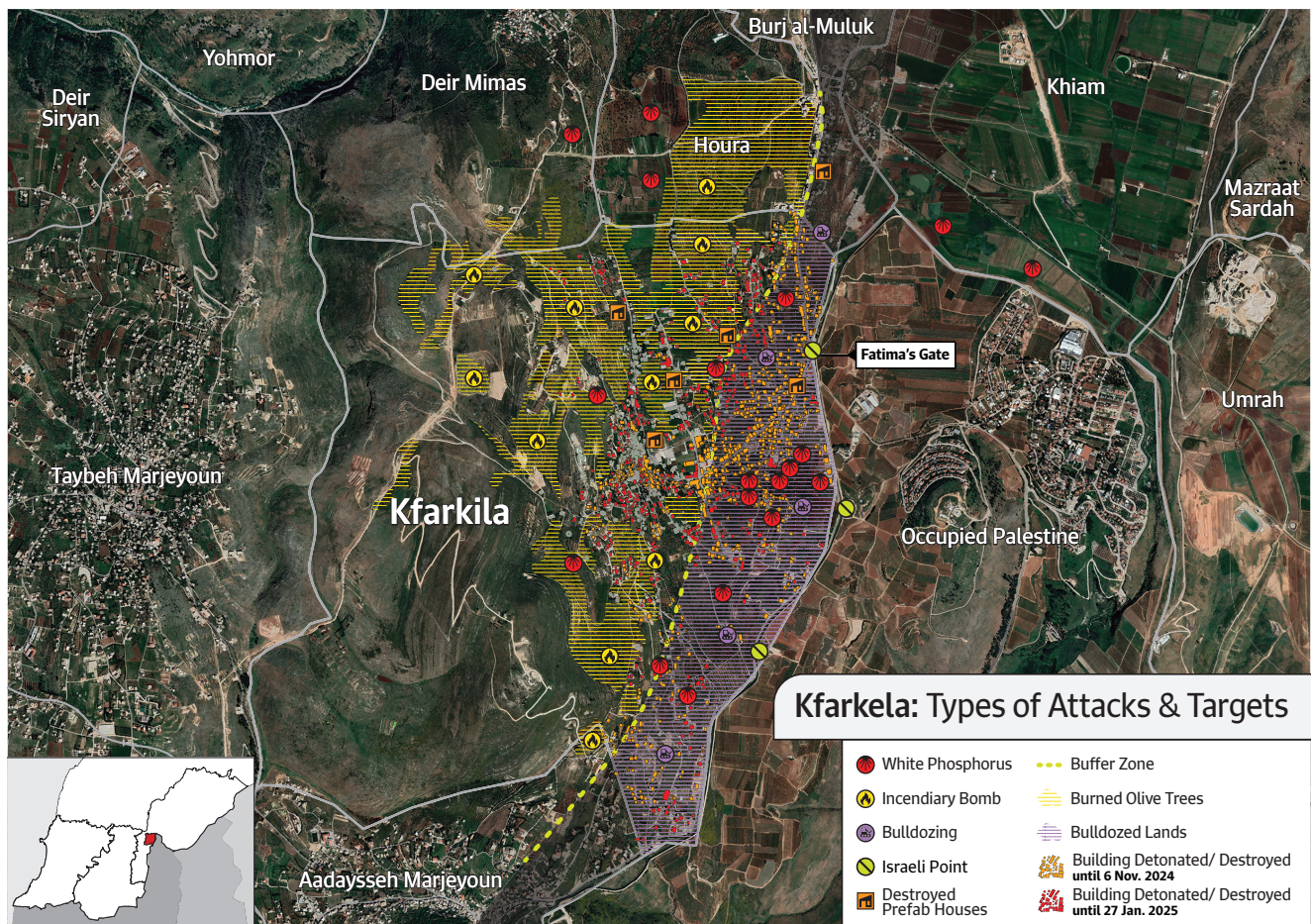
115 Amnesty International, Nowhere to Return.

farmers are targeted with sound bombs and pursued by drones when they visit the town, their land, or the ruins of their homes, even for short visits.

Since the ceasefire, the occupation has been monitoring how the town is recovering. Israel targets gatherings in the square and at Fatima's Gate. The area has been continuously subjected to attacks with sound bombs and explosive devices, targeting prefabricated structures that some residents brought in to use as homes or shops, and anyone who approaches the separation wall is exposed to bombs. The occupation has targeted a number of prefabs, including one built by the South Council

to serve residents and the town; one belonging to an engineer near the gas station; and a third built by its owner from the remains of his house. This was not a random act, but rather a message to prevent any attempt to rebuild life. The occupation does not begin shelling immediately once a house has been erected. It waits until the owners have finished furnishing and decorating the house, and then strikes, prompting residents to remove bulldozers and machinery they had brought in from town. An association working in disasters and wars contacted the mayor and agreed with him to install about 70 prefabricated houses, then came back and apologized for the project.<sup>116</sup>

Figure 11: Forms of Destruction and Targeting in the Town of Kfarkela



The security situation is currently the main obstacle before residents can return, along with the lack of water, electricity, and infrastructure necessary

for resuming life. Officially, the removal of rubble has not yet begun, as the South Council has not yet started its survey, but has opened the main

116 Interview with the mayor of Kfar Kila.

roads. Farmers have filled out MoA forms regarding agricultural damage, with no actual results so far. The Jihad al-Binaa Foundation has conducted surveys and previously secured a quantity of feed for livestock breeders, but it was not sufficient. The Qard al-Hassan Foundation has provided furniture and housing allowances for one year.

The situation in Kfarkela provides an in-depth case study of the environmental and agricultural destruction that has befallen southern villages, making the town a model that illustrates the complexity of implementing ecocide policy mechanisms and, more broadly, localized spacio-cide. Kfarkela also represents a prominent case of border villages where multiple military tools were used, causing deeper and more widespread levels of destruction compared to other southern villages. The effects of ecocide and spacio-cide in Kfarkela went beyond direct physical ruin: it affected the local economy, destroyed agricultural practices, drove farmers from their land, and undermined social ties. As a result, the town's population fractured into various areas, causing long-term effects that could last for decades. These processes clearly intersect with systematic policies aimed at preventing residents returning and hindering reconstruction, through establishing buffer zones, tightening movement controls, and threatening residents with direct violence should they attempt to return. This has turned temporary displacement into a real threat of permanent displacement, especially for young people who have already begun to establish new lives in their current surroundings. Experience from previous wars confirms that displacement coupled with damage to agricultural land often results in land abandonment, which results in conversion to unused areas due to reclamation difficulties or exposure to investor acquisition (local and foreign).

The current situation shows that the absence of any official support or documentation, coupled with a lack of guidance and fair compensation, increases displaced population vulnerability. Farmers are left to their fate amid continuing security threats and de facto occupation of their land. This poses serious challenges to environmental and agricultural recovery and reconstruction efforts, given that the restoration of agricultural practices is a fundamental pillar for ensuring population return and their ability to remain on their land, underscoring the centrality of agriculture and the environment in any path to recovery and reconstruction.

## Forms of Environmental Response

The situation in Kfarkela is representative of what border towns and the South have experienced in terms of unprecedented levels of ecocide and spacio-cide, accompanied by an almost complete absence of support, guidance, and compensation frameworks. Hence, there is a need to understand and present a detailed overview of the current response at the official level and of international organizations, local associations, and community initiatives. But first, we will present the experience following the July 2006 war, particularly in terms of the official response to the war's impact on the environment.

### Lessons Learned from the Environmental and Legal Response after the July 2006 War

The analysis of Lebanon's environmental response and international legal path after the July 2006 war aims to highlight effective intervention models that can be built upon, as well as failures that contributed to hindering environmental and agricultural recovery, which must be avoided today. We therefore revisit the 2006 experience as a reference point for a deeper understanding of the gap between the extent of the damage and the nature of the policies and responses adopted, contributing to the formulation of current recommendations for possible paths to recovery and the risks of continuing along the same lines.

#### Conducting Early and Comprehensive Environmental Assessments

The experience following the July 2006 war demonstrated the importance of early environmental assessment as a fundamental step in understanding the extent of the damage and determining priorities for intervention. The cessation of hostilities at that time, unlike the current situation, allowed for field surveys and assessments to be conducted without immediate security constraints. However,

the speed with which the MoE commissioned the UN Environment Programme (UNEP) to conduct a post-war environmental assessment in Lebanon<sup>117</sup> cannot be separated from the limited technical capacity of the Lebanese state – it was a complex environmental crisis, particularly with regard to widespread marine pollution caused by oil spills, war debris, and soil and water pollution left behind by the attacks.<sup>118</sup> This not only produced reliable scientific knowledge, but also laid the foundation for cooperation that was later reflected in the MoE’s plan to address oil pollution and manage its repercussions, based on the results of this assessment.<sup>119</sup> The report called for a human- and environment-centered recovery approach based on continuous monitoring, effective management of debris and hazardous waste, rehabilitation of coastal and agricultural areas, and strengthening of environmental governance and institutional coordination to ensure a comprehensive and sustainable response.

In addition, FAO issued a report addressing damage to agriculture and livelihoods.<sup>120</sup> It concluded that national mechanisms for managing environmental and agricultural compensation must be activated to guarantee the rights of those affected and promote accountability.<sup>121</sup> It showed that recovery requires urgent interventions covering agriculture, livestock, forests, and fisheries, with the importance of coordination between official bodies, international agencies, and local organizations.<sup>122</sup> A more comprehensive report on the economic and environmental impact of the war was also published by the World Bank on behalf of the MoE, which in turn served as a technical reference used in financing, litigation, and compensation processes.<sup>123</sup>

However, despite their importance, these numerous reports have not been translated into a comprehensive national framework capable of consolidating data and linking environmental, agricultural, and economic impacts within an official comprehensive vision for recovery. A comparison with the current situation highlights that the main challenge today is not necessarily the absence of assessments, but rather the absence of an active government role to coordinate between knowledge producers and transform the various data into a unified national assessment that forms the basis for planning, accountability, and rights claims. The 2006 experience confirms that the success of environmental assessment is not linked solely to the availability of international expertise, but to the state’s ability to act as a coordinator and guarantor of knowledge integration and its translation into implementable public policies.

### **Mobilizing International Technical, Institutional, and Financial Support**

The environmental and sectoral assessments mentioned above provided a key entry point for mobilizing broad international support, including technical, institutional, and financial dimensions, and did not remain confined to a technical framework. The availability of reliable reports issued by international bodies helped to strengthen donor confidence and guide their interventions, whether in terms of addressing environmental pollution, supporting the agricultural sector, or rehabilitating damaged infrastructure. The government helped oversee the funds that Lebanon attracted at a donor conference held in Stockholm in the Lebanese Recovery Fund (LRF).<sup>124</sup> However, this mobilization also revealed a heavy reliance on external initiatives, given the limited national frameworks capable of absorbing and directing this support within a comprehensive recovery plan. Interventions were scattered among isolated projects and short-term programs, often linked more to donor priorities than to an integrated national vision for environmental and agricultural recovery. Weak institutional coordination also resulted in duplication, while other aspects were neglected, limiting the cumulative impact of interventions in

117 United Nations Environment Programme (UNEP), Lebanon: Post-Conflict Environmental Assessment, 2007, <https://tinyurl.com/bdfdkrz8> [UNEP, Lebanon: Post-Conflict Environmental Assessment].

118 UNEP, Lebanon: Post-Conflict Environmental Assessment.

119 Interview conducted by researcher with former 2006 Minister of Environment Yaacoub Sarraf, 4 June 2025.

120 UN Food and Agriculture Organization (FAO), Damage and Early Recovery Needs Assessment of Agriculture, Fisheries and Forestry, November 2006, <https://tinyurl.com/ycxvxsan> [FAO, Damage and Early Recovery]

121 FAO, Damage and Early Recovery.

122 FAO, Damage and Early Recovery.

123 World Bank, Republic of Lebanon: Economic Assessment of Environmental Degradation Due to July 2006 Hostilities (Report No. 39787-LB), 11 October 2007, <https://tinyurl.com/9r59wjcb>

124 Fuad Siniora, “Lebanon’s Incurred Losses as a Result of the July Aggression and How the Crisis Was Managed” [Arabic], accessed January 2026, <https://www.fuadsiniora.com/ar/node/1710> [Siniora, “Lebanon’s Incurred Losses”]

the medium and long term.

