



Food and Agriculture
Organization of the
United Nations

LEBANON

Agricultural damage and loss assessment on the impact of conflict

DIEM-Impact report
October 2023–November 2024



LEBANON

Agricultural damage and loss assessment
on the impact of conflict

DIEM-Impact report
October 2023–November 2024

REQUIRED CITATION

FAO. 2025. *Lebanon: Agricultural damage and loss assessment on the impact of conflict – DIEM-Impact report, October 2023–November 2024*. Rome. <https://doi.org/10.4060/cd5013en>

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

ISBN 978-92-5-139748-0

© FAO, 2025



Some rights reserved. This work is made available under the Creative Commons Attribution- 4.0 International licence (CC BY 4.0: <https://creativecommons.org/licenses/by/4.0/legalcode.en>).

Under the terms of this licence, this work may be copied, redistributed and adapted, provided that the work is appropriately cited. In any use of this work, there should be no suggestion that FAO endorses any specific organization, products or services. The use of the FAO logo is not permitted. If a translation or adaptation of this work is created, it must include the following disclaimer along with the required citation: “This translation [or adaptation] was not created by the Food and Agriculture Organization of the United Nations (FAO). FAO is not responsible for the content or accuracy of this translation [or adaptation]. The original [Language] edition shall be the authoritative edition.”

Any dispute arising under this licence that cannot be settled amicably shall be referred to arbitration in accordance with the Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL). The parties shall be bound by any arbitration award rendered as a result of such arbitration as the final adjudication of such a dispute.

Third-party materials. This Creative Commons licence CC BY 4.0 does not apply to non-FAO copyright materials included in this publication. Users wishing to reuse material from this work that is attributed to a third party, such as tables, figures or images, are responsible for determining whether permission is needed for that reuse and for obtaining permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

FAO photographs. FAO photographs that may appear in this work are not subject to the above-mentioned Creative Commons licence. Queries for the use of any FAO photographs should be submitted to: photo-library@fao.org

Sales, rights and licensing. FAO information products are available on the FAO website (www.fao.org/publications) and print copies can be purchased through the distributors listed there. For general enquiries about FAO publications please contact: publications@fao.org. Queries regarding rights and licensing of publications should be submitted to: copyright@fao.org.

Cover photograph: © FAO/Ralph Azar

Contents

Acknowledgements	v
Abbreviations	vi
Introduction	1
Key findings.....	1
Pre-disaster context.....	6
Damages and losses	9
Damage and loss estimates – Crops	9
Damage and loss estimates – Livestock.....	10
Damage and loss estimates – Forestry	11
Damage and loss estimates – Aquaculture	12
Damage and loss estimates – Fisheries	12
Summary of damages and losses	13
Impact on the United Nations Sustainable Development Goals – human and macroeconomic situation	14
Recovery and reconstruction needs and costs	16
Sector recovery strategy.....	17
Key recovery priorities.....	17
Key policy recommendations	17
Recommendation for recovery interventions	18
Implementation strategy and stakeholders.....	18
Sector assessment methodology	20
Crops and crop assets.....	20
Livestock damages and losses	21
Forestry damages and losses	22
Aquaculture damages and losses.....	23
Fisheries damages and losses	23
Limitations	24
References	25
Annexes.....	27

Figures

1. Value of damages and losses by subsector (USD).....	2
2. Proportion of damages and losses by subsector	2
3. Damages and losses by district (thousands of USD)	3
4. Reconstruction and recovery needs in agriculture (USD million).....	5
5. Lebanon agricultural calendar	8

Tables

1. Damages and losses (by subsector).....	1
2. Damages and losses by subsector (USD).....	13
3. Reconstruction and recovery needs (USD million)	16

Acknowledgements

This assessment was done in close collaboration with the Ministry of Agriculture (MoA) and National Council for Scientific Research (CNRS).

The authors extend their gratitude to the MoA and its decentralized offices for sharing critical information and insights, as well as to CNRS for their fundamental collaboration in performing analytics and providing the remote data that this assessment largely relied on. The authors also thank the World Bank and other partners in addition to experts, informants and stakeholders who provided essential perspectives contributing to this assessment.

Furthermore, special thanks go to technical teams at the Food and Agriculture Organization of the United Nations (FAO), particularly the Office of Emergencies and Resilience, and the Land and Water Division for their invaluable support, and the United Nations Satellite Centre.

This assessment was prepared by a team of experts at the FAO Representation in Lebanon:

- Lena Abou Jaoude, Food Security and Agricultural Livelihoods Assessment Specialist
- Elie Choueiri, Programme Associate
- Jeremy Cuvelier, International Monitoring and Evaluation Specialist
- Amal Salibi, Senior Expert in Agroeconomics

With the technical support of the Data in Emergencies (DIEM) Team in FAO's Office of Emergencies and Resilience:

- Angela Kafembe, Food Security and Agricultural Livelihoods Assessment Specialist
- Josselin Gauny, Emergency and Rehabilitation Officer
- Paige McGreevy, Outreach and Reporting Specialist
- Laetitia Salmson, Outreach and Reporting Specialist

Under the overall supervision of:

- Veronica Quattrola, FAO Representative in Lebanon *ad interim*
- Etienne Careme, Resilience and Liaison Officer, FAO Representation in Lebanon

Abbreviations

CNRS	National Council for Scientific Research
DIEM	Data in Emergencies
FAO	Food and Agriculture Organization of the United Nations
GDP	gross domestic product
IPC	Integrated Food Security Phase Classification
MoA	Ministry of Agriculture
MSME	micro, small and medium enterprises
NGO	non-governmental organization
RFI	recent food insecurity
SDG	Sustainable Development Goal

Introduction

This report presents the findings of an assessment of the damages and losses sustained by Lebanon’s agriculture sector due to the conflict between 8 October 2023 and 27 November 2024, which serves as the end date for this analysis.

By 27 November 2024, the conflict had reportedly resulted in 3 583 deaths and 15 244 injuries in Lebanon (United Nations Office for the Coordination of Humanitarian Affairs [OCHA], 2024). The crisis affected 1.4 million people, including 899 725 individuals who were internally displaced in November 2024, and over 562 000 Lebanese and Syrian nationals who are estimated to have crossed into the Syrian Arab Republic. The conflict has caused extensive destruction estimated at USD 3.4 billion and economic losses estimated at USD 5.1 billion (World Bank, 2024a).

This assessment relied primarily on remote data collection and analytics, and the information available within the assessment timeframe to provide preliminary and partial estimates. The actual value of the total damages and losses to the agriculture sector is expected to exceed the figures presented in this report.

Additionally, the report provides estimates of recovery and reconstruction needs, along with a recovery strategy for the sector to inform a comprehensive Emergency and Recovery Plan currently in development by FAO and the MoA.

Key findings

Damages and losses

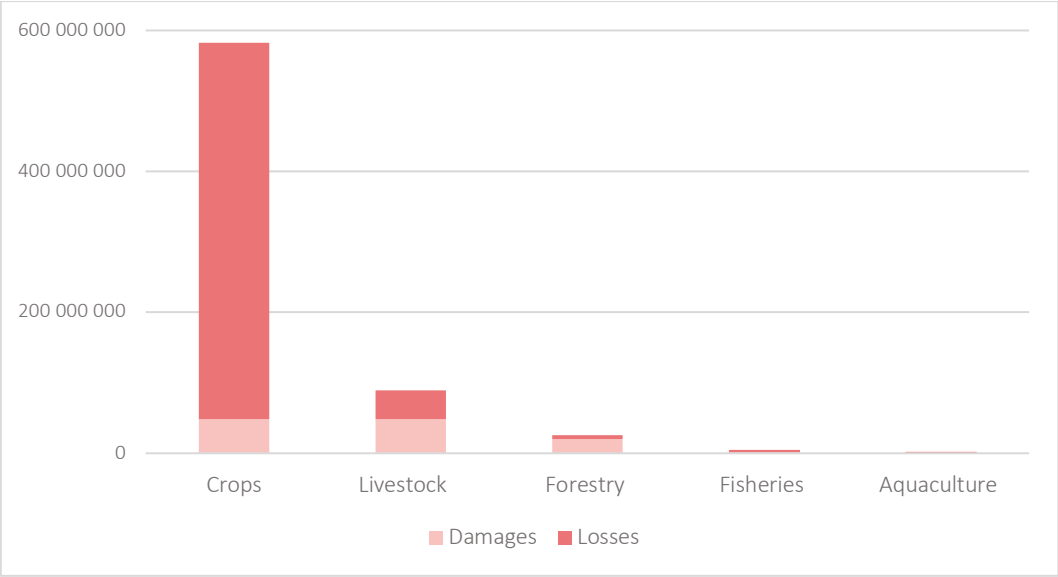
The agriculture sector in Lebanon has incurred an estimated USD 118 million damages and USD 586 million losses, primarily in southern Lebanon and the Bekaa valley. The most affected subsector is crops, followed by livestock, forestry, fisheries and aquaculture (Table 1; Figure 1; Figure 2).