This experience highlights that mobilizing international support, while necessary in a post-war context, cannot replace the role of the state. Rather, it requires an effective national framework that sets priorities, regulates funding channels, and ensures that interventions are aligned with the needs of affected communities. International support is most effective when it is integrated into a clear public policy, rather than reduced to ad hoc responses that address the immediate impact without addressing the underlying causes of vulnerability that exacerbated the consequences of the war.

### **Addressing Oil Spills and Environmental Litigation**

Fuel tanks were bombed at the Jiyeh plant during the July 2006 war that resulted in an oil spill. This was one of the most serious marine environmental disasters in Lebanon and across the region, with pollution spreading along the Lebanese coast for over 150km, contaminating more than 70 marine and coastal sites. Its impact extended beyond national borders, reaching the Syrian coast.<sup>125</sup> This geographical extent gave the disaster a regional dimension and reinforced the need for a coordinated international response.

In response to this disaster, the Lebanese MoE sought extensive international support, involving more than 31 countries and a large number of international and local organizations, most notably the Regional Marine Pollution Emergency Response Center for the Mediterranean Sea (REMPEC). Given limited resources, a two-phase response plan was adopted. The first phase involved cleaning up around 70 polluted sites, while the second phase focused on conducting comprehensive surveys, mapping the affected sites and prioritizing interventions in coordination with donors.<sup>126</sup> Interventions also included managing waste generated by cleanup operations, which were stored and treated in secure locations. Subsequent surveys showed that the remaining contamination had been reduced to about 4%, reflecting a positive impact of

implemented environmental interventions.<sup>127</sup>

Institutionally, this response contributed to the development of new coordination mechanisms, particularly through cooperation with the International Maritime Organization (IMO), a key partner in mobilizing technical and logistical support.<sup>128</sup> This process culminated in an international conference held in Greece on 6 September 2006, which brought together donors and affected countries, as well as UN organizations. It resulted in adopting a damage mitigation plan prepared by the MoE, which served as a roadmap for the response. It enabled Lebanon to obtain specialized equipment and financial grants, as well as establishing an independent coordinating entity to follow up on the plan's implementation, known as the Oil Spill Contingency Coordination Center (OSOCC).<sup>129</sup>

In parallel with the technical response, the Lebanese state took a political decision to launch international litigation to claim environmental rights. In this lawsuit, Lebanon relied on the World Bank's comprehensive environmental impact assessment report, which covered the oil spill and use of phosphorus and cluster bombs. Lebanon pursued a multilateral legal path that included UNEP, the IMO, the League of Arab States, and groups of developing countries (G70, G40, G20), culminating in the UN General Assembly (UNGA). The Lebanese government played a pivotal role, particularly the MoE, which coordinated the preparation technically, in cooperation with international bodies, the Ministry of Foreign Affairs (MoFA), and diplomatic missions that followed up and pursued filing this lawsuit.<sup>130</sup> UNGA adopted this process which culminated in a 2014 resolution calling on Israel to pay US\$856.4 million in compensation for the damage caused by the oil spill. This demand was reaffirmed in a subsequent resolution in 2015. Israel has yet to comply with the payment.<sup>131</sup>

125 Ministry of Environment (MoE), "The Oil Spill Disaster" [Arabic], Lebanese Republic, accessed December 2025, <https://tinyurl.com/6rjkesy5> [MoE, "The Oil Spill Disaster"]

126 MoE, "The Oil Spill Disaster".

127 MoE, "The Oil Spill Disaster".

128 Interview conducted by the researcher with former Minister of Environment Yacoub Sarraf in 2006, June 4, 2025.

129 Interview conducted by the researcher with former 2006 Minister of Environment Yaacoub Sarraf, June 4, 2025.

130 Interview conducted by the researcher with former 2006 Minister of Environment Yaacoub Sarraf, June 4, 2025.

131 United Nations General Assembly, "Resolution Adopted by the General Assembly on 19 December 2014: 69/212. Oil Slick on Lebanese Shores", 28 January 2015, <https://docs.un.org/en/A/RES/69/212>

This experience stands out as a model that combines a technical environmental response with the construction of an international legal case and the establishment of Lebanon's right to environmental compensation at the international level, despite its limited practical results. This precedent highlights the importance of systematic documentation and the integration of political decision-making with technical and diplomatic efforts as essential elements of any future path to claiming environmental rights and promoting environmental and social justice.

### **Absence of a National Framework for Environmental and Agricultural Compensation**

It is important to note that, on paper, agricultural and environmental issues were present, but they were marginalized in terms of funding and implementation. At the time, reconstruction efforts focused on infrastructure and rebuilding homes on the one hand, and on the other addressing the oil spill on the environmental side. Meanwhile, the issue of compensation and agricultural and environmental recovery was neglected, according to Yaqoub Al-Sarraf, the then MoE. There was also a lack of a clear compensation mechanism for those affected in environmental and agricultural sectors, and no official study was conducted on the long-term effects of phosphorus use, despite its documented use.<sup>132</sup>

The 2006 war had devastating effects on the agricultural sector, and the environment in general. Despite surveys conducted by various entities, including local entities such as the General Federation of Agricultural Unions, the state refrained from paying compensation to farmers.<sup>133</sup> The president of the Farmers' Association confirmed that during the July 2006 war, there was talk of compensation for farmers, but the agricultural sector was excluded from financial support at the time.<sup>134</sup>

Consequently, affected farmers and fishermen were forced to face the consequences of this war without

any actual compensation. The extent of the damage to agricultural land, crops, and marine livelihoods was officially recognized, but these losses were not translated into a legal framework that would guarantee justice for those affected. Support was limited to minimal assistance, which deepened the sense of exclusion among these groups and revealed a continuing gap in recovery policies that did not place people and their livelihoods at the heart of the response.

Most of the aid came through international agencies and NGOs, such as FAO, which provided in-kind assistance to support a return to agriculture in the South with symbolic payments that did not cover all affected fishermen and farmers.<sup>135</sup> The Lebanese state did not issue an official program to compensate those affected by significant environmental damage, such as oil pollution or land destruction. International efforts to seek compensation remained focused on diplomacy, such as obtaining UN resolutions against Israel, without a mechanism for implementing local compensation for those affected.

### **Priority Given to Infrastructure Restoration amid Repeated Environmental Failures in Landfill Management**

The recovery process following the July 2006 war saw a clear focus on infrastructure restoration. This focus was reflected in the population's ability to return to their towns and resume their daily lives, underscoring the importance of prioritizing projects that enable the right of return after wars. These projects were implemented as part of a comprehensive program launched by the government at the time, and a specialized unit within the Prime Minister's office coordinated between local and international actors to ensure their effective implementation, drawing on funding attracted by Lebanon.<sup>136</sup>

The war left behind some three million cubic meters of rubble. UNDP contributed to removing debris from 101 southern towns and four sites in the southern suburbs of Beirut, in cooperation with municipalities and the European Civil Protection and

132 Interview conducted by the researcher with former 2006 Minister of Environment Yacoub Sarraf, June 4, 2025.

133 As-Safir, "Demand for Compensation Payments to Farmers" [Arabic], 25 October 2008, <https://archive.assafir.com/ssr/10042198.html>

134 Indira Shoufi, "Lebanon's Agriculture... Victim of War and State Neglect" [Arabic], The New Arab, 6 December 2024, <https://tinyurl.com/3x7rhxps>

135 UN Food and Agriculture Organization (FAO), FAO Achievements in Lebanon 1976-2011, July 2011, <https://tinyurl.com/4y3jc7ep> [FAO, FAO Achievements in Lebanon 1976-2011]

136 Siniora, "Lebanon's Incurred Losses".

Humanitarian Aid Operations (ECHO).<sup>137</sup> However, this rapid response was not accompanied by any national plan for the management of demolition waste and rubble. As a result, millions of cubic meters were disposed of in ill-considered ways on land and at sea, causing environmental degradation and health risks, including an increase in demand for new building materials instead of reusing rubble.<sup>138</sup>

This experience reveals an imbalance in priorities. While infrastructure received intensive funding and support, environmental and agricultural projects were neglected, leaving a gap in sustainable recovery. Farmers and fishermen, whose livelihoods were directly affected by this destruction, did not receive comprehensive support, while limited agricultural rehabilitation and irrigation were carried by international organizations, such as FAO.<sup>139</sup> Therefore, priority should now be given to projects that ensure the return of the population, but these must be balanced with comprehensive support for the environment and agriculture to ensure a sustainable and balanced recovery.

### **Demining Setbacks on Environmental and Agricultural Recovery**

During the July 2006 war, Israeli forces fired around four million cluster munitions, of which nearly one million did not explode. This rendered much of the agricultural land unusable for many years. The Lebanese Mine Action Center (LMAC), in cooperation with the UNDP and local and international associations, and with funding from several donor countries, undertook engineering surveys and explosive ordnance disposal.

Despite these efforts, only 67% of the contaminated land had been cleared by 2024 – the removal of all mines and bombs was scheduled to be completed by the end of 2016.<sup>140</sup> Several factors contributed to this delay, most notably, a lack of funding, Israel's failure to provide accurate maps, and natural

conditions that buried some of the explosives. The number of associations working in this field had also declined, from 45 in 2006 to six in 2024, which has had a negative impact on the speed and effectiveness of agricultural and environmental recovery operations.<sup>141</sup>

Delays in demining and bomb disposal were linked to delays in accessing and making land available, which in turn delayed rehabilitation and reforestation operations and hampered environmental and agricultural recovery. In this context, FAO presented plans to rehabilitate contaminated agricultural land, including providing farmers with high-quality seedlings and fertilizers and repairing irrigation networks.<sup>142</sup> Despite challenges, these efforts have contributed to the gradual reopening of thousands of hectares to the population, in parallel with the launch of local and international initiatives to reforest burned areas, including the FAO's 2008 project on fire management and assessing and rehabilitating damaged forests.<sup>143</sup>

This experience reveals that the lack of national coordination and adequate funding has resulted in a significant slowdown in the restoration of agricultural land and natural areas, despite the availability of plans and international support. Any proposal for environmental and agricultural recovery must integrate early and effective explosive ordnance disposal and land rehabilitation with direct support to farmers to ensure a balanced and sustainable recovery.

In conclusion, the experience following the July 2006 war highlights key lessons: the importance of early environmental assessment, organized international support mobilization, and prioritizing explosive ordnance disposal in recovery plans, linking infrastructure reconstruction with support for environmental and agricultural livelihoods. Conversely, the experience reveals persistent failures, most notably the absence of a comprehensive national compensation framework, weak environmental governance, and fragmented responses due to poor recovery integration. The recurrence of these gaps today reflects a structural crisis in the context of war, and underscores the need to establish mechanisms for accountability and compensation, integrate local communities,

137 UNDP, Rapid Rehabilitation of Key Municipal Infrastructure for Local Service Delivery, 17 October 2013, <https://tinyurl.com/4umxp8r3>

138 Yara Abdelkhalek, Between Rubble Removal and Reconstruction Cement: Will the Israeli Ecocide in Lebanon Continue? [Arabic], Land Policy Observatory: Public Works Studio, 9 May 2025, <https://publicworksstudio.com/between-rubble-removal-and-reconstruction/>

139 FAO, FAO Achievements in Lebanon 1976-2011.

140 Pauline Abou Chakra, "Eighteen Years after the July War... Where Is the Funding for Removing Israeli Mines and Bombs?" [Arabic], Lebanon 24, May 2024, <https://tinyurl.com/mr45ns32> [Abou Chakra, "Eighteen Years after the July War"]

141 Abou Chakra, "Eighteen Years after the July War".

142 - FAO, FAO Achievements in Lebanon 1976-2011.

143 - FAO, FAO Achievements in Lebanon 1976-2011.

and link reconstruction to environmental protection and social justice. Lebanon’s experience in environmental litigation remains a key reference, demonstrating the possibility of combining political decision-making with technical and diplomatic efforts to establish environmental responsibility at the international level, despite limited implementation results. Hence, there is a need today to build on this precedent, not as a finished experiment, but as a path that can be developed to ensure consolidation of environmental rights, enhance opportunities for fair future compensation, and lay a grounded foundation for sustainable and equitable recovery.

## The Current Fragmented Official Response to the Environmental and Agricultural Disaster in the South

Despite the Israeli-inflicted disaster on southern villages, official Lebanese measures to date reveal an almost non-existent, fragmented environmental response that is disproportionate to the scale of the destruction. As of late September 2025, recovery and reconstruction efforts had not yet begun in earnest, and many residents and farmers in southern Lebanon’s towns and villages remain unable to return to what remains of their homes. They continue to wait for justice and compensation. Official measures have been limited to forming committees, launching surveys, issuing statements and reports, and holding conferences. These steps have not translated into effective policies or emergency plans on the ground.

Legislatively, the Law on Exemptions and Building Reconstruction was passed on 17 July 2025. Regardless of its problematic content, the law reduced reconstruction to its material aspect and did not provide a comprehensive approach to reconstruction from a social, economic, and environmental recovery perspective. It did not distinguish between types of destruction, whether resulting from direct bombing, infrastructure destruction, ecocide using white phosphorus, or spacio-cide. This limited the law’s ability to respond

effectively.<sup>144</sup>

The government has repeatedly affirmed in ministerial statements and speeches its commitment to reconstruction and environmental recovery, but so far this has remained rhetorical. Then, in March 2025, it formed a ministerial committee for reconstruction and economic recovery chaired by the Prime Minister. It included the ministers of finance, energy and water, social affairs, communications, public works, transport, and the environment, as well as the Secretary-General of the High Relief Commission, the President of the Council for Development and Reconstruction, and the President of the South Council. In August 2025, this committee outlined its strategy for recovery and reconstruction, which focuses on three parallel tracks: displacement and housing, infrastructure reconstruction, and socio-economic development.<sup>145</sup> It appears that these three tracks do not yet address the issue of border villages that have been systematically destroyed. Despite the MoE’s membership in the committee, the strategy makes no mention of environmental issues or addresses the effects of environmental destruction. The committee’s work also lacks transparency, as it has not yet shared its plan publicly and does not include representatives from those affected, which would ensure their participation in decision-making.

This strategy is funded by grants, loans, and the general budget. Approximately half a billion dollars has been allocated for the first phase of reconstruction, part of which is earmarked for the

144 Public Works Studio, “The Exemptions and Reconstruction Law: Not an Alternative to a Comprehensive National Plan” [Arabic], 24 July 2025, <https://tinyurl.com/yrhym87s>; In a ministerial statement on 15 February 2025, the government emphasized that it would work on all aspects of environmental recovery and rehabilitation, especially in areas that were subjected to Israeli aggression, which burned thousands of hectares of agricultural land, forests, and woodlands, using weapons that caused long-term damage to nature and ecosystems. As part of its reconstruction efforts, environmental considerations will be taken into account, from the treatment of landfills to the adoption of more sustainable reconstruction plans; Lebanon 24, “Full Statement from Prime Minister Nawaf Salam’s Government” [Arabic], 25 February 2025, <https://tinyurl.com/r6jxrehw>

145 National News Agency, “Ministerial Committee for Reconstruction Meets under Salam’s Chairmanship: Strategy Implementation Will Depend on Grants, Loans, and General Budget” [Arabic], 25 August 2025, <https://tinyurl.com/5bb368ad>

revitalization of agricultural areas in the South.<sup>146</sup> Despite the government’s claim that it will rely on the general budget to finance the reconstruction and recovery process, the facts show otherwise. Thus, the 2026 draft budget makes no mention of the consequences of the war, and allocates only 0.5% of the budget to reconstruction,<sup>147</sup> debris removal, and compensation for those affected by the war.<sup>148</sup> This reaffirms that the political authorities in Lebanon are abandoning their responsibility for reconstruction, relying almost entirely on loans and grants to launch any initiative and placing the issue at the mercy of foreign donors, and their agendas and political conditions. This also applies to environmental issues and delays in the actual start of recovery efforts.

A good example of this is the World Bank’s US\$200 million loan to finance the Green Agri-Food Transformation for Economic Recovery (GATE) project, which aims to modernize the agricultural sector, develop rural infrastructure, and support farmers and small businesses. Among its justifications was that it targets all regions in Lebanon, possibly paying special attention to agricultural areas damaged by the recent aggression. This traps Lebanon once again in a debt spiral, under strict conditions that typically prioritize the global market at the expense of local food security, food sovereignty, and natural resources. Therefore, this perpetuates the commodification of agriculture and food and reinforces the dominance of large transnational corporations.<sup>149</sup> There are indications that these funds will not reach small farmers directly, but will mostly go to intermediary institutions or public infrastructure projects, leaving most affected farmers outside any direct support. This is in lieu of pursuing viable alternatives, in light of clear national agricultural strategies.

In the same context, the Lebanon Emergency Assistance Project (LEAP) comes through a US\$250

million World Bank loan to clear rubble and rehabilitate damaged infrastructure, starting with the most densely populated areas. This loan is limited to populated areas, meaning that border villages, which are sparsely populated, will not be among the top priorities for fund disbursement. As a result, the removal of infrastructural rubble and reconstruction in these areas will be delayed, which will, in turn, delay the return of residents, slow down recovery, and increase vulnerability among displaced inhabitants.

MoE issued two reports. The first is an executive guide to sustainable planning for post-war land use,<sup>150</sup> and the second addresses “Sustainable Rubble Management following the 2023-2024 War in Lebanon”.<sup>151</sup> Despite the importance of these reports, they remain theoretical and have yet to address the pressing issues on the ground. This translates, particularly in terms of debris removal, into fundamental problems: lack of coordination between institutions, weak legislative framework, and frail technical capabilities among contracting companies, not to mention health and environmental risks,<sup>152</sup> in addition to financing and infrastructure challenges.

Despite mountains of debris, Lebanon has so far recycled less than 5% of its rubble.<sup>153</sup> Waste and rubble collection companies earn profits based on the amount transported to landfills, which makes them uninterested in recycling. The sector is also dominated by contractors linked to the political class, which makes transparency and accountability virtually non-existent. Contractors do not follow MoE’s guidelines, particularly with regard to handling hazardous materials, and tend to dispose of waste as they see fit, with no compliance checks. There is also no central coordination

146 mtv, “Half a Billion Dollars for Reconstruction... and What Sayed Revealed to mtv” [Arabic], 31 August 2025, <https://tinyurl.com/4d6amf9w>

147 Fouad Bizzi, “The 2026 Budget Proposal: As If the War Never Happened” [Arabic], Al-Hiwar News, 4 September 2025, <https://tinyurl.com/yvpxt4b8>

148 Thirty-one million US dollars, of which US\$25 million was allocated to the South Council and US\$6 million to the High Relief Commission.

149 Amani Baeni, “Legitimate Questions about the World Bank Loan: \$200 Million to Fund the Green Transition Project” [Arabic], The Legal Agenda, 27 June 2025, <https://tinyurl.com/y4kk379d>

150 The guide proposes the adoption of general guidelines as a key tool for unifying scattered efforts and preventing land disputes, environmental degradation, and unregulated construction during reconstruction; Al-Modon, “Ministry of Environment: Guide to Post-War Land Use” [Arabic], 16 September 2025, <https://tinyurl.com/44nzdmmwv>

151 Ministry of Environment, “Sustainable Rubble Management following the 2023-2024 War in Lebanon” (Summary note), Lebanese Republic, September 2025, <https://tinyurl.com/nx3p8wp3>

152 Mahdi Krayim, “Reconstruction: The State is Absent and There Are Doubts about Who Is Responsible for Removing the Rubble” [Arabic], Manateq, 21 July 2025, <https://tinyurl.com/3yn2eyu4> [Krayim, “Reconstruction: The State is Absent”]

153 Shafiq Taher, “The Rubble Crisis in Lebanon: From Demolition to Hope” [Arabic], Al-Modon, 2 August 2025, <https://tinyurl.com/stfsdxap>

between the various actors involved. In many cases, waste is dumped in coastal areas and valleys.<sup>154</sup> Consequently, operations continue to be managed on an emergency basis rather than in a sustainable manner.

The Ministry, on behalf of the Prime Minister, also prepared a “reference framework for defining the methodology and mechanisms of intervention in the reconstruction process” on 16 December 2025, following a technical meeting at the MoE with the South Council, the High Relief Commission, the Union of Municipalities of Southern Suburbs, the Council for Development and Reconstruction, and the Khatib Alami Company. This framework includes the methodology and priorities for intervention and a mechanism to determine and compensate damages to residential and non-residential units resulting from Israeli aggression after 8 October 2023 and the Beirut port explosion.<sup>155</sup> This framework is inadequate with regard to border villages though. Rebuilding the border area and restoring infrastructure is difficult. This opens the door to possibly replacing construction in border towns with financial compensation, which constitutes a violation of the principle of return. Although it recognizes the impact of Israeli attacks on various sectors, it does not include any response to these impacts at the environmental and agricultural levels. This framework has not yet been approved, but it is being discussed with the Council of Ministers and amendments are being drawn up in preparation for its approval.<sup>156</sup>

At the MoE level, the previous ministry only formed committees to assess the damage,<sup>157</sup> which included direct damage (uprooting, burning, and cutting down trees), as well as indirect losses, such as farmers’ inability to harvest olives for two consecutive years, the impossibility of some farmers to access their orchards, and an invitation to farmers to fill

out a preliminary questionnaire about the damage they had suffered. The current ministry has made emergency relief a priority in its agricultural sector strategy for 2025-2026, with the aim of helping more than 50,000 farmers affected by the war.<sup>158</sup> It also reiterated its promises of compensation and set up field teams in the affected villages to assess losses in each sector: livestock, fruit trees, cereals, and agricultural equipment. A detailed and accurate file was sent to the World Bank, specifying the final amount of compensation required, and samples were taken by the Agricultural Research Service and international organizations.<sup>159</sup> The ministry began implementing measures to support the agricultural sector through extension programs.<sup>160</sup> It is also working to provide free olive seedlings to farmers in the south.

In reality, the interventions of the MoA and MoE have not addressed the pressing issues related to landfills, chemical toxins, white phosphorus, and contaminated soil. Nor have they included practical guidance for farmers and livestock breeders on how to deal with contaminated or damaged agricultural and livestock crops. They have limited themselves to contradictory statements and premature assurances about crop safety, without conducting in-depth scientific studies or publishing transparent data on the condition of the soil and water. No support, in-kind or financial compensation, has been provided to farmers. It is also unclear how these two ministries relate to the government’s reconstruction strategy.

Finally, the legal-diplomatic aspect was represented by the complaint filed with the Security Council in July 2024, which was based on accurate figures on the fires and destruction caused by the use of white phosphorus.<sup>161</sup> Although this step was important in documenting violations on the international stage, it remained limited and was not followed up with a broader legal or diplomatic campaign that translates the accusation into political pressure,

154 Krayim, “Reconstruction: The State is Absent”.

155 MoE, “Framework for Defining the Methodology”.

156 Presidency of the Council of Ministers, “Cabinet Meeting at Baabda Palace Approves Most Items on the Agenda” [Arabic], 8 January 2026, <http://pcm.gov.lb/arabic/subpg.aspx?pageid=26693>

157 An amendment to Decision No. (6-1-2025) in February 2025 established a South Governorate Committee to assess the agricultural damage resulting from Israeli aggression, and tasked with: supervising the work of district committees and field teams; following up on damage assessment and documentation; proposing emergency measures to address urgent damage; and following up on the damage assessment action plan.

158 Al-Modon, “No US Support for Lebanon’s Agricultural Sector: Ministry Has Its Own Strategy” [Arabic], 6 March 2025, <https://tinyurl.com/mpdujstn>

159 Kanaan, “Olive Season in the South”.

160 Al-Modon, “Launch of Agricultural Extension Program: Training Farmers Boosts the Sector” [Arabic], 20 March 2025, <https://tinyurl.com/bpa4v5h3>

161 Wassim Samih Seifeddine, “Lebanon Submits New Complaint against Israel to UN Security Council” [Arabic], Anadolu Agency, 13 July 2024, <https://tinyurl.com/3b6rz4sj>

or international accountability that demands compensation. The Lebanese government has not yet granted the International Criminal Court jurisdiction to conduct the necessary investigations on its territory.