Table 1. Damages and losses (by subsector)

Subsector	Damages (USD)	Losses (USD)	Total (USD)
Crops	48 794 503	533 539 181	582 333 684
Livestock	48 053 658	41 447 263	89 500 921
Forestry	19 785 235	6 016 575	25 801 810
Fisheries	765 000	3 909 407	4 674 407
Aquaculture	536 000	1 110 000	1 646 000
Total	117 934 396	586 022 426	703 956 822

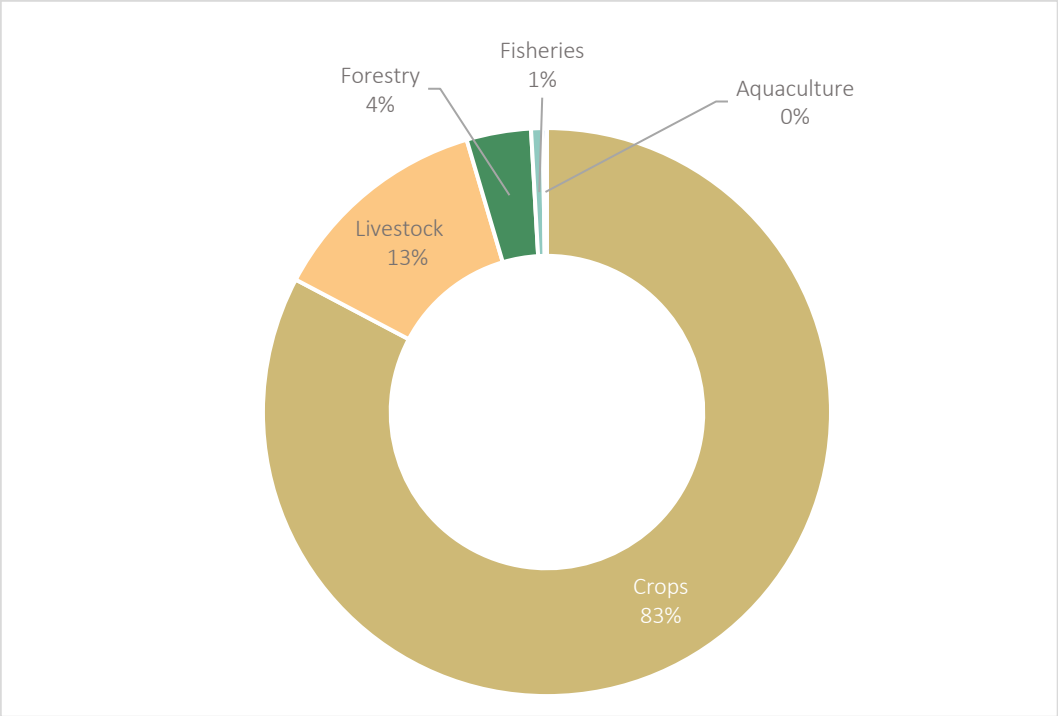
Source: FAO. 2024. DIEM-Impact. In: *Data in Emergencies (DIEM) Hub*. Rome. [Cited 28 March 2025]. <https://data-in-emergencies.fao.org/pages/impact>

Figure 1. Value of damages and losses by subsector (USD)



Source: FAO. 2024. DIEM-Impact. In: *Data in Emergencies (DIEM) Hub*. Rome. [Cited 28 March 2025]. <https://data-in-emergencies.fao.org/pages/impact>

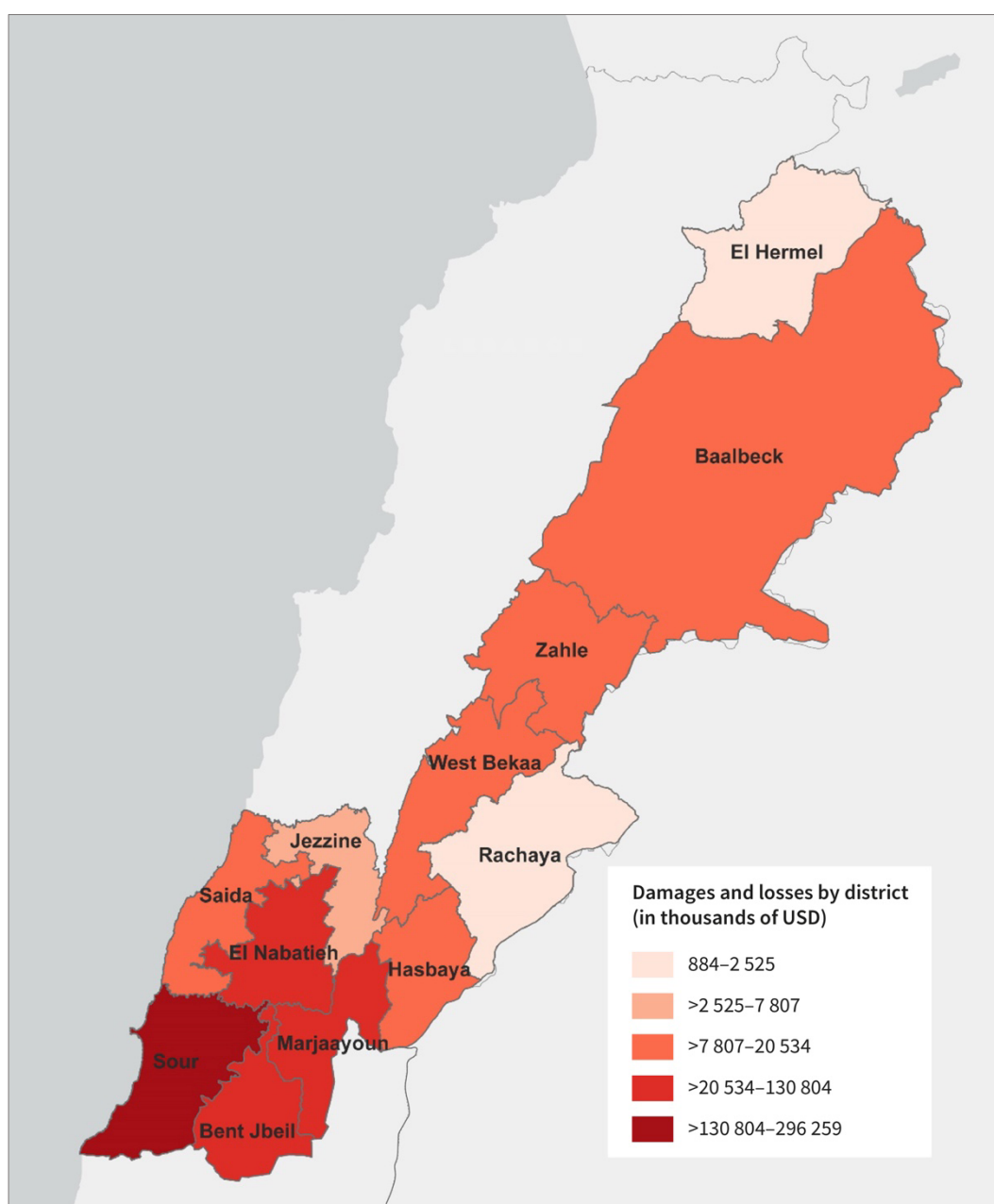
Figure 2. Proportion of damages and losses by subsector



Source: FAO. 2024. DIEM-Impact. In: *Data in Emergencies (DIEM) Hub*. Rome. [Cited 28 March 2025]. <https://data-in-emergencies.fao.org/pages/impact>

The southern governorates most affected by damages and losses were El Nabatieh (USD 335 million) and South (USD 323 million). The Bekaa valley was affected to a lesser extent – Bekaa (USD 29 million) and Baalbek-El Hermel (USD 16 million). The district most severely affected was Sour (USD 296 million) (Figure 3).

Figure 3. Damages and losses by district (thousands of USD)



Note: Refer to the disclaimer on page ii for the names and boundaries used in these maps.

Source: FAO. 2024. DIEM-Impact. In: *Data in Emergencies (DIEM) Hub*. Rome. [Cited 28 March 2025]. <https://data-in-emergencies.fao.org/pages/impact>

Among crops, olive production was the most affected (USD 11 million in damages and USD 236 million in losses), followed by citrus (USD 10 million in damages and USD 97 million in losses) due to the burning of 2 154 hectares of orchards including 814 hectares of olive groves, 637 hectares of citrus orchards and 461 hectares of banana plantations in El Nabatieh and South governorates alone. The most affected annual crop was tobacco (USD 46 million) in the same two governorates. Damages to crop assets (USD 12 million) stemmed from the destruction of 1 050 hectares of field irrigation systems, 23 hectares of greenhouses, 1 hectare of agricultural solar panels¹ and other assets.