For its part, NCSR proposed “supporting the recovery and restoration of ecosystems affected by the war in Lebanon” at the International Union for Conservation of Nature (IUCN) World Conservation Congress in Abu Dhabi, 9-16 October 2025. The conference officially recognized ecocide in Lebanon as a result of armed aggression between 2023 and 2024 as an international environmental priority, after two consecutive rejections and one official appeal. This proposal opens the door to raising US\$12 million in joint donations to support the restoration of forests, soil, coastlines, and biodiversity in affected areas.<sup>162</sup>

In conclusion, the current state of the official response to southern villages reveals a deep gap between the scale of destruction and the capacity for official response. The measures taken, whether at the legal, government, or relevant ministerial level, remain partial, theoretical, or linked to external funding, reproducing dependence on donors and lacking a comprehensive vision that accounts for environmental, agricultural, economic, and social recovery. The absence of effective intervention on the ground, including debris removal, contaminated soil treatment, and direct agricultural guidance, along with ineffective compensation for farmers and those affected, increases the population’s precariousness, delays farmers returning to their land, and turns agricultural recovery into a prolonged and uncertain process.

---

162 National Council for Scientific Research – Lebanon (@cnrs.lebanon), “Lebanon’s Motion Adopted at the IUCN World Conservation Congress – Abu Dhabi 2025”, Instagram video, 16 October 2025, <https://tinyurl.com/yddcjhde>

**Table 2: Main Mechanisms Associated with the Work of Official Bodies**

Agency	Relevant pillars	Existing mechanism	Problems with existing mechanism	Missing from mechanism
House of Representatives	Strengthen environmental and institutional governance for recovery	<ul style="list-style-type: none"> <li>- Enact a law to exempt those affected and facilitate reconstruction</li> <li>- Approve laws on loans and grants</li> <li>- Approve the general budget</li> </ul>	<p>The current law does not provide a comprehensive approach to reconstruct social, economic, and environmental recovery perspectives, nor does it distinguish between destruction types, infrastructure damage, or environmental and spatial devastation. These limit the law's effectiveness</p>	<ul style="list-style-type: none"> <li>- Delay in approving the loan agreement law with the World Bank</li> <li>- Oversight and accountability of the government's work on reconstruction</li> <li>- Include environmental and social issues in legislation</li> <li>- Pass laws on compensation</li> </ul>
Government	Strengthen environmental and institutional governance for recovery	<ul style="list-style-type: none"> <li>- Form a reconstruction committee</li> <li>- Approve loans and grants</li> <li>- Award contracts for debris removal</li> <li>- Approve the draft general budget and refer it to the House</li> <li>- Seek to organize international conferences for reconstruction</li> </ul>	<ul style="list-style-type: none"> <li>- Failure to prioritize reconstruction</li> <li>- The budget did not allocate sufficient funds for reconstruction</li> </ul>	<ul style="list-style-type: none"> <li>- Make reconstruction and environmental recovery a priority with the government</li> <li>- Approve a budget that secures sovereign financing for reconstruction priorities</li> <li>- Approve and implement a strategy for removing rubble</li> </ul>

Agency	Relevant pillars	Existing mechanism	Problems with existing mechanism	Missing from mechanism
Government Committee for Reconstruction (Ministries of Finance, Energy and Water, Social Affairs, Communications, Public Works, Transport, and Environment; High Relief Commission; Council for Development and Reconstruction; and South Council)	<ul style="list-style-type: none"> <li>- Strengthen environmental and institutional governance for recovery</li> <li>- Ensure return</li> <li>- Environmental and agricultural rehabilitation</li> <li>- Support farmers and residents</li> <li>- Documentation and judicial and administrative accountability</li> <li>- Establish a national vision that promotes natural and residential advantages to border areas</li> </ul>	<ul style="list-style-type: none"> <li>- Develop a strategy for recovery and reconstruction</li> <li>- Study building compensation mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>- The plan does not address the systematic erasure of border villages and overlooks the environmental dimension</li> <li>- The committee's work lacks transparency. The plan has not yet been announced and it does not include representatives of those from affected areas. This would ensure inclusive participation in decision-making</li> <li>- The plan relies almost entirely on loans and grants, which means it falls under the influence of donors and delays the recovery process.</li> </ul>	<ul style="list-style-type: none"> <li>- Secure diverse sources of funding for reconstruction, including taxes and fees</li> <li>- Ensure transparency in the committee's work through clear frameworks for accessing information related to its work</li> <li>- Involve civil society and affected people in setting priorities, formulating, and implementing the plans.</li> <li>- Committee should prioritize addressing the effects of ecocide and in border villages</li> </ul>
Ministry of Environment	<ul style="list-style-type: none"> <li>- Environmental and agricultural rehabilitation</li> <li>- Establish a national vision that promotes natural and residential advantages to border areas</li> </ul>	<ul style="list-style-type: none"> <li>- Issue circulars specifying the mechanism for rubble transportation and disposal sites</li> <li>- Prepare a report on sustainable rubble management after the 2023–2024 war in Lebanon</li> <li>- Issuing an executive guide for sustainable post-war land use planning</li> <li>- Prepare a “reference framework for defining the methodology and intervention mechanisms in the reconstruction process” commissioned by the Prime Minister</li> </ul>	<ul style="list-style-type: none"> <li>- Reports remain theoretical and do not address pressing issues on the ground</li> <li>- Lack of central coordination between actors involved in rubble clearance. This raises environmental questions about the removal process</li> <li>- Lack of central coordination between all actors working on environmental issues</li> </ul>	<ul style="list-style-type: none"> <li>- Environmental destructive effects are not included in the government's plan</li> <li>- Propose and implement an environmental damage plan based on survey results, including continuous monitoring and documenting the long-term effects of the war</li> <li>- Compile the environmental damage needed to prosecute Israel and claim compensation</li> <li>- Coordinate rubble removal supervision and manage debris and landfill in accordance with environmental safeguards</li> </ul>

Agency	Relevant pillars	Existing mechanism	Problems with existing mechanism	Missing from mechanism
Ministry of Agriculture	<ul style="list-style-type: none"> <li>- Environmental and agricultural rehabilitation</li> <li>- Support farmers and residents</li> <li>- Documentation and judicial and administrative accountability</li> </ul>	<ul style="list-style-type: none"> <li>- Form committees to assess the damage</li> <li>- Invite farmers to fill out the initial questionnaire on damage</li> <li>- Implement agricultural extension programs to support the sector</li> <li>- Include emergency relief in the 2025–2026 strategic priorities to aid more than 50,000 affected farmers</li> <li>- Distribute olive seedlings to farmers on the agricultural registry</li> <li>- Organize fodder production activities and improve agricultural practices</li> </ul>	<ul style="list-style-type: none"> <li>- Compensation has not been provided to farmers for their losses</li> <li>- Insufficient measures were taken to support farmers</li> <li>- Damage assessment results have not been published</li> <li>- Not all farmers were registered on the agricultural registry or the initial damage survey</li> </ul>	<ul style="list-style-type: none"> <li>- Support farmers in kind and financially</li> <li>- Guide farmers on how to deal with contaminated land, crops, and livestock</li> <li>- Participate in proposing and implementing a plan to address environmental and agricultural damage based on survey results and characteristics of affected areas</li> <li>- Encourage establishing and supporting agricultural cooperatives</li> </ul>
Ministry of Culture	<ul style="list-style-type: none"> <li>- Documentation and judicial and administrative accountability</li> <li>- Establish a national vision that promotes natural and residential advantages to border areas</li> </ul>	-	-	<ul style="list-style-type: none"> <li>- Document damage to buildings, heritage and archaeological sites, environmental sites, and affected border villages to preserve collective memory</li> </ul>
Ministry of Justice	Documentation and judicial and administrative accountability	-	-	<ul style="list-style-type: none"> <li>- Develop a strategy for litigation against Israel in international forums</li> <li>- Develop general standards for documenting war crimes and compiling a case against Israel</li> <li>- Direct the work of public prosecutors and open investigations into specific war crimes</li> </ul>

Agency	Relevant pillars	Existing mechanism	Problems with existing mechanism	Missing from mechanism
Ministry of Foreign Affairs	Documentation and judicial and administrative accountability	-	-	<ul style="list-style-type: none"> <li>- Apply pressure to obtain compensation allocated to Lebanon after the July 2006 war</li> <li>- Prosecute Israel in international forums and pursue the case</li> </ul>
Ministry of Finance	Strengthen environmental and institutional governance for recovery	<ul style="list-style-type: none"> <li>- Prepare a draft general budget with funds allocated for reconstruction</li> <li>- Allocate financial resources to support reconstruction operations</li> </ul>	<ul style="list-style-type: none"> <li>- The 2026 budget allocated only 0.5% for reconstruction, rubble removal, and compensation for those affected by the war</li> </ul>	<ul style="list-style-type: none"> <li>- Secure diverse sources of funding for reconstruction and allocate sufficient budgets to begin reconstruction, including environmental recovery</li> </ul>
Ministry of Public Works and Transport	<ul style="list-style-type: none"> <li>- Ensure return</li> <li>- Establish a national vision that promotes natural and residential advantages to border areas</li> </ul>	<ul style="list-style-type: none"> <li>- Develop an emergency support project plan for Lebanon with the Council for Development and Reconstruction, including an environmental social commitment plan and a stakeholder participation plan</li> <li>- Follow up on completing specifications for rubble removal</li> </ul>	-	<ul style="list-style-type: none"> <li>- Contribute to preparing infrastructure rehabilitation projects</li> <li>- Develop guidelines for war-affected areas and support comprehensive planning through the Higher Council for Urban Planning</li> </ul>
Ministry of Social Affairs	<ul style="list-style-type: none"> <li>- Ensure return</li> <li>- Supporting farmers and residents</li> <li>- Establish a national vision that promotes natural and residential advantages to border areas</li> </ul>	<ul style="list-style-type: none"> <li>- Implement the government committee's plan for "cash for rent" and "cash transfers" programs</li> </ul>	-	<ul style="list-style-type: none"> <li>- Develop a temporary housing plan to prevent social dispersion, providing support until return, in cooperation with the Public Housing Corporation</li> </ul>
Ministry of Energy and Water	Ensure return	<ul style="list-style-type: none"> <li>- Restore infrastructure through Electricité du Liban and South Lebanon Water Corporation</li> </ul>	-	<ul style="list-style-type: none"> <li>- Treat contaminated water and rehabilitate water resources</li> <li>- Secure alternative energy and ensure its sustainability</li> </ul>

Agency	Relevant pillars	Existing mechanism	Problems with existing mechanism	Missing from mechanism
National Council for Scientific Research	<ul style="list-style-type: none"> <li>- Environmental and agricultural rehabilitation</li> <li>- Documentation and judicial and administrative accountability</li> </ul>	<ul style="list-style-type: none"> <li>- Propose a project entitled “Supporting the recovery and restoration of ecosystems affected by war in Lebanon” at the World Conservation Congress</li> <li>- Survey losses and issue reports</li> <li>- Cooperate with the World Bank and FAO to prepare damage, losses, and reconstruction costs reports</li> <li>- Work with the MoA to standardize soil sampling mechanisms</li> <li>- Work on the BIOCONNECT project, which aims to strengthen governance and effective management to sites of environmental importance and expand biodiversity protection in southern Lebanon</li> </ul>	<ul style="list-style-type: none"> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- Provide technical solutions to address pollution and participate in proposing and implementing a plan to address environmental and agricultural damage based on survey results and characteristics of affected areas</li> <li>- Support documentation and accountability for environmental and agricultural damage</li> </ul>
South Council	Environmental and agricultural rehabilitation	<ul style="list-style-type: none"> <li>- Survey damage in the South</li> <li>- Rebuild and restore public facilities and institutions</li> <li>- Remove rubble in the South and submit treatment proposals</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of compliance auditing for rubble removal contractors under environmental conditions and proper rubble recycling and disposal</li> </ul>	<ul style="list-style-type: none"> <li>- Strengthen supervision of rubble removal operations and ensure environmental conditions are met</li> </ul>
Council for Development and Reconstruction	Ensure return	<ul style="list-style-type: none"> <li>- Complete future construction projects in accordance with the World Bank loan</li> <li>- Develop an emergency support project plan for Lebanon with the Ministry of Public Works and Transport, including an environmental and social compliance plan and a stakeholder engagement plan</li> </ul>	<ul style="list-style-type: none"> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>-</li> </ul>