¹ Area of solar panels totally or partially damaged.

The livestock sector incurred the loss of approximately 2.3 million animals, including approximately 2.2 million poultry, 55 657 sheep and goats, 3 064 cattle and 49 850 beehives resulting in the loss of milk (USD 25 million) and honey (USD 12 million), and infrastructure damages (USD 19 million). The cattle sector was the hardest hit with USD 19 million in damages and losses. El Nabatieh and Marjaayoun suffered the most significant livestock damages and losses.

The forestry sector incurred the destruction of 4 946 hectares of forests, including 89 hectares of stone pine (*Pinus pinea*), 70 hectares of other pine species and 4 787 hectares of broadleaf forests – in Nabatiyeh and South governorates – estimated at USD 20 million, and resulting in USD 3 million in pine kernel losses and USD 3 million in firewood losses.

The aquaculture sector suffered the damage of 14 fish farms in El Nabatieh, Zawtar, Khiem, Wazzani, Marjaayoun, Hasbaya and El Hermel. The disruption and temporary abandonment of fish farms caused an estimated decrease in fish production of 300 tonnes in Bekaa and Baalbek-El Hermel governorates, and 70 tonnes in El Nabatieh and South governorates (USD 4 million).

The fishery sector suffered the partial destruction of 15 fishing vessels and the complete loss of 11 vessels (8 in Naqura port and 3 in Sarafand/Ziri). Fishing activities were suspended for eight months in Naqura and two to three months in Sour, Sarafand/Ziri, Ain-Qantara, Mouniss, Saida, Ouzai and Jieh affecting 837 vessels. This resulted in a loss of 390 tonnes of fishery products, representing 14–16 percent of the national catch compared to 2022/23 levels.

Needs and recovery

Total reconstruction and recovery needs in agriculture are estimated at USD 263 million, with total agricultural priorities estimated at USD 95 million for 2025/26 (see Table 3 on page 16 of this report).

Immediate emergency assistance is essential for the resumption of agricultural activities, including support for crop, livestock, fisheries and aquaculture production requiring USD 32 million. This support will help provide the necessary seed, fertilizer, feed, small tools and equipment to maintain and resume production, safeguard livelihoods and contribute to food security.

In terms of reconstruction and restoration, significant investments are required for the replacement of perennial crops, livestock restocking, and the rehabilitation of small agricultural assets and infrastructure such as greenhouses, on-farm irrigation systems and machinery. These needs are estimated at USD 45 million, USD 51 million and USD 11 million, respectively.

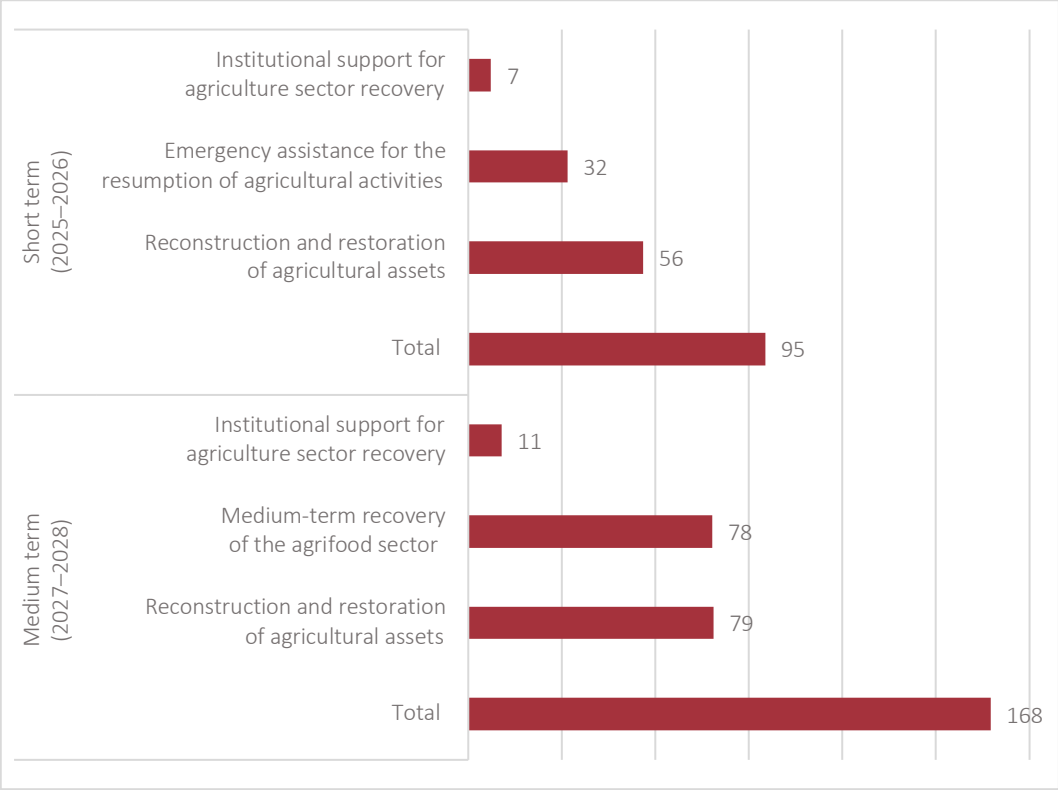
Additionally, emergency support for agrifood micro, small and medium enterprises (MSMEs) will require USD 7 million, and the restoration of forests and pasturelands will need USD 3 million.

Efforts to support the rehabilitation of livestock and aquaculture farms, and fisheries vessels will require USD 16 million, while USD 700 000 is needed for the rehabilitation of agricultural and research centres, and agricultural vocational schools.

For medium-term recovery, approximately USD 39 million is needed for the revitalization of agricultural value chains including fruit, vegetables and dairy, and another USD 39 million is needed for the sustainable management of natural resources, focused on irrigation water infrastructure, forests and pasturelands, and sustainable fisheries management.

Finally, USD 18 million is needed for institutional support to strengthen coordination and implementation mechanisms, manage information systems for recovery, resume agricultural service delivery, invest disaster and climate change resilience, and strengthen agricultural public institutions to effectively drive reconstruction and recovery. Short- and medium-term reconstruction and recovery needs are summarized in Figure 4.

Figure 4. Reconstruction and recovery needs in agriculture (USD million)



Source: FAO. 2024. DIEM-Impact. In: *Data in Emergencies (DIEM) Hub*. Rome. [Cited 28 March 2025]. <https://data-in-emergencies.fao.org/pages/impact>

Pre-disaster context

In 2022, before the conflict, the agriculture sector, comprising crop farming, livestock, forestry and fishing, contributed 8 percent of Lebanon's gross domestic product (GDP) (Central Administration for Statistics [CAS], 2021). Prior to the conflict, the sector had shown consistent growth compared to its contribution of 3 percent of the GDP from 2015 to 2019 amid the series of severe shocks that occurred in Lebanon since 2019, including a financial and economic collapse marked by currency devaluation, sovereign default, hyperinflation and rising poverty, further compounded by the COVID-19 pandemic and the 2020 Beirut Port explosion that led to the contraction of other sectors (FAO and World Food Programme [WFP], 2024).

Before the economic crisis, the agriculture GDP was comprised of the crop subsector, including forestry, (56 percent) and the livestock subsector, including fisheries (44 percent) (McKinsey & Company, 2018).

The food processing industry contributed an additional 4 percent to the agriculture sector's contribution to Lebanon's GDP, bringing the total agrifood sector contribution to 13 percent.

Agriculture also provided significant employment, with around 57 000 people employed in the sector in 2018 and 2019, representing 3.6 percent of the active labour force (FAO and WFP, 2024). In addition, agricultural employment grew notably, particularly among non-Lebanese workers, whose share of agricultural jobs increased from under 5 percent in 2019 to nearly 19 percent by 2023. Lebanese employment in agriculture also grew to just over 5 percent by 2023, helping to mitigate the economic downturn and provide jobs, especially for less well-off non-Lebanese households (World Bank, 2024b).

Lebanon remains dependent on imports for most agricultural products, including cereals, meat and dairy due to limited arable land and resources. Exports primarily consist of fruit and vegetables, which are highly profitable and in strong demand internationally, although the sector faces challenges from economic instability and trade barriers.

According to the 2010 agricultural census, arable agricultural land in Lebanon covers 385 000 hectares, approximately 37 percent of the country's total surface area (MoA, 2010). By 2021, around 271 000 hectares were cultivated, with 50 percent dedicated to permanent crops (such as fruit trees and olives), 49 percent to temporary crops and 1 percent to greenhouses. The primary agricultural regions in Lebanon include the Bekaa Valley, the Akkar plain, and the coastal areas of North and South governorates.

There are two broad cropping systems: irrigated and rainfed. Main irrigated crops include potatoes, vegetables, and most fruit trees and table grapes. Main rainfed crops include wheat, barley, pulses, olive trees, wine grapes, cherries, almonds, pines and carobs.

Broadly, there are three cropping seasons defined by the period of planting: autumn/winter (November to December), spring (February to March) and summer (from

May onward). During the autumn/winter season, the main crops are cereals such as wheat and barley, and pulses such as chickpeas and lentils. In spring, the main crops are early vegetables (early potatoes, carrots, tomatoes, zucchini, onion and cabbage). The summer season crops include midseason or late potatoes, cucumber, eggplants, cabbage, sweet corn, beans and fodder maize.

According to the latest agricultural production survey conducted by the Ministry of Agriculture, with technical support from FAO in 2021, high-value crops include tropical fruits, citrus, stone fruits, potatoes, vegetables and table grapes. Medium-value crops encompass olives, pome fruits, berries, nuts and alfalfa. Cereals and pulses are considered low-value crops, offering limited income potential for farmers. However, despite their lower economic value, these crops play a crucial role in the crop rotation cycle on irrigated land alongside higher-value crops like potatoes and vegetables.

Among animal products, milk accounts for 34 percent of the total value of animal production, followed by poultry meat at 28 percent, and red meat and eggs, which each contribute 17 percent to the overall animal production value.

According to the 2020 census of fishing fleets in Lebanon, a total of 2 688 fishing vessels were recorded. The Lebanese fishing fleet is predominantly artisanal, with approximately 96 percent of vessels utilizing passive gears. The annual catch for marine fish ranges between 3 000 tonnes and 4 200 tonnes depending on the year.

As for the aquaculture subsector, based on the census carried out in 2021, a total of 367 aquaculture farms were identified with total production reaching 4 343 tonnes of fish, over 95 percent of which is trout.

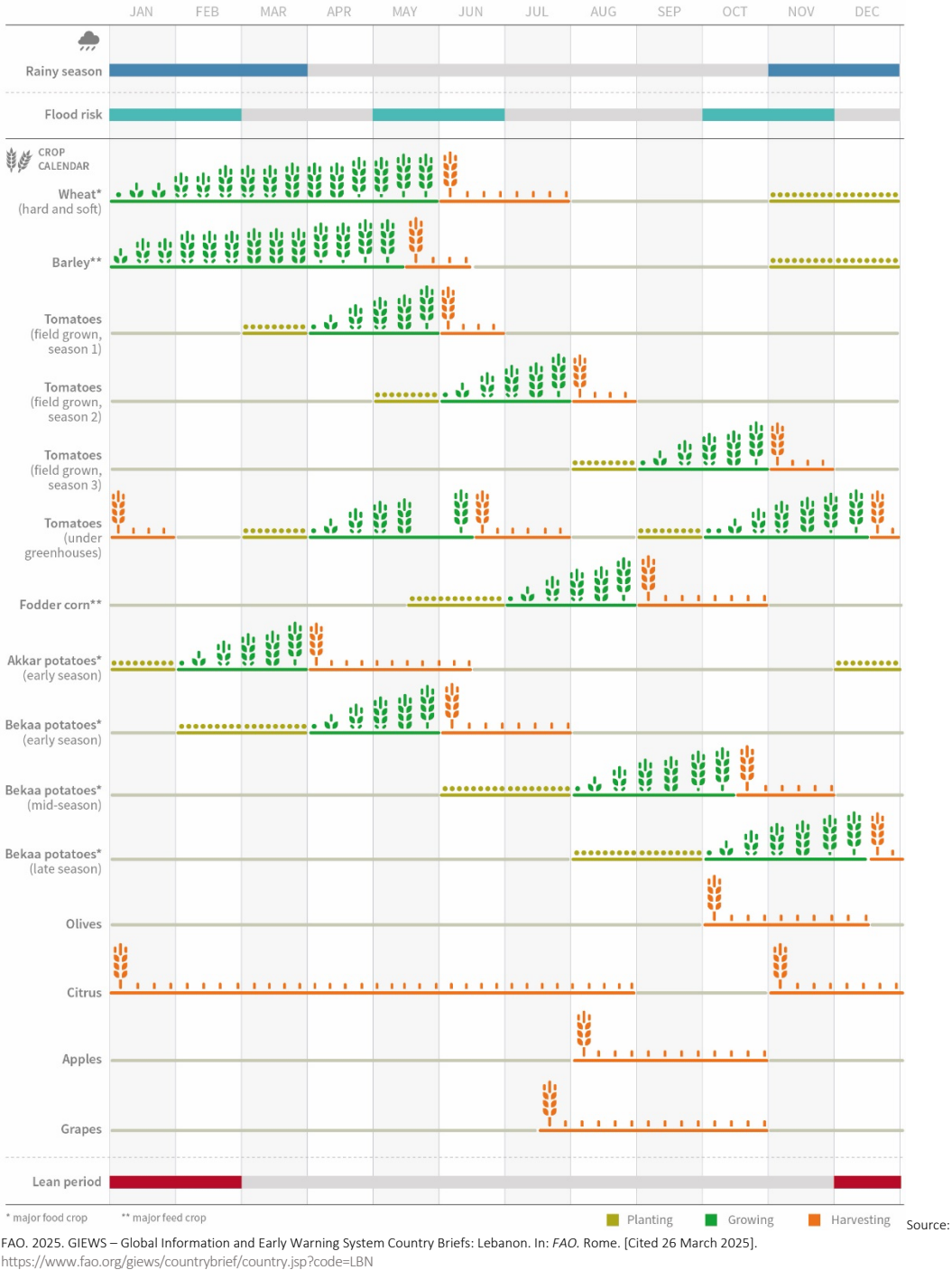
According to the National Forest Assessment Programme conducted by FAO and the MoA in 2022, forest areas cover 14 percent (140 845 ha) of the country's area while other wooded land account for 8.5 percent (88 462 ha). These findings indicate a 5 percent increase in forest area and a 27 percent decrease in other wooded lands as compared to 2005.

The MoA holds the primary responsibility for the agriculture sector in Lebanon, though it is not the sole authority. The MoA's budget is extremely limited, constituting just 0.3 percent of the 2024 national budget, down from 0.4 percent prior to the financial crisis. The sector remains underfunded, with an agriculture orientation index of only 0.05 in 2021, well below the global average of 0.48. Additionally, investment in agriculture has been minimal, with the sector receiving only 1.5 percent of total credit in 2022, according to the Central Bank (MoA, 2020a; FAO, 2021).

In addition, research, academia and the private sector including farmers, agricultural services, agricultural industries and their associations, as well as the Chamber of Commerce, Industry and Agriculture contribute largely to the growth of the agriculture sector. Before the economic crisis, the private sector used to provide agricultural credits to farmers which was disrupted following the economic and financial crisis.

The areas that experienced the most hostilities outside of Beirut are important agricultural regions. The Bekaa valley (Baalbek-El Hermel and Bekaa governorates) hosts 36 percent of Lebanon’s cropland, including 53 percent of the country’s cereals and grape fields, and 45 percent of the crop fields. South governorate has 13 percent of Lebanon’s cropland, 53 percent of the national banana plantation and 33 percent of the citrus orchards. El Nabatieh hosts 13 percent of the country's crop fields, most of which are field crops (39 percent), cereals (24 percent) and olives (30 percent) (FAO, 2025b). Most of the country’s irrigated fields are in affected areas including Bekaa (51 percent), Baalbek-El Hermel (26 percent) and South (10 percent) governorates (FAO, 2025a).

Figure 5. Lebanon agricultural calendar



Damages and losses

Since the period of hostilities from October 2023 to September 2024, villages on the southern border in Sour, Bent Jbeil and Marjaayoun districts were affected by conflict that caused damages to agricultural fields and assets, and halted agricultural activities. Then, the escalation of hostilities from 23 September 2024 until the ceasefire on 27 November 2024 across South, El Nabatieh, Baalbek-El Hermel and Bekaa governorates, resulted in widespread destruction, mass population displacement, and the inability for farmers, livestock breeders and fisherfolk to carry out critical activities. Following the ceasefire, displaced populations began to return home. While some farmers resumed their activities, access restrictions in border areas persisted, leading to further losses.