Agency	Relevant pillars	Existing mechanism	Problems with existing mechanism	Missing from mechanism
Director General of Civil Regulation	Establish a national vision that promotes natural and residential advantages to border areas	-	-	- Develop guidelines for war-affected areas and support the comprehensive plan for the arrangement of Lebanese land
Public Prosecutor's Office	Documentation and judicial and administrative accountability	-	-	- Open investigations into specific war crimes in accordance with Ministry of Justice guidelines
Lebanese Armed Forces Lebanese Mine Action Center (LMAC)	Ensure return	<ul style="list-style-type: none"> <li>- Clear explosive war remnants</li> <li>- Provide guidance to farmers on how to access their fields, accompanying them if deemed safe</li> <li>- Accompany farmers in harvesting the remaining olive trees</li> </ul>	-	- Accompany residents as they return to southern villages and reclaim their land, including agricultural land
Electricité du Lebanon	Ensure return	<ul style="list-style-type: none"> <li>- Repair damage to electricity networks and infrastructure caused by the war</li> </ul>	-	- Prioritize maintenance in border villages when security conditions allow
South Lebanon Water Establishment	Ensure return	<ul style="list-style-type: none"> <li>- Repair damage to water networks and infrastructure affected by the war</li> <li>- Repair damage that can be repaired</li> <li>- Take samples from the Litani river</li> </ul>	-	<ul style="list-style-type: none"> <li>- Prioritize maintenance in border villages when security conditions allow</li> <li>- Actively participate in the environmental and agricultural recovery process, in coordination with the relevant ministry</li> </ul>

Agency	Relevant pillars	Existing mechanism	Problems with existing mechanism	Missing from mechanism
Governors	<ul style="list-style-type: none"> <li>- Strengthen environmental and institutional governance for recovery</li> <li>- Ensure return</li> <li>- Support farmers and residents</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinate with the Nabatieh governorate</li> </ul>	<ul style="list-style-type: none"> <li>- Inadequate response, especially in environmental terms, given limited capabilities</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinate with municipalities and official bodies and follow-up on local recovery efforts</li> <li>- Actively participate in the environmental and agricultural recovery, in cooperation with the relevant ministry</li> </ul>
Municipal unions	<ul style="list-style-type: none"> <li>- Strengthening environmental and institutional governance for recovery</li> <li>- Ensure return</li> <li>- Supporting farmers and residents</li> </ul>	<ul style="list-style-type: none"> <li>- Coordinate with the Tyre Municipalities Union, support displaced persons through joint initiatives, and form a disaster committee</li> <li>- Contribute to debris removal and open roads between areas</li> <li>- Cooperate with Electricité di Liban and South Lebanon Water Establishment to maintain and repair water and electricity networks</li> <li>- Organize agricultural seminars and veterinarian field visits to some towns</li> </ul>	<ul style="list-style-type: none"> <li>- Inadequate response, especially in environmental terms, given limited capabilities</li> </ul>	<ul style="list-style-type: none"> <li>- Actively participate in the environmental and agricultural recovery process, in cooperation with the relevant ministry</li> </ul>
Municipalities	<ul style="list-style-type: none"> <li>- Strengthen environmental and institutional governance for recovery</li> <li>- Ensure return</li> <li>- Support farmers and residents</li> </ul>	<ul style="list-style-type: none"> <li>- Contribute to debris removal and opening roads</li> <li>- Cooperate with Electricité du Liban and South Lebanon Water Establishment to maintain and repair water and electricity networks</li> </ul>	<ul style="list-style-type: none"> <li>- Inadequate response, especially in environmental terms, given limited capabilities</li> </ul>	<ul style="list-style-type: none"> <li>- Actively participate in the environmental and agricultural recovery process, in cooperation with the relevant ministry</li> <li>- Secure agricultural land in displacement areas, in cooperation with relevant authorities</li> </ul>

## Scattered Community Efforts in Light of State Failure to Act

After the ceasefire agreement, a number of local, individual, and civil initiatives emerged, ranging from securing temporary housing alternatives for farmers or coordination and meeting places, rehabilitating agricultural land and technical initiatives, surveying soil samples, to producing alternative materials for reconstruction, documenting rights as a tool for accountability and memory building, and forming community frameworks to represent those affected, etc. These initiatives attempted to respond to some of the population's urgent needs, and a few environmental and agricultural priorities, in light of the slow or absent official intervention.

The “Wataʿawanu” association’s “Good Face – Agricultural Jihad” initiative demonstrated a social dimension.<sup>163</sup> Multi-purpose prefabricated houses – a central area, a service courtyard, a pharmacy, a shop, bathrooms, an office for the mayor and mukhtar or southern council to carry out survey work, a rest and meeting point, temporary accommodation for farmers and residents, or storage space for farmers’ equipment – represent a temporary solution that responds to border villagers’ urgent needs, facilitating their return.

In the face of serious environmental damage, initiatives have emerged that combine local and scientific knowledge, such as farmer Hadi Awad’s project in collaboration with the Mountains and Soil Organization for Environmental Education Lebanon. Experts and supporters from Lebanon and abroad have established a mobile laboratory to test and treat soil by producing local organic fertilizer, or an initiative to produce alternative solutions to environmentally polluting materials – such as cement from a hemp plant – on a temporary or permanent basis. Initiatives to survey soil samples have also emerged, such as those of the Soils Permaculture Association Lebanon, the Lebanese Reforestation Initiative (LRI), the Environment and Sustainable Development Unit (EDSU) at AUB, the Order of Malta, the Amel Association International,

and others. The MoE, through LRI and NCRS, have attempted to standardize sampling methods; distribute local crops for LRI; allot grafted municipal olive trees (Sourani), fruit, wild tree, and plants to farmers in southern villages; and plant olive seedlings in several fields in southern Lebanon as part of the “Together for Lebanon’s Olives”<sup>164</sup> and “For the Land... For the South”<sup>165</sup> campaigns by the Agricultural Movement in Lebanon and the Arab Group for the Protection of Nature, in partnership with the Arab Network for Food Sovereignty and a number of civil society organizations.<sup>166</sup>

Documentation initiatives, such as Public Works Studio, The Legal Agenda, Amnesty International, Human Rights Watch, Green Southerners, and other organizations, occupy a central position in the context of accountability. Collecting data on attacks and bombing patterns, war crimes, and white phosphorus strike locations not only serves academic research, important as it is, but also constitutes documentation that counters the official Israeli narrative and provides a tool for pressure that can be relied upon in international forums. However, the absence of an official mechanism to integrate this documentation into the legal and institutional framework of the Lebanese state renders it an isolated intellectual endeavor, disconnected from institutional justice that the state is supposed to undertake. Activating this data is a tool for accountability and international advocacy and should be used at international forums.

In terms of supporting displaced persons, the Seeds of Tyre initiative has emerged, implemented by the Agricultural Movement and the Amel Association International in partnership with the Union of Tyre Municipalities. This initiative provides land for women displaced by the recent aggression to

163 Abu al-Fadl Shouman, “The ‘Wataʿawanu’ Association Launches the ‘Good Faces’ Project Activities” 25 February 2025, <https://tinyurl.com/427n5ukc>

164 Arab Group for the Protection of Nature, “Together for Lebanon’s Olives” [Arabic], Agricultural Movement in Lebanon, 25 April 2025, <https://tinyurl.com/2mp8p6f2>

165 Agricultural Movement in Lebanon, “For the Land... For the South: A Campaign to Support Resilience” [Arabic], 23 April 2025, <https://tinyurl.com/ypuctu2k>

166 A number of institutions and associations participated in the “Together for Lebanon’s Olives” campaign, most notably: the Lebanese Ministry of Agriculture, the Agricultural Movement in Lebanon, the Economic and Social Action Group (SIAC), the LOYAC organization – Kuwait, the Environment and Sustainable Development Unit at the American University of Beirut, the Dala Foundation, and the Crisis Management Cell at the Lebanese University.

cultivate and produce seeds, crops, and provisions.<sup>167</sup>

A grassroots organization emerged demanding economic and social rights and compensation through a gathering of border town residents and farmers, under the slogan “Return, Security, Reconstruction”.<sup>168</sup> This committee remains in the process of formation and has yet to have any official influence, given the continued exclusion of those affected from the reconstruction and recovery debate.

On the level of UN organizations, several agencies have issued reports on losses and damages, some of which we have already mentioned in the first part of this paper. These reports relied on remote sensing techniques, due to the danger and difficulty of conducting field surveys. Their importance lies in the fact that they covered several sectors and provided estimates of the economic recovery cost, according to a source at the MoE. Currently, most of these organizations are proposing projects related to the South or involving activities linked to it, including projects associated with irrigation, farmers, and land degradation. No funding has been secured yet, but it is expected to arrive later, as project proposals are currently being prepared – approval and funding usually take one to two years. The World Bank is also currently collecting samples related to white phosphorus use.

Coordination between these organizations occurs organically but is unorganized, and all proposed projects go through the MoE, given that donors require the ministry’s approval before funding, which helps reduce duplication in the work. However, this coordination does not occur to the same extent at the level of CSOs, NCSR, or the Council for Development and Reconstruction, reflecting a clear gap in coordination mechanisms.

Despite the multiplicity of actors involved in these initiatives — CSOs, universities, farmers, and individuals — and their valuable efforts to support populations affected by environmental and agricultural damage, as models of community and local initiatives – their responses remain fragmented and limited in impact, scattered and confined to

narrow geographical areas in the absence of a national vision.

This situation also reveals gaps in the weak coordination between grassroots initiatives, official institutions, and UN organizations, resulting in duplication, fragmented efforts, and reduced effectiveness. The absence of coordination between municipalities, ministries, and community initiatives prevents criteria standardization, experiences exchange, and creating a shared database. It also prevents equitable resource distribution and access to support for those affected, making many interventions prone to duplication or conflict.

Furthermore, the absence of any effective coordination or institutional framework keeps these initiatives marginal or superficial and prevents the development of a unified and sustainable recovery strategy. In the absence of a clear national environmental policy to address pollution and rehabilitate affected land, and in the absence of an active role for the MoA and MoE or municipalities as coordinating bodies, there is a risk that these efforts will remain symbolic and experimental in nature, without any long-term impact. Ultimately, agriculture is not an individual or local issue, nor is it the sole responsibility of civil society. Rather, it requires a comprehensive national strategy of which these initiatives are a part, integrated within a framework aimed at achieving sustainable environmental and agricultural recovery.