Damage and loss estimates – Crops

Between October 2023 and September 2024, the conflict disrupted the planting of 2023/24 winter cereals and tobacco and halted the autumn 2023 harvest of olives and other fruit along the border. The subsequent escalation in October and November 2024 affected the potato harvest in Bekaa Valley, the sowing of 2024/25 winter cereals, and the harvest of olives and fruit including citrus and bananas. After the ceasefire, some farmers resumed sowing of 2024/25 winter cereals, and harvested olives and citrus, but border area access restrictions persisted causing further losses.

The annual and perennial crops subsector incurred an estimated USD 49 million in damages and USD 533 million losses.

The damages to perennial crops are estimated at USD 36 million due to the burning of 2 154 hectares of fruit orchards including 814 hectares of olive orchards, 637 hectares of citrus orchards, 461 hectares of banana plantations, 192 hectares of fruit² tree orchards and 48 hectares of vineyards in El Nabatieh and South governorates alone. In addition to being burned, fruit trees were also cut down and uprooted (Middle East Monitor, 2024). These damages have yet to be quantified. Damages to orchards in Baalbek-El Hermel and Bekaa governorates have also not been quantified.

Damages to crop assets are estimated at USD 12 million including 1 050 hectares of field irrigation systems, 23 hectares of greenhouses, 1 hectare of agricultural solar panels, and other crop-related assets across southern Lebanon, Baalbek and Bekaa valley.

Crops losses are estimated at USD 533 million including USD 111 million of annual crops and USD 422 million of perennial crops. Losses of perennial crops account for production losses until new trees become productive – up to two years for bananas and at least five years for olives, apples and other fruit trees. Olive production has suffered the most significant losses totalling USD 236 million, primarily due to the destruction of olive groves and disrupted harvests in the districts of Sour, El Nabatieh, Bent Jbeil and

² Deciduous fruit tree orchards like apples, pears, cherries, etc.

Marjaayoun. Fruit production – including bananas, citrus, grapes and other fruit – incurred losses of USD 132 million due to orchard destruction and disrupted harvests. The beginning of the harvesting season for olives, citrus and bananas coincided with the escalation of hostilities in October 2024. The significant damages and losses to citrus fruits and olives have impacted both farmers and seasonal labourers, as well as contributing to the further deterioration of the value chains.

Among annual crops, tobacco was the hardest hit, with estimated losses of USD 46 million, followed by vegetables such as potatoes, tomatoes and greenhouse vegetables (USD 81 million), and cereals such as wheat and barley (USD 7 million). The 2023/24 winter cereal harvest, which took place in June 2024 before the escalation of hostilities, is deemed to have been only partially affected, particularly in the border villages. However, it remains uncertain to what extent farmers returning to the south after November 2024 were able to resume sowing cereals for the 2024/25 winter season.

El Nabatieh and South governorates have suffered the highest crop losses, amounting to USD 236 million and USD 258 million, respectively. Bekaa incurred USD 27 million in losses, while Baalbek-El Hermel recorded USD 11 million in crop losses. Among the districts, Sour experienced the most significant losses amounting to USD 246 million, including USD 81 million in citrus, USD 77 million in olive and USD 24 million in banana losses.

Damage and loss estimates – Livestock

The livestock sector encompassing cattle, sheep, goats, poultry and honeybees suffered from USD 48 million in damages and USD 41 million in losses. Over 2 million animals including poultry, goats, sheep, cattle and honeybees were lost, significantly disrupting the sector.

The small ruminant sector, which includes both goats and sheep, faced severe damages and losses. The total damage to the sector was estimated at USD 13 million, with approximately 55 657 sheep and goats lost or sold at low prices mainly in Sour, Marjaayoun and El Nabatieh. Meanwhile, cattle production also experienced significant damages, totalling USD 7 million, with 3 064 cattle heads lost or sold at low prices. These losses were concentrated in the four hardest-hit districts – Bent Jbeil, Marjaayoun, Sour and El Nabatieh.

The poultry sector also suffered heavy damages, totalling USD 8 million with 2.2 million birds – primarily broilers – lost. Sour district was particularly affected with damages reaching USD 2.6 million.

Honeybee production was also severely impacted with 49 850 beehives affected across various regions with damages amounting to USD 1 million, particularly in Sour and Bent Jbeil districts.

The damages to livestock assets amounted to USD 19 million, with Marjaayoun, Sour and Bent Jbeil suffering the most. Livestock sheds and farms alone accounted for

USD 10 million in damages. The poultry sector incurred additional losses in feed and poultry farms with total damages estimated at USD 705 000.

At district level, the damages in livestock, poultry, beehives and infrastructure were highest in Marjaayoun, totalling around USD 12 million, followed by El Nabatieh (USD 11 million) and Bent Jbeil (USD 10 million).

Livestock production losses accounted for 46 percent of the total damages and losses, reaching USD 41 million. Milk production losses were significant, amounting to USD 12 million for cattle, and USD 13 million for goats and sheep, with Marjaayoun and El Nabatieh showing the highest production losses. Egg production was significantly affected with losses totalling USD 1 million, mainly in Bent Jbeil and El Nabatieh districts, while honey production losses amounted to USD 12 million across the affected districts.

Regarding offspring production, small ruminants (goats and sheep) incurred the highest losses, totalling approximately USD 2 million, followed by cattle offspring with a loss of around USD 568 000.

At district level, El Nabatieh and Marjaayoun saw the highest production losses, totalling approximately USD 12 million and USD 10 million, respectively. Livestock losses included direct losses due to animal deaths as well as the future losses that will be incurred by the remaining livestock due to less production and offspring.

The loss of animals and animal products directly affected household consumption patterns likely leading to additional non-economic losses related to nutrition, health, food security and the general loss of livelihood.

Damage and loss estimates – Forestry

The forestry sector incurred an estimated USD 20 million in damages and USD 6 million in losses.

Damages correspond to the destruction of 4 946 hectares of forests, including 89 hectares of stone pine (*Pinus pinea*), 70 hectares of other pine species, and 4 787 hectares of dense and clear broadleaf forests in El Nabatieh and South governorates. Most of the destruction of stone pine occurred in Jezzine district (54 hectares) and Hasbaya district (34 hectares). In addition, 1 984 hectares of scrubland were burned in these governorates.

Loss estimates amounted to USD 3 million in pine kernel production from damaged stone pines and USD 3 million in lost firewood from the other damaged forested areas. Pine kernels provide seasonal income for small-scale landowners, and labourers involved in collection and processing, especially in remote rural and mountainous regions while also serving as export commodities (FAO, 2019). Firewood is typically sold as fuel or used in charcoal production for waterpipes. Similar to perennial crops, these estimates account for losses until new trees reach productivity which may take between 10 and 15 years.

Other forest-based activities – such as the collection of wild aromatic herbs and mushrooms – were also affected, but their losses have not been quantified due to challenges in the macrolevel assessment. Similarly, losses related to recreational activities (e.g. hiking and tourism) and environmental services have not been accounted for. In addition to the losses incurred, the conflict has also contributed to biodiversity loss. Fires, as well as the exploitation of natural resources, are generally known as contributing factors towards changing the ecosystem by eliminating the local population of some species and transforming the whole biological community (United Nations Environment Programme [UNEP], 2022). These are some of the non-economic losses that the subsector has incurred.

Damage and loss estimates – Aquaculture

The aquaculture sector incurred an estimated USD 500 000 in damages and USD 1.1 million in losses in southern Lebanon and Baalbek-El Hermel governorate. Prior to the conflict, these areas had 367 registered fish farms.

Damages included the partial destruction of one fish farm and the complete destruction of 13 fish farms in El Nabatieh, Zawtar, Khiem, Wazzani, Marjaayoun, Hasbaya and El Hermel, confirmed by local sources.

Losses in aquaculture production are attributed to an estimated decline in fish production from 1 000 tonnes to 700 tonnes in the Bekaa and Baalbek-El Hermel governorates, and from 100 tonnes to 30 tonnes in El Nabatieh and South governorates. Fish harvesting typically occurs in September and October. However, due to the intensification of hostilities and population displacement in October and November, many farmers were unable to collect their fish. This – combined with farm abandonment – led to fish mortality and delayed growth, resulting in production losses.

It is uncertain whether fish farmers – particularly in the southern regions – who began returning home in late November 2024 were able to access sufficient fingerlings and feed to restock their ponds in January, the usual stocking period. This will be a key factor determining the fish production in 2025.

Damage and loss estimates – Fisheries

The fisheries sector incurred an estimated USD 700 000 in damages and USD 4 million in losses.