167 Agricultural Movement in Lebanon, “Seeds of Tyre”, 23 April 2025, <https://tinyurl.com/5b68ejj5>

168 Hanan Hamdan, “A Civil Gathering of Citizens of South Lebanon to Press for a Return to the Border with Israel” [Arabic], Al-Sharq Al-Awsat, 16 August 2025, <https://tinyurl.com/4wr7yd79>

Table 3: Main Mechanisms Related to the Work of some United Nations Organizations and Their Role in 2006

Entity	Relevant pillars	Role in 2006	Existing mechanism
UNHABITAT	Environmental and agricultural rehabilitation	-	Issued a report on the assessment of building destruction and debris quantities
UNDP	Environmental and agricultural rehabilitation	<ul style="list-style-type: none"> <li>- Prepared a rapid environmental assessment to guide environmental and agricultural project implementation</li> <li>- Managed a fund to finance recovery projects</li> <li>- Contribute to UNEP's post-conflict assessment preparation</li> <li>- Removed marine and coastal pollution that resulted from bombing Jiyeh's thermal power plant and treated oil spills, in cooperation with UNEP and MoE</li> <li>- Supported agricultural and environmental practices within the Lebanese Recovery Fund (LRF), in cooperation with the government</li> <li>- Removed rubble in 101 southern towns and four sites from Beirut's southern suburbs, in cooperation with municipalities</li> <li>- Contributed to the rapid rehabilitation of infrastructure and debris removal, in cooperation with ECHO</li> <li>- Contributed to an early recovery program in southern Lebanon, covering 143 southern towns (debris removal, road and public building repairs, street lighting, sewage cleaning, etc.), in cooperation with ECHO</li> <li>- Assessed and repaired bomb-damaged drinking water and irrigation infrastructure (pipes, reservoirs, pumping stations, etc.), in cooperation with the Ministry of Energy and Water</li> <li>- Launched the "Post-Conflict Environmental Management" project in 2008 to improve institutional capacities in pollution assessment, waste management, and environmental risk, in cooperation with the MoE – a specialized unit was established to monitor pollution after disasters and wars</li> </ul>	<ul style="list-style-type: none"> <li>- Issued a report on the impact of hostilities and post-escalation conditions in affected municipalities, focusing on displacement, damage to infrastructure, socio-economic conditions, and initial recovery needs</li> <li>- Issued a report on the war-damaged solar energy sector</li> </ul>

Entity	Relevant pillars	Role in 2006	Existing mechanism
UNIFIL	<ul style="list-style-type: none"> <li>- Ensuring return</li> <li>- Support farmers and residents</li> </ul>	<p>Planted 2,300 trees in the first three months and 10,452 trees in the longer term, in cooperation with the municipality of Shhour</p>	<ul style="list-style-type: none"> <li>- Assisted farmers in harvesting the remaining olive trees</li> <li>- Monitored the cessation of hostilities</li> <li>- Accompanied and supported Lebanese forces in their deployment in southern Lebanon</li> <li>- Oversaw the delivery of aid to local residents and ensured the safe and voluntary return of displaced persons</li> <li>- Worked with the Lebanese army to remove mines</li> <li>- Conducted patrols along the Blue Line, establishing mobile night-time observation points, and monitoring violations</li> </ul>
UNMAS	<p>Ensure return</p>	<ul style="list-style-type: none"> <li>- Cleared mines in cooperation with UNIFIL, the Lebanese army, and the Lebanese Demining Center</li> <li>- Conducted ordnance clearance surveys, awareness programs, and security clearance of affected agricultural areas, and marked dangerous areas</li> </ul>	<ul style="list-style-type: none"> <li>- Conducted quality assurance in UNIFIL inspection demining teams according to approved standards</li> <li>- Support UNIFIL and the Lebanese army in mine clearance</li> </ul>
UNEP	<p>Environmental and agricultural rehabilitation</p>	<ul style="list-style-type: none"> <li>- Conducted a post-conflict environmental assessment in Lebanon on behalf of the MOE</li> <li>- Monitored and produced recommendations on environmental issues</li> <li>- Provided support in environmental litigation</li> <li>- Addressed oil spills and removed marine and coastal pollution after the Jiyeh thermal power plant was bombed, in cooperation with UNDP and MOE</li> <li>- Monitored soil and water pollution that contained heavy metals or toxic substances resulting from ammunition and bombing, in cooperation with MOE and the Lebanese Atomic Energy Commission</li> <li>- Implemented the “Monitoring and Management of Polluted Water and Environmental Resources” program 2011-2013, taking samples from wells and water networks to assess the effects of war on groundwater and surface water quality, in cooperation with MOE and the EU</li> </ul>	<p>-</p>

Entity	Relevant pillars	Role in 2006	Existing mechanism
UNICEF	Environmental and agricultural rehabilitation	- Implemented the “Water for Life” program to improve wastewater treatment in southern villages, with support from UNDP and in cooperation with municipalities	-
IOM	Ensure return	-	- Survey the number of displaced persons and issue reports on them
FAO	- Environmental and agricultural rehabilitation - Support for farmers and populations	- Conducted loss assessments in agriculture, forestry, and fisheries - Provided initial assistance to farmers in cooperation with the MoA - Assessed and rehabilitated land and forests	- Surveyed and issued a report on agricultural damage and recovery needs - Provided cash assistance to farmers
WFP	- Support for farmers and residents	-	- Provided cash assistance to farmers
United Nations Debris Management Team: UN Debris Taskforce, UN-Habitat, UNEP, UNDP, ILO, OCHA, UNMAS, UNESCO, IOM, FAO, and UNOPS	- Ensure return - Environmental and agricultural rehabilitation	-	- Coordinated a sustainable, human rights-based approach to debris management
World Bank	Strengthen environmental and institutional governance for recovery	- Conducted an assessment of the impacts of war on key economic and social sectors	- Financed green transition and infrastructure reconstruction projects through loans - Issued a comprehensive report on damage, losses, and recovery needs - Conducted sampling related to white phosphorus use
GIZ	Environmental and agricultural rehabilitation	- Cooperated with the Environment Fund in implementing 30 environmental initiatives	-

**Table 4: Main Mechanisms Associated with the Work of some Local Associations, Institutions, and Initiatives**

Entity	Relevant pillars	Existing mechanism
Norwegian People's Aid (NPA)	Ensure return	<ul style="list-style-type: none"> <li>- Remove remnants of war and identify new contamination</li> <li>- Search for unexploded ordnances in building rubble</li> </ul>
Amel Association International (AMEL)	<ul style="list-style-type: none"> <li>- Environmental and agricultural rehabilitation</li> <li>- Support for farmers and residents</li> </ul>	<ul style="list-style-type: none"> <li>- Soil sampling</li> <li>- "Seeds of Tyre" initiative: secure land for displaced women to cultivate and produce seeds, crops, and provisions</li> </ul>
SOILS	Environmental and agricultural rehabilitation	<ul style="list-style-type: none"> <li>- Soil sampling</li> </ul>
Lebanon Reforestation Initiative (LRI)	<ul style="list-style-type: none"> <li>- Environmental and agricultural rehabilitation</li> <li>- Support for farmers and residents</li> </ul>	<ul style="list-style-type: none"> <li>- Soil sample survey</li> <li>- Distribute local crops and agricultural equipment</li> <li>- Reforest select forests in the South</li> <li>- Cooperate with the MoA to standardize soil sampling mechanisms</li> <li>- Organize a workshop to familiarize MoA teams in the South and Nabatieh – most important soil pollutants, restoration methods, and identify sampling and collection sites</li> </ul>
Order of Malta (SMOM)	Environmental and agricultural rehabilitation	<ul style="list-style-type: none"> <li>- Soil sample survey</li> </ul>
Agri-movement in Lebanon: Arab Group for the Protection of Nature in partnership with the Arab Network for Food Sovereignty	Support for farmers and residents	<ul style="list-style-type: none"> <li>- Distribute local olive seedlings, fruit trees, and wild plants to farmers</li> <li>- Plant olive seedlings in several fields in southern Lebanon</li> <li>- "Seeds of Tyre" initiative: secure land for displaced women to cultivate and produce seeds, crops, and provisions</li> </ul>
Jibal	Environmental and agricultural rehabilitation	<ul style="list-style-type: none"> <li>- Establish a mobile laboratory for soil testing and treatment through the production of local organic fertilizer</li> </ul>
Green Southerners	<ul style="list-style-type: none"> <li>- Documentation and judicial and administrative accountability</li> <li>- Environmental and agricultural rehabilitation</li> </ul>	<ul style="list-style-type: none"> <li>- Sample phosphorus bomb remnants</li> <li>- Document white phosphorus use on maps, photos, and videos</li> <li>- Document photos and videos of attacks</li> </ul>
Buzuruna Juzuruna	Environmental and agricultural rehabilitation	<ul style="list-style-type: none"> <li>- Establish a mobile laboratory for soil testing and treatment through the production of local organic fertilizer</li> </ul>

Entity	Relevant pillars	Existing mechanism
Wata'awanu Association	<ul style="list-style-type: none"> <li>- Ensure return</li> <li>- Support farmers and residents</li> </ul>	<ul style="list-style-type: none"> <li>- Launch of the "Good Face - Agricultural Jihad" initiative by bringing in multi-purpose prefabricated houses to facilitate the return of residents to border villages</li> </ul>
Society for the Protection of Nature in Lebanon (SPNL)	Environmental and agricultural rehabilitation	<ul style="list-style-type: none"> <li>- Rehabilitate Hamra system areas in southern Lebanon</li> </ul>
Public Works Studio (PW)	Documentation and judicial and administrative accountability	<ul style="list-style-type: none"> <li>- Document attacks, bombing patterns, and types of targets</li> <li>- Monitor and analyze information related to recovery and reconstruction efforts, and create a database accessible to all stakeholders</li> </ul>
Legal Agenda (LA)	Documentation and judicial and administrative accountability	<ul style="list-style-type: none"> <li>- Document spatial destruction in border villages and war crimes</li> </ul>
Amnesty International	Documentation and judicial and administrative accountability	<ul style="list-style-type: none"> <li>- Publish reports on war crimes</li> </ul>
Human Rights Watch (HRW)	Documentation and judicial and administrative accountability	<ul style="list-style-type: none"> <li>- Document white phosphorus use</li> <li>- Issue reports on war crimes</li> </ul>
SHIELD Foundation	Support farmers and residents	<ul style="list-style-type: none"> <li>- Organize awareness activities on the dangers of mines and cluster bombs, how to identify them and deal with them safely, as well as train aromatic plants and small business management</li> </ul>
Jihad al-Binaa Development Foundation	<ul style="list-style-type: none"> <li>- Environmental and agricultural rehabilitation</li> <li>- Support farmers and residents</li> </ul>	<ul style="list-style-type: none"> <li>- Survey agricultural damage</li> <li>- Supply feed to farmers</li> </ul>
Environment and Sustainable Development Unit at the American University of Beirut (ESDU)	Environmental and Agricultural Rehabilitation	<ul style="list-style-type: none"> <li>- Soil sample survey</li> </ul>
American University of Beirut Nature Conservation Center (AUB NCC)	Environmental and agricultural rehabilitation	<ul style="list-style-type: none"> <li>- Organize workshops to inform MoA teams in the South and Nabatieh about the most important soil pollutants and restoration methods, and identify sampling locations and collect samples</li> <li>- Issue a report on the social and environmental impact of white phosphorus munitions in southern Lebanon</li> <li>- Develop a strategy for monitoring, decontaminating, sorting, and recycling rubble into reusable building materials, in partnership with municipalities and local contractors</li> </ul>

Entity	Relevant pillars	Existing mechanism
Order of Engineers and Association	Establish a national vision that promotes natural and residential advantages to border areas	- Hold seminars and conferences on reconstruction and recovery
Khatib and Alami	Ensure return	- Oversee debris removal process (consulting office)
Debris removal contractors	Ensure return	- Remove debris from public and private property
Local backfill contractors	Ensure return	- Remove debris from private property
Committee of Border Towns	Strengthen environmental and institutional governance for recovery	- Convey demands of those affected and lobby decision-makers and relevant institutions

## Pillars and Recommendations: Towards an Integrated Response to Address Ecocide in Southern Lebanon

Although this paper focuses on ecocide and agricultural destruction, these priorities cannot be addressed in isolation from the broader issues of reconstruction and the return of displaced persons, particularly those from border villages. Restoring the environment is not limited to removing pollutants or rehabilitating land. It is intimately linked to social and economic dimensions guaranteeing the population's right to a safe return, restoring their livelihoods, and participating in shaping the future of their villages. Therefore, adopting environmental, economic, and social dimensions that integrate environmental and agricultural tracks with those of return and reconstruction is a fundamental basis for a comprehensive recovery. Under this approach, reconstruction is not merely infrastructure restoration, but the restoration of life and the social and productive relationships that were destroyed by war.

On the one hand, an examination of the current state of environmental and agricultural recovery in the South reveals a wide gap between the scale of destruction caused by Israeli aggression and the limited effectiveness of the official response. Despite reports, committees, statements, and sporadic initiatives issued by government agencies and ministries, the response remains limited to formal procedures that have not been translated into implementation plans and are unable to halt environmental degradation, support farmers and residents, or secure the conditions for return to border villages. This has been demonstrated once again in the "Reference Framework for Defining the Methodology and Mechanisms of Intervention in the Reconstruction Process", as mentioned earlier. On the other, despite the importance of scattered community initiatives, these efforts remain limited

in their impact, absent from a comprehensive national framework, and lack the coordination necessary to transform them into an effective force for recovery.