Damages included the partial damage of 15 fishing vessels and the destruction of 11 vessels – 8 vessels in Naqura port and 3 in Sarafand/Ziri. Damages to fishing equipment resulting from temporary abandonment were not accounted for. Losses in fisheries production stemmed from the suspension of fishing activities for eight months in Naqura, three months in Sour, Sarafand/Ziri, Ain-Qantara and Mouniss, and two months in Saida, Ouzai and Jieh. This disruption impacted around 837 fishing vessels, representing 52 percent and 63 percent of the fishing vessels registered in 2022 and 2023.

As a result, production losses are estimated at 390 tonnes of fishery products, equivalent to 14–16 percent of the national catch compared to 2022 and 2023 levels. This estimate is based on a national average of 1 338 licensed fishing vessels reporting a total catch of 2 807 tonnes in 2022.

Summary of damages and losses

The conflict has left a devastating impact on Lebanon’s agrifood sector, exacerbating the country’s economic vulnerabilities and severely disrupting food security.

The total damages and losses in agriculture (crops, livestock, forestry, fisheries and aquaculture) caused by the conflict from October 2023 to November 2024 is estimated at USD 704 million, with losses accounting for 83 percent of the total (Table 2).

Table 2. Damages and losses by subsector (USD)

Subsector	Damages	Losses	Total
Crops	48 794 503	533 539 181	582 333 684
Livestock	48 053 658	41 447 263	89 500 921
Forestry	19 785 235	6 016 575	25 801 810
Fisheries	765 000	3 909 407	4 674 407
Aquaculture	536 000	1 110 000	1 646 000
Total	117 934 396	586 022 426	703 956 822

Source: FAO. 2024. DIEM-Impact. In: *Data in Emergencies (DIEM) Hub*. Rome. [Cited 28 March 2025]. <https://data-in-emergencies.fao.org/pages/impact>

The crop production sector suffered the most with damages and losses totalling USD 582 million, primarily due to the destruction of perennial and annual crops, crop-related assets and infrastructure particularly in El Nabatieh and South governorates.

Livestock production also sustained substantial damages and losses valued at USD 90 million caused by the death, forced slaughter of livestock and poultry, and loss of beehives, especially in El Nabatieh and South.

The forestry sector faced USD 26 million in damages and losses primarily from the destruction of forest trees and the loss of non-wood forest products.

Fisheries and aquaculture also experienced significant losses, with damages and losses estimated at USD 6 million.

The full extent of these damages underscores the potential for significant short-term and long-term impacts on agriculture-based livelihoods in the affected areas, resulting in an overall disruption to food systems, and threatening both local and national food security.

Impact on the United Nations Sustainable Development Goals – human and macroeconomic situation

In addition to their profound economic impact, disasters deeply affect people's well-being. They can deprive households of basic living conditions, disrupt standards of living, and destroy livelihoods and income sources. Moreover, disasters erode productive assets, limit access to essential services such as healthcare and education, disrupt food supply chains, and compromise food security, leaving affected communities even more vulnerable (United Nations Development Programme [UNDP], 2019).

The conflict has significantly hindered the country's ability and timeframe to transform its agrifood systems, achieve food security and restore its development progress towards the Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 5 (Gender Equality), SDG 6 (Clean Water and Sanitation), SDG 12 (Responsible Consumption and Production) and SDG 15 (Life on Land). As a result, the conflict will delay the country's efforts to achieve the agriculture sector's goals and the United Nations 2030 Agenda, particularly achieving food security, enhancing the performance of agricultural value chains, and ensuring the sustainable management of agrifood systems and natural resources.

The livelihoods and food security of residents in the affected regions have been severely impacted. According to the Food Insecurity Experience Scale (FAO, 2025c), 29 percent of households experienced moderate or severe recent food insecurity (RFI), a significant increase compared to the seventh and sixth rounds of the DIEM-Monitoring³ surveys conducted in November 2024 and March 2024, which had RFI prevalence rates of 20 and 23 percent, respectively (FAO, 2024a; FAO, 2024b). The highest prevalence of RFI was observed in Baalbek (59 percent) and El Hermel (46 percent). In El Nabatieh governorate, Marjaayoun district had a 57 percent prevalence of RFI, Bent Jbeil had 46 percent and El Nabatieh had 45 percent. In addition, the Integrated Food Security Phase Classification (IPC) projected the acute food security situation to worsen over the December 2024 to March 2025 period with about 1.7 million people (30 percent of the analysed population) likely to experience high levels of acute food insecurity (IPC Phase 3 or above). A total of 201 000 individuals (4 percent) were likely to experience Phase 4 and 1.5 million people (26 percent) were likely to experience Phase 3 (IPC, 2025). The main drivers of the worsening food insecurity situation were identified as a compounding impact of conflict and displacement. The depletion of livelihood assets has also impacted household coping capacities and limits resilience to future shocks. Immediate emergency recovery activities are recommended to improve household resilience and mitigate the impact of future shocks.

³ Since 2021, FAO has conducted household-level computer-assisted telephone interviews through the DIEM-Monitoring System to assess the livelihoods and food security of agricultural populations.

Agriculture is a major source of employment and income for a large portion of the population in rural areas, constituting an essential component of the local economy. This is particularly the case in El Nabatieh and South governorates where agriculture provides significant employment and income. The agricultural area in these two governorates accounts for nearly a quarter of Lebanon's agricultural land and farm holders represent approximately one-third of the farmers in Lebanon. The conflict, which has resulted in severe degradation of natural resources, widespread destruction of agricultural infrastructure and assets, and disruptions in supply chains, as well as increased cost of future production will have long-term consequences for agricultural production, productivity and the rural economy in the affected areas.

Recovery and reconstruction needs and costs

Table 3. Reconstruction and recovery needs (USD million)

		Short term (2025– 2026)	Medium term (2027– 2028)	Total
Emergency assistance for the resumption of agricultural activities	Emergency support for crop, livestock, fisheries and aquaculture production (seed, fertilizer, feed, small tools and equipment, etc.)	31.8		31.8
Reconstruction and restoration of agricultural assets	Support for perennial crop replacement	11.3	34.0	45.3
	Support for livestock restocking	12.8	38.3	51.1
	Support for small agricultural assets and infrastructure restoration (greenhouses, on-farm irrigation, machinery, etc.)	8.8	2.2	11.0
	Emergency support for agrifood MSMEs	7.3		7.3
	Restoration of forest and pastureland	2.8		2.8
	Support for livestock and aquaculture farms and fisheries vessel restoration	12.3	4.1	16.4
	Rehabilitation of agricultural/research centres and vocational schools	0.7		0.7
Medium-term recovery of the agrifood sector	Support to agricultural value chain restoration		39.2	39.2
	Support to sustainable natural resources management and ecosystem restoration in the context of climate change (irrigation water infrastructure, forest and pastureland, and fisheries)		39.0	39.0
Institutional support for agriculture sector recovery	Support coordination and implementation mechanisms, information management for recovery, resumption of agricultural service delivery	7.3	10.7	18.0
Total		95.2	167.5	262.7

Source: FAO, 2024. DIEM-Impact. In: *Data in Emergencies (DIEM) Hub*. Rome. [Cited 28 March 2025]. <https://data-in-emergencies.fao.org/pages/impact>

Sector recovery strategy

Key recovery priorities

Total reconstruction and recovery needs in agriculture are estimated at USD 263 million with total priorities in agriculture estimated at USD 95 million for 2025–2026 (Table 3).

Immediate emergency assistance is essential for the resumption of agricultural activities, including support for crop, livestock, fisheries and aquaculture production requiring USD 32 million. This support will provide the necessary seed, fertilizer, feed, small tools and equipment to maintain and resume production, safeguard livelihoods and contribute to food security.

Equally important is supporting the reconstruction of infrastructure and the restoration of assets, including land rehabilitation like debris removal and the restoration of land functionality, reestablishment of orchards, perennial crop replacement, livestock restocking, and the rehabilitation of key agricultural infrastructure such as greenhouses, on-farm irrigation systems and machinery. These needs are estimated at USD 45 million, USD 51 million and USD 11 million, respectively.

Additionally, emergency support for agrifood MSMEs will require USD 7.3 million, and the restoration of forest and pastureland will need USD 2.8 million. Efforts to support the rehabilitation of livestock and aquaculture farms, as well as fisheries vessels, will require USD 16 million, while USD 700 000 is needed for the rehabilitation of agricultural and research centres and agricultural vocational schools.

For medium-term recovery, approximately USD 39 million is needed for the revitalization of agricultural value chains, including fruit, vegetables and dairy, and another USD 39 million for the sustainable management of natural resources focusing on irrigation water infrastructure, forest and pastureland, and sustainable fisheries management.

Finally, USD 18 million is needed for institutional support to strengthen coordination and implementation mechanisms, manage information systems for recovery, resume agricultural service delivery, invest in resilience to disasters and climate change, and strengthen agricultural public institutions to effectively drive reconstruction and recovery.

Key policy recommendations

The agrifood sector presents a significant opportunity to boost Lebanon's socioeconomic recovery by acting as a catalyst for resilience and transformation towards greater productivity. By creating new job opportunities in rural areas, it can contribute to inclusive growth, especially for women and youth. To achieve this, it should focus on promoting the competitiveness of selected strategic agrifood value chains, alongside creating an enabling business environment for smallholder farmers, producer organizations, cooperatives and MSMEs. Additionally, to build a sustainable and resilient

agrifood sector, effective management of natural resources is crucial in light of climate change. This includes supporting climate-smart practices, improving irrigation water use efficiency, promoting soil conservation and encouraging the cultivation of drought-resistant crops. Given the complex context in Lebanon, the resilience of food system stakeholders must be strengthened by adopting a humanitarian–development–peace nexus approach, addressing both immediate needs and structural issues. This approach will ensure the protection of vulnerable individuals within the agrifood sector, helping them withstand potential shocks through adequate preparedness and response interventions.

Recommendation for recovery interventions

Recovery interventions should promote long-term resilience, environmental sustainability and climate adaptation in alignment with the build back better principles.

- In crop production, interventions should focus on promoting the use of high-yielding, drought-resistant varieties, integrated crop and pest management, efficient agriculture and irrigation systems, modern greenhouse structures, and sustainable energy solutions to increase production, improve water use efficiency and reduce costs. The provision of inputs will be combined with training on climate-smart agriculture and sustainable farming practices.
- In livestock production, recovery initiatives should promote good management practices including proper feeding, animal health and sustainable grazing practices, while also supporting modern farm structures to ensure biosafety measures and environmental sustainability.
- In fisheries, efforts should focus on sustainable practices, including replacing illegal gears and delivery of training on sustainable fishing techniques.
- In aquaculture, good management practices should be promoted to ensure environmental sustainability.
- Efforts should emphasize sustainable land management practices while supporting the restoration of forest and pastureland.
- Institutional support for disaster risk reduction and anticipatory action should also be provided to strengthen resilience and enhance preparedness for future shocks.

Implementation strategy and stakeholders

The country's recovery relies heavily on the active participation of all stakeholders particularly the MoA and its affiliated institutions, relevant ministries involved in agriculture and the food system, as well as key development partners like national and international non-governmental organizations (NGOs), civil society organizations, the private sector, and academia and research institutions. Academia and research institutions play a crucial role in providing technical advice and guidance, while national NGOs are key in ensuring local ownership of activities by engaging with affected local communities.

FAO in collaboration with the MoA is currently developing the Lebanon Emergency and Recovery Plan for the period 2025 to 2029 to address the impact of the conflict. The implementation of the Plan will involve close cooperation with all key stakeholders, including central and local government agencies, as well as local authorities in conflict-affected areas, farmers, cooperatives and farmers' organizations.

Sector assessment methodology

This assessment primarily followed the FAO methodology for damage and loss assessment in agriculture (FAO, 2020). In addition, aspects of the post-disaster needs assessment methodology for the agriculture sector were included to ensure a comprehensive analysis of the effects to and impact on the sector, and recovery needs.

The assessment relied primarily on high resolution remote sensing data to estimate damages and losses caused by hostilities between October 2023 and November 2024. Geospatial imagery was collected until December 2024.

The assessment focused on all 12 districts in Baalbek-El Hermel, Bekaa, El Nabatieh and South governorates that experienced the most military operations, except for southern Beirut where no significant agricultural production takes place. Assumptions were developed from key informant interviews and expert knowledge from the various sectors within government and FAO.

Crops and crop assets

The assessment focused on annual crops including cereals, open field vegetables and industrial crops (including wheat, barley, potatoes, tobacco, tomatoes and crops under greenhouses), as well as perennial crops including olives, bananas, citrus fruits, grapes, and a broad fruit category encompassing deciduous fruit trees like apples, pears, cherries and others. These crops were selected based on their importance to the Lebanese agriculture sector and the availability of data.

The National Centre for Scientific Research provided surface data for:

- **Agricultural baseline area:** Surface of annual and perennial crops including tomatoes, potatoes, wheat, barley, tobacco, apples, citrus, bananas, vine and olives before the conflict covering 12 districts in Baalbek-El Hermel, Bekaa, El Nabatieh and South governorates;
- **Agricultural cover change:** Surface of agricultural land showing changes in a composite index of agricultural land coverage between December 2022 and December 2024 for annual and perennial crops including wheat, potatoes, tobacco, bananas, olives, citrus and fruit trees in 12 districts across the same four governorates;
- **Burned agricultural land** of annual and perennial crops including field crops, bananas, citrus fruit trees, fruit trees, olives and vineyards between October 2023 and December 2024, in El Nabatieh and South governorates;
- **Greenhouse** baseline and affected data; and
- **Solar panels** for irrigation baseline and affected data.

In Bent Jbeil, Marjaayoun, El Nabatieh and Sour districts, the affected area incurring production losses was estimated at 75 percent of the baseline, reflecting the degree of

population displacement and field abandonment, and the damaged orchard areas corresponded to the burned orchard land. In Hasbaya, Jezzine and Saida, the affected and damaged cropland areas corresponded to burned land. In Baalbek-El Hermel and Bekaa governorates, the affected croplands were determined based on changes in the composite remote sensing index, compared to the baseline. The burned land index was not used as an indicator in Baalbek-El Hermel and Bekaa governorates – given that burning of agricultural lands after harvest is frequent in these areas and sometimes part of farming practices – to avoid capturing burned areas unrelated to the conflict. When area was not available for specific crops, it was estimated based on the relative land area of these crops, compared to the area of the corresponding crop category, as reported in the 2021 agricultural production survey (MoA, 2022).

Based on these surfaces, losses were estimated as the value – at farm-gate prices – of the reduction in production within affected areas. Yield data, prices and other technical parameters were gathered from the 2021 agricultural production survey, insights from MoA experts including heads of MoA technical units and decentralized offices, key informants including farmers and key value chain stakeholders, and team estimates based on the impact of hostilities and the broader context. Damages to perennial orchards were valued based on the cost of replacement and maintenance until new trees become productive.

To account for crops not included in the remote sensing, other annual crops and other perennial crops categories were created to inflate the damages and losses values of the targeted crops based on their relative surface compared to the total agricultural surface, based on the 2021 agricultural production survey (MoA, 2022).

The assessment covered agricultural assets, including irrigation systems and irrigation units, agricultural wells, solar panels used for irrigation, tractors, greenhouses, plant nurseries, wheat crushers, and olive and carob presses, depending on data availability. Damage to greenhouses and agricultural solar panels was estimated through remote sensing analysis by CNRS. Damages to irrigation systems were estimated based on the affected surfaces of irrigated crops. Information on other assets was collected from key informants. The cost of asset damages was estimated based on replacement or repair costs.

Livestock damages and losses

The damages and losses in the livestock sector caused by the October 2023 conflict included cattle, small ruminants (sheep and goats), poultry (laying hens and broilers) and beehives. Baseline data were sourced from the 2023 livestock vaccination programme conducted by FAO and MoA (FAO, 2024c), the 2016 MoA poultry census (MoA, 2016) and the 2020 MoA beehives registry (MoA, 2020b). Data regarding the affected livestock and poultry farms were based on CNRS geospatial data, and assumptions on livestock, poultry and beehive damaged assets were based on expert interviews and team estimates.

- Baseline data for cattle, goats and sheep were obtained from the FAO and MoA conducted 2023 livestock vaccination programme (FAO, 2024c), which covered

85 percent of the farms in Lebanon. In the four most affected districts of Bent Jbeil, El Nabatieh, Marjaayoun and Sour, and based on key informant interviews, it was assumed that 40 percent of livestock were either lost, sold at significantly reduced prices or fled. Additionally, relocating livestock to safer areas was difficult, as other farms were reluctant to accept animals from other regions due to concerns about diseases or vaccination status.