Hence, it is necessary to focus on the state's central responsibility in leading the recovery process at its various levels, which requires confronting the discourse of helplessness and recognizing its role in protecting the population and rebuilding affected areas. The current phase confirms the state's assumption of responsibility is not always linked to financial resource availability. Rather, its ability to initiate, guide, coordinate, and take clear official and military positions towards reconstruction in general, to strengthen its official presence on the ground in southern regions, particularly the border region, and to counter plans to turn it into a buffer or economic zone.

In summation, the pillars and recommendations are built on integrating environmental and agricultural restoration, ensuring the population's safe return, and rebuilding villages and social and productive relationships, on the one hand, and analyzing the responsibilities of official, international, and community actors, as well as existing gaps and problems, on the other.

We consider the following to be essential recommendations for addressing ecocide and agricultural destruction and promoting recovery and return. These recommendations are subject to modification. We believe that they must be developed through an interactive process involving multiple parties.

Therefore, we propose a comprehensive roadmap that, in our view, addresses the following priorities and pillars: (1) return, (2) environmental and agricultural rehabilitation, (3) support for farmers, (4) documentation and accountability, (5) strengthening environmental and institutional governance for recovery, and (6) establishing a national vision that promotes natural and residential values in border areas.

These priorities have been used in the tables above to classify associated mechanisms with the work of official bodies: UN organizations, associations, institutions, and local initiatives. The launch of this report will be followed by an interactive process that will result in the possible development of recommendations and a joint approach to defend these pillars and push for them.

## Ensure Return

The ongoing Israeli war remains the main challenge for population return, as this requires ensuring effective protection for border villages, halting attacks, removing Israeli checkpoints, and other threats. This challenge requires the government to act in defense of Lebanon's sovereignty and territory. The document "Reference Framework for Defining the Methodology and Mechanisms of Intervention in the Reconstruction Process" acknowledges that border villages and those that have been severely damaged continue to be subjected to attacks, preventing residents returning and immediately commencing reconstruction.

However, the "Reference Framework for Defining the Methodology and Mechanisms of Intervention in the Reconstruction Process" does not offer any suggestions in this regard. We believe that one of the ways the government can act to defend the land is to establish procedures and mechanisms that challenge this reality, such as supporting safe return, conducting comprehensive surveys of war remnants and explosive residues, removing them and clearing rubble as a top priority, and providing infrastructure and basic services: roads, water networks, electricity, and communications; all necessary to restoring life to these areas. This also requires restoring economic activity and returning people to their homes and livelihoods, particularly farmers, by securing access to agricultural land. In the transitional phase, creating temporary meeting spaces for farmers and residents is an essential step in coordinating agricultural and social services until full return and reconstruction is achieved. Such multilevel governmental and ministerial action will not allow the occupation to isolate and target local initiatives, both formal and informal.

### Clear Mines and Explosive Remnants of War

Mines and unexploded remnants of war pose a direct threat to resident's lives and prevent their safe return to their villages and lands. Their removal is a top priority that requires coordination between the state, relevant authorities, and international organizations, in accordance with approved safety standards.

### Debris Removal

Rubble hinders the movement of people and prevents housing and land reuse, as well as posing

a health and environmental hazard. Its removal requires organized plans that paves the way for the start of the reconstruction.

### Rehabilitate Infrastructure

Restoring water, electricity, sanitation, and road networks is a prerequisite for the residents to return and settle. Data shows that the percentage of returnees was higher in areas where networks were not completely destroyed. This highlights the importance of reestablishing this infrastructure.

### Secure Temporary Service Areas

Temporary service areas are essential for meeting returning residents' basic needs in the early stages: health services, a municipal center, a pharmacy, a shop, etc. These areas contribute to gradual stabilization and encourage return until permanent structures are fully reinstated.

### Secure Access to Agricultural Land

Safe access to agricultural land is a prerequisite for restoring livelihoods and ensuring food security for the population, especially in villages where people depend on agriculture. This requires opening agricultural roads, removing obstacles and hazards, and restoring irrigation systems to ensure production is sustainable.

## Environmental and Agricultural Rehabilitation

An effective response to ecocide and agricultural damage requires centralized coordination of surveys using unified methodology and standards. This ensures data accuracy and consistency across sectors and regions. It also provides a national database for monitoring and analyzing damage to make appropriate environmental decisions.

In this context, it is important to include the treatment of environmental destruction among the priorities of the Governmental Committee for Reconstruction, followed by developing effective strategies and plans to address environmental damage based on survey results, on one hand, and adopting a sustainable strategy for dealing with the rubble, on the other. In addition, their implementation must be monitored to ensure effective and sustainable application in accordance with approved guidelines.

### **Coordinate and Update Survey Work through a Central Authority, according to a Unified Methodology and Standard**

Having a central authority responsible for coordinating survey work is vital to ensure data consistency and accuracy across different sectors and regions. This permits the creation of a national database, avoids duplication, and ensures that information is collected according to clear methodological standards. It also facilitates damage analysis and develops appropriate intervention plans.

Updating surveys and periodic analyses regularly, including collecting soil and water samples at different depths over consecutive years, measuring pollution levels, and identifying toxic substances, are essential for monitoring environmental and agricultural changes over time. As Israeli attacks continue, it enables the relevant authorities to assess the effectiveness of interventions and adjust them according to developments on the ground.

### **Place Ecocide High on the Government Committee's Agenda**

As a member of the Governmental Committee for Reconstruction, the MoE has a responsibility to prioritize ecocide, ensuring that resources and decisions are directed toward effectively addressing environmental damage. This also reflects a political and official commitment to protecting the environment and the population's health and livelihoods.

### **Implement a Plan to Address Environmental Damage based on Survey Results**

Develop and implement a comprehensive national strategy for environmental and agricultural recovery based on survey results, taking into account the short-, medium-, and long-term repercussions of war. The MoE should lead this strategy in coordination with relevant ministries and public institutions, and implemented with local authorities and CSOs. It is based on the principles of justice, sustainability, and food sovereignty, with special priority given to affected villages and towns whose economies depend on agriculture. It should include measures such as reforestation, where necessary, soil treatment through the production of local organic fertilizer, establishing local testing facilities to monitor pollution levels, rehabilitating

protected areas, etc.

### **Adopt and Implement a Strategy for Monitoring, Sorting, and Recycling Debris**

Adopting and implementing a national strategy for monitoring, sorting, and recycling rubble is essential for linking reconstruction to sustainable resource management and reducing environmental and health risks. In this context, there is a need to develop this strategy in order to clearly define the roles of various actors, strengthen administrative coordination, ensure effective environmental control mechanisms, and involve municipalities, civil society, and international organizations in monitoring and implementation.

This strategy should also constitute a practical framework that ensures a transition from plans on paper to effective implementation in the field. It prevents the repetition of previous experiences characterized by wasteful resources and poor landfill site management, making debris management a real pillar of environmental and urban recovery, rather than an additional source of degradation.

## **Support Farmers and Residents**

The next phase requires a comprehensive approach to support farmers as one of the most affected groups, given that a large segment of the population in border towns and southern areas depend on agriculture, livestock breeding, and fishing as their primary source of livelihood. This requires a transition from emergency response to integrated interventions, enabling farmers to resume their productive activities, maintain their livelihoods, and ensure agricultural continuity as a profession.

This includes providing compensation and direct support, securing temporary access to agricultural land in areas of displacement during transition, and guiding farmers on how to deal with environmental pollution. Activating agricultural cooperatives with clear and transparent structures is also essential in the medium and long term, given their role in protecting farmers' rights and strengthening their resilience to economic and environmental crises.

### **Support Farmers Financially and In Kind**

Given that most of the population in border towns and southern areas depend on agriculture or farming

as their main source of income. It is essential to provide them with direct support, especially those who have lost their land, jobs, and livelihoods, whether in kind or financial. This includes providing agricultural compensation, distributing local crops and agricultural equipment, securing seedlings, seeds, fodder, as well as veterinary care and other necessary supplies. This support aims to restore agricultural production, enhance food security, and enable farmers to recover and continue their economic activities.

### **Secure Agricultural Land in Areas of Displacement**

Pending the return of residents to their villages, towns, and agricultural lands, during the transitional reconstruction period, it is essential to secure temporary access for farmers to agricultural land in areas of displacement. This will help preserve livelihoods, maintain economic activity, and sustain the farming profession. It will also reduce the likelihood of a forced transition to unstable work or become completely dependent on aid.

In this context, municipalities can play a pivotal role by creating a suitable inventory of available agricultural land, both public and private, within their jurisdiction, in coordination with relevant official bodies and landowners, to ensure easy and fair access for farmers. This will support their needs until reconstitution is complete.

### **Advise Farmers on How to Deal with Contaminated Land, Crops, and Livestock**

Guiding farmers on how to deal with affected land is an essential step in reducing health risks, protecting public health and livelihoods, and restoring agricultural activity in affected areas. This requires raising awareness and building local capacity by educating farmers about the risks of contamination, particularly from white phosphorus and heavy metals; training them in safe handling practices and limiting the transfer of contaminants; and monitoring and reporting indicators of contamination in soil, crops, and livestock.

### **Establish Agricultural Cooperatives for Support and Guidance**

The establishment of agricultural cooperatives is a fundamental pillar for the recovery of the agricultural sector. It strengthens farmers' resilience in the medium and long term. Supporting the

establishment of new cooperatives or activating and securing funding for existing ones, contributes to the organization of local production, reduces costs, improves market access, and strengthens farmers' bargaining power. Cooperatives also protect members' rights, encourage knowledge exchange and agricultural guidance, and support the transition to sustainable production practices. Cooperatives can build interconnected local production networks, which contribute to enhancing food security, support the local economy, and reduce individual farmer vulnerability to economic and environmental crises.

## **Documentation and Judicial and Administrative Accountability**

Addressing Israeli crimes that targeted southern villages and Lebanon's agricultural and natural environment requires political will and an integrated approach, which combines government-led legal and diplomatic channels and close coordination with relevant ministries (justice, environment, agriculture, culture, and foreign affairs), official institutions, human rights organizations, and local communities. This approach is based on developing an appropriate litigation strategy and preparing a comprehensive legal file that systematically documents the environmental crimes committed, in accordance with internationally recognized standards. This file works to build a case against Israel and follows up in the long term, activating Lebanese diplomats at international forums concerned with the environment and climate.

### **Document War Crimes and Build a Case against Israel**

The legal and environmental track requires accurate documentation: weapons and materials used and their environmental and health impacts, including the ecocide and spacio-cide suffered by border towns and southern villages, in accordance with international standards to be determined by the Ministry of Justice.

Cooperation between official bodies and human rights and environmental organizations is essential in this regard. The Public Prosecutor's Office directs them, opens investigations into cases, and documents them for judicial use. Local

and international organizations also participate in collecting evidence, in accordance with international standards of proof, and prepare specialized technical and legal reports.

Local communities are a key element in field documentation, providing accurate testimonies and data on the locations of violations and damage to land, crops, and natural resources. This allows for the creation of a comprehensive file documenting environmental, health, social, and economic violations, including scientific and field evidence, necessary legal testimonies, and reliable reports to support and strengthen Lebanon's position before international courts.

#### **Develop a Strategy for Litigating and Prosecuting Israel**

As part of the judicial accountability process, the government should take formal administrative measures and develop a comprehensive litigation strategy, in cooperation with the relevant ministries, particularly the Ministry of Justice and the Ministry of Foreign Affairs.

This strategy should be implemented by bringing proceedings before UNGA, as was done after the July 2006 war, or by filing complaints before the Security Council or the International Criminal Court. Lebanon would need to accede to the Court or submit an official declaration accepting the Court's jurisdiction (or for a limited period) over specific crimes. Additional avenues could be activated through the Human Rights Council and special rapporteurs.

This path ends with a submission and follow-up of complaints before competent authorities, in accordance with a proposed strategy. The aim is to demand comprehensive compensation for damages and hold polluters and aggressors fully responsible for them, and to ensure continuous legal and diplomatic follow-up in support of Lebanon's position, in coordination with international human rights and environmental organizations, that would enhance Lebanon's legal chances of success.

#### **Activate Lebanese Diplomacy in International Forums regarding the Environment and Climate**

In parallel with a judicial process, the Ministry of Justice is working in coordination with the Ministry of Foreign Affairs, MoE, and UN agencies to activate

Lebanese diplomacy within international forums on environmental and climatic matters, such as Conference of the Parties, the Loss and Damage Fund, and the global movement to criminalize ecocide, among others. This diplomatic presence aims to mobilize the international community, call for the enforcement of international treaties, secure global recognition of Israeli environmental crimes, and push for the establishment of clear mechanisms for claiming compensation and environmental rehabilitation.

## **Strengthen Environmental and Institutional Governance for Recovery**

Strengthening environmental and institutional governance for recovery is linked to the state's ability to coordinate efforts and provide and organize resources in an effective and sustainable manner, including securing diverse and independent sources of funding that enable the implementation of a comprehensive and credible recovery plan. It also includes ensuring the participation of local communities and affected people, especially the most vulnerable groups, in all stages of decision-making, from planning to implementation and follow-up. This commitment to joint representation is fundamental to building trust, better inclusion, and effective responses, and is effective for promoting transparency, future accountability, and strengthening advocacy efforts on priority issues.

#### **Ensure Transparency and Participation in the Activities of Government, Ministries, and International and Local Organizations**

Future recovery and reconstruction plans must be written, transparent, and subject to public debate, based on the right of access to information – ensuring that local environmental justice bodies, farmers, and those affected themselves by these discussions – that a shared local vision for return, reconstruction, and environmental recovery is formulated. This approach allows residents and farmers to be involved in setting recovery priorities and guaranteeing plans are aligned with realistic needs. It presents clear frameworks for access to information on formal and informal institutions involved in reconstruction policies that safeguards justice and accountability.

### **Establish a National Framework for Environmental and Agricultural Recovery**

A comprehensive recovery from environmental damage requires strengthening coordinated channels between different actors through establishing a national framework for environmental recovery led by the MoE with participation from MoA, alongside NCSR, and relevant public institutions. The aim is to coordinate field assessments, direct resources, and ensure transparency when disseminating results and developing a recovery strategy. This includes coordinating with local communities that have actual, direct knowledge of needs on the ground; international organizations that provide financial resources and technical expertise to implement environmental interventions; local organizations with field expertise that can identify needs and damage, and guide interventions; and community involvement in monitoring, evaluation, and participatory and sustainable natural resource management. Universities, academics, and professional associations also play an important role in providing scientific and technical support for damage assessment and solution development.

### **Secure Sustainable Resources for Environmental Recovery**

Environmental recovery and reconstruction require securing sustainable and diversified financial resources that implement environmental and agricultural rehabilitation programs, independent of conditional funding or the use of financial support as a tool to apply political pressure. In this context, the proposed national framework for environmental recovery provides a space to develop a clear plan for identifying the resources required, estimating the costs of rehabilitation, and designing practical mechanisms to secure financing outside the scope of conditional international loans. This includes activating untapped domestic sovereign funding sources, such as public property, endowments, vacant apartments, reforming the tax system, and addressing tax evasion. This will allow resources to be directed toward environmental recovery priorities. Although this path does not constitute an immediate solution, given the urgent need for intervention, it remains an essential step toward building gradual financial independence that strengthens the national capacity to implement fair and sustainable environmental recovery plans.

## **Establish a National Vision that Promotes Natural and Residential Values to Border Areas**

In response to discourses and plans calling for the transformation of border areas into buffer zones or economic zones, similar to the “Trump Economic Plan” for southern Lebanon, and depopulating the region, it is necessary to establish a national vision for border areas that enhances their natural and residential values and protects their environmental and agricultural resources. This vision should be based on local economic and development concepts for these areas that build on their strengths and involve their inhabitants, in line with a comprehensive plan for organizing Lebanese land – limiting the sale of land within these areas and developing plans to address the social and economic dispersion of displaced border village residents. This prevents attempts at exploitation or external plan implementation to displace residents and seize their land, on one hand, and facilitates their return, on the other.

### **Implement the NPMPLT and Its Guidelines for Reconstructing Border Villages**

According to this comprehensive Plan for the organization of Lebanese territory, the southern region comprises three main urban centers: Sidon, as a commercial hub, Tyre, as a heritage and tourist city, and Nabatieh, as an inland hub with potential for future development. These centers are surrounded by local rural hubs within a rich natural and agricultural environment that forms a fundamental economic pillar. The southern plain stretching from Sidon to Naqoura is one of Lebanon’s most important agricultural areas. These regions, particularly along the border, are of national importance. They must be protected, used exclusively for agricultural production, and their sustainability promoted. In addition, towns and villages invested in their development potential must be supported.

In light of the above, it is necessary to apply NPMPLT guidelines for the arrangement of Lebanese lands when reconstructing border villages in a way that improves the natural environmental and agricultural advantages of the southern economy. Protecting

them safeguards the land's continued use for agricultural and food activities, and ecological and rural tourism. This approach strengthens town and village resilience, guarantees inhabitants' return, and rebuilds a balanced local economy based on the region's natural resources and assets.

#### **Adopt Legislation to Limit Land Sales and Enable People to Rebuild on Their Own Lands**

Under the law protecting areas affected by the Beirut port explosion, it prohibits real estate transactions, sales, annexations, and divisions for a period of two years in affected areas, in order to prevent exploitation of the economic crisis, force landowners to sell their properties at low prices, and protect against the general injustice that some may exploit in such circumstances. The aim is to protect citizens and their rights from exploitation by striking a balance between private property rights and the need to maintain public order in the public interest, both of which have constitutional value. Similarly, adopting legislation that restricts land sale during reconstruction, particularly in border areas and those that have been subjected to spatial destruction, is necessary to ensure residents return to their areas, encourage reconstruction in places where they used to live, prevent real estate speculation, and counter any attempts by financiers or companies to exploit the crisis to acquire land. This is contrary to the current framework, which is based on compensating residents even if they want to build elsewhere.

#### **Develop Plans and Programs to Limit Social and Economic Dispersion from Border Villages**

During the reconstruction period, it is necessary to support residents in places of displacement by developing comprehensive plans and programs, including, but not limited to, housing plans based on temporary allocation close to areas of origin, local employment opportunity provision, and support for education and social services in areas of displacement. These plans and programs aim to address the issue of displacement, not only from a housing perspective, but also by addressing the accompanying social and economic disruption that preserves the social fabric and secures basic services, such as education, health, and economic support until displaced persons can safely return to their areas. This will contribute to reducing permanent displacement and restore normal life in border areas.

Table 5: Pillars and Recommendations by Responsible Parties and Timeframe

Pillar/ Recommendations	Steps/Mechanisms required	Responsible party	Timeframe
Ensure return	Remove mines and explosive remnants of war	Lebanese army in cooperation with international and local organizations (UNIFIL, UNMAS, NPA, etc.) and municipalities	short
	Remove debris	Ministry of Public Works and Transport, South Council, Council for Development and Reconstruction, and debris removal contractors under the supervision of Khatib and Alami	short
	Rehabilitate infrastructure	Council for Development and Reconstruction (through LEAP and World Bank funding) in cooperation with ministries and public institutions (Ministries of Public Works and Transport, Energy and Water, Telecommunications, South Council, Electricité du Liban, South Water Company, National Litani River Authority), and in local coordination with municipalities, municipal unions, and governors	short/medium
	Secure temporary service areas	Municipalities in coordination with local associations (Wata'awanu Association) and town residents	short
	Secure access to agricultural land	Lebanese army in cooperation with UNIFIL, municipalities, and landowners	medium

Pillar/ Recommendations	Steps/Mechanisms required	Responsible party	Timeframe
Environmental and agricultural rehabilitation	Coordinate and update surveys through a central authority, according to unified methodology and standards	NCSR, in coordination with ministries and public institutions (Ministries of Environment and Agriculture, Council for Development and Reconstruction, Litani River Authority, South Council) and international organizations (UNHABITAT, UNDP, FAO) and local associations (Amel International, Jihad al-Binaa Development Association, Soils, LRI, Order of Malta, Jibal, Green Southerners, Buzuruna Juzuruna, ESDU at AUB, etc.)	short/medium
	Place ecocide high on the government committee's agenda	Ministries of Environment and Agriculture	short
	Implement a plan to address environmental damage based on survey results	MOE in cooperation with the MoA, public institutions, UN organizations, international organizations, and local organizations, municipalities, and residents	short/medium/ long
Adopt and implement a strategy for monitoring, sorting, and recycling rubble	MOE in coordination with the Ministry of Public Works and Transport, the South Council, the Council for Development and Reconstruction, and debris removal contractors, under the supervision of Khatib and Alami, and in cooperation with municipalities, civil society, and relevant international and local organizations	short/medium	

Pillar/ Recommendations	Steps/Mechanisms required	Responsible party	Timeframe
Support farmers and residents	Support farmers in kind and financially	MoA in cooperation with public institutions, municipalities (South Council), international organizations (WFP, UNIFIL), and local organizations (Amel International, LRI, Agricultural Movement, Wata'awanu Association, Jihad al-Binaa Development Association, etc.)	short/medium
	Secure agricultural land in areas of displacement	Municipalities, ministries, and relevant public institutions	short/medium
	Advise farmers on how to deal with contaminated land, crops, and livestock	Ministries of Agriculture and Environment in cooperation with international and local organizations, municipalities, municipal unions, and governors	short
	Establish agricultural cooperatives for support and guidance	MoA in cooperation with municipalities, farmers, and relevant associations	medium/long
Documentation and judicial and administrative accountability	Document war crimes and build a case against Israel	The government, in coordination with the Ministries of Justice, Environment, Agriculture, and Culture; public prosecutors; and international and human rights organizations (HRW, Amnesty International, The Legal Agenda, Public Works Studio, etc.)	short/medium
	Develop a strategy for litigating and prosecuting Israel	The government, in coordination with the Ministries of Justice and Foreign Affairs	medium/long
	Activate Lebanese diplomacy in international forums regarding the environment and climate	Ministries of Environment, Agriculture, and Foreign Affairs; government; and United Nations agencies (UNDP, UNEP, etc.)	medium/long

Pillar/ Recommendations	Steps/Mechanisms required	Responsible party	Timeframe
Strengthen environmental and institutional governance for recovery	Ensure transparency and participation in government, ministries, and international and local organizations	Reconstruction Committee, relevant ministries, municipalities, and municipal unions	short/medium/long
	Establish a national framework for environmental and agricultural recovery	MOE in coordination with the Reconstruction Committee, the MoA, governors/mayors, international and local associations, community initiatives, and representative frameworks of the population	medium/long
Establish a national vision that promotes natural and residential values to border areas	Secure sustainable resources for environmental recovery	Reconstruction Committee, Ministry of Finance, House of Representatives	short/medium/long
	Implement the NPMP/LT and its guidelines for reconstructing border villages	Higher Council for Urban Planning, government, municipalities and municipal unions, Engineers' Union, resident and farmer representatives	medium/long
	Adopt legislation to limit land sales and enable people to rebuild on their own lands	House of Representatives and Reconstruction Committee	short/medium
Develop plans and programs to limit social and economic dispersion from border villages	Ministry of Social Affairs in cooperation with the Public Housing Corporation and in coordination with the Reconstruction Committee, municipalities, and municipal unions	short/medium	





---

### **About the Arab Reform Initiative**

The Arab Reform Initiative is an independent Arab think tank working with expert partners in the Middle East and North Africa and beyond to articulate a home-grown agenda for democratic change and social justice. It conducts research and policy analysis and provides a platform for inspirational voices based on the principles of diversity, impartiality, and gender equality.

### **About the Public Works Studio**

Public Works Studio is a Lebanon-based action research organization that uses a multidisciplinary approach to spatial justice. It addresses, mobilizes around, and actively responds to the chronic challenges facing just cities, inclusive urban governance and equitable development in Lebanon.

---



contact@arab-reform.net  
Paris - Beirut - Tunis