- Baseline poultry data was sourced from the 2016 poultry census (MoA, 2016), with broiler numbers adjusted for five production cycles per year. In the most affected southern districts (Bent Jbeil, El Nabatieh, Marjaayoun and Sour), based on key informant interviews, it was assumed that 75 percent of poultry were lost due to neglect, death or being sold at significantly reduced prices. Additionally, difficulties in relocating large numbers of poultry to safer areas and the lack of access to slaughtering facilities in the south prevented the production of poultry meat, exacerbating losses.
- Baseline beehive data were taken from MoA's 2020 beehives registry (MoA, 2020b). In the most affected districts (Bent Jbeil, El Nabatieh, Marjaayoun and Sour), based on key informant interviews, it was assumed that 60 percent of beehives were lost due to neglect or bee deaths. Moreover, relocated beehives faced productivity losses, especially when relocated to unsuitable climates. Other districts, including Baalbek and Zahle, experienced little to no beehive damage.
- Regarding livestock production losses, these reflect current and future production losses, assuming an expected 50 percent decrease in production from surviving animals in the four most affected districts (Bent Jbeil, El Nabatieh, Marjaayoun and Sour), based on key informant interviews, and the findings from the eighth round of DIEM-Monitoring. Moreover, it was assumed that a 10 percent decrease in production would affect livestock in Baalbek, El Hermel, Hasbaya and Zahle, and assumed no decrease in production in Jezzine, Rachaya, Saida and West Bekaa. This decrease in production was expected to last for six months due to the conflict's impact on surviving livestock.

The assessment also covered livestock assets including stored cattle feed, livestock sheds and farms, milking equipment, poultry feed and poultry farms, depending on data availability. Damage to livestock sheds and farms, milking equipment and stored cattle feed was estimated using a combination of remote sensing analysis by CNRS and vaccination programme data to identify the number of affected livestock and calculate the damages to these farm-related assets. Data on affected poultry farms was derived from CNRS remote sensing analysis. Regarding poultry feed, assumptions were made based on the number of poultry birds affected. Farm-related asset damage costs were estimated based on either replacement or repair costs, with repair costs set at 40 percent of the replacement value.

Forestry damages and losses

The baseline area was sourced from the FAO and MoA National Forest Assessment for 2020 (FAO, 2020).

The remote sensing of affected forests focused on El Nabatieh and South governorates, given that forest areas account for a very small fraction of land coverage in Bekaa (3 percent) and Baalbek-El Hermel (1 percent).

In Bent Jbeil, Marjaayoun, El Nabatieh and Sour, the incurring losses and damaged areas were estimated at 30 percent of the baseline to account for destroyed trees (cutdown and uprooted) that were not covered in the remote sensing of burned forests.

In the other districts, the affected and damaged forest areas corresponded to the burned forest areas reported by CNRS. Scrublands were excluded from the analysis, assuming scrublands do not provide direct income nor will be replanted but left to natural recovery instead.

The affected forest areas were categorized into six types: pines, other pines, dense broadleaved forests, clear dense broadleaved forests, scrubland and other forests.

Damages were estimated based on the replacement cost of pine and broadleaved forests, irrespective of whether replanting or natural regeneration will occur.

Losses were calculated using the market value of the reduction in pine kernel production from burned stone pine forests and the fuelwood value for other pine and broadleaved forests. Yield data, prices and other technical parameters were provided by FAO forestry experts.

Aquaculture damages and losses

The baseline number of ponds and production utilized by the assessment was based on the aquaculture census for 2022 (FAO, 2022).

The damaged ponds were obtained from CNRS by an intersection of the coordinates of the ponds of the baseline, with the coordinates of conflict events, and MOA Staff including the heads of department at governorate level.

The reduction of production was estimated at 30 percent in Baalbek-El Hermel and Bekaa governorates, and 70 percent in El Nabatieh and South governorates, based on local informants.

Fisheries damages and losses

The estimation of damages and losses to the fisheries sector is based on the national statistics about the number of licensed fishing vessels and national catch quantity in 2022 and 2023 (FAO and MoA, 2022), the number of fishing boats and months of suspended fishing by port, and prices and other parameters provided by FAO fishery experts and fishery professionals.

Limitations

The assessment primarily relied on remote sensing without ground-truthing. Remote sensing analysis was restrained to areas most affected by hostilities – with agricultural significance – given the limitations in image acquisition and processing capacity. It focuses on the most important crops and animals in addition to assets that could be subject to remote sensing.

Data gaps include: some geographic areas and crops were not covered by remote sensing; most farm equipment and tools were not included in the assessment, nor were farm buildings, agricultural and fishery infrastructure like silos, irrigation canals, ports and public buildings of the related subsectors.

The extent to which farmers could pursue activities during the hostilities or resume following the ceasefire relied on key informant interviews and assumptions to estimate due to lack of data availability.

Furthermore, the analysis focused on direct conflict-related impact and did not account for broader, indirect effects on the agriculture sector at the macroeconomic level.

Finally, hostilities have continued after the ceasefire and continue to cause additional damages and losses which have not been taken into account in this assessment.

References

- CAS. 2021. *Lebanese 2021 national accounts comments and tables*. Beirut.
<http://www.cas.gov.lb/images/PDFs/National%20Accounts/2021/Comments%20and%20tables%202021.pdf>
- FAO. 2019. *Non-wood forest product value chains in Lebanon*. Rome.
<https://openknowledge.fao.org/handle/20.500.14283/i6506en>
- FAO. 2020. Forest and tree resources assessment in Lebanon. In: *FAO*. Rome.
[Cited 20 March 2025]. <https://www.fao.org/lebanon/news/detail/Forest-and-tree-resources-assessment-in-Lebanon/en>
- FAO. 2021. *Agricultural sector review in Lebanon*. Rome.
<https://doi.org/10.4060/cb5157en>
- FAO. 2022. Building the aquaculture sector in Lebanon. In: *FAO*. Rome.
[Cited 20 March 2025]. <https://www.fao.org/gfcm/news/detail/en/c/1492095>
- FAO. 2024a. *Lebanon: DIEM – Data in Emergencies Monitoring brief, round 7 – Results and recommendations, September 2024*. Rome.
<https://openknowledge.fao.org/handle/20.500.14283/cd2313en>
- FAO. 2024b. *Lebanon: DIEM – Data in Emergencies Monitoring brief, round 6 – Results and recommendations, February 2024*. Rome. <https://doi.org/10.4060/cc9518en>
- FAO. 2024c. FAO supported the Ministry of Agriculture in the national vaccination campaign. In: *FAO*. Rome. [Cited 20 March 2025].
<https://www.fao.org/lebanon/news/detail/FAO-supported-the-Ministry-of-Agriculture-in-the-national-vaccination-campaign/en>
- FAO. 2025a. WaPOR: a portal of AQUASTAT. [Accessed on 20 March 2025]. In: *WaPor*. Available at <https://data.apps.fao.org/wapor/?lang=en&share=f-6eff2826-6779-4d5c-98f1-54470b22f14a>.
- FAO. 2025b. *Baseline assessment of land cover in Lebanon as of 2023*. Rome.
<https://openknowledge.fao.org/handle/20.500.14283/cd4166en>
- FAO. 2025c. *Lebanon: DIEM – Data in Emergencies Monitoring brief, round 8 – Results and recommendations, December 2024*. Rome.
<https://openknowledge.fao.org/handle/20.500.14283/cd4686en>
- FAO & MoA. 2022. *Lebanese fishing fleet and fishing gears census 2020–2021*. Rome. Internal document.
- FAO & WFP (World Food Programme). 2024. *Special report: 2024 FAO/WFP crop and food security assessment mission (CFSAM) to the Lebanese republic, November 2024*. Rome. <https://doi.org/10.4060/cd3356en>

IPC. 2025. Lebanon: Acute food insecurity situation for October – November 2024 and projection for December 2024 – March 2025. In: *IPC*. Rome. <https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1159456/?iso3=LBN>

McKinsey & Company. 2018. *Lebanon economic vision*. Beirut. <https://www.economy.gov.lb/media/11893/20181022-1228full-report-en.pdf>

Middle East Monitor. 2024. Israel continues demolishing homes, uprooting orchards in south Lebanon. In: *Middle East Monitor*. London. [Cited 20 March 2025]. <https://www.middleeastmonitor.com/20241223-israel-continues-demolishing-homes-uprooting-orchards-in-south-lebanon>

MoA. 2010. Comprehensive agricultural census 2010. In: *Ministry of Agriculture*. Beirut. [Cited 20 March 2025]. <http://www.agriculture.gov.lb/Statistics-and-Studies/Comprehensive-Agricultural-Statistics/statistics-2010>

MoA. 2016. *2016 poultry census*. Beirut. Internal document.

MoA. 2020a. *Lebanese national agriculture strategy: 2020 – 2025*. Beirut. <http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB>

MoA. 2020b. 2020 beehives registry. In: *Ministry of Agriculture*. Beirut. [Cited 20 March 2025]. <http://www.agriculture.gov.lb/Subjects/Plant-Resources/bees>

MoA. 2022. *Agricultural production survey 2021*. Beirut. Internal document.

OCHA. 2024. *Lebanon: Flash Update #46 - Escalation of hostilities in Lebanon, as of 21 November 2024*. Geneva. <https://www.unocha.org/publications/report/lebanon/lebanon-flash-update-46-escalation-hostilities-lebanon-21-november-2024>

UNDP. 2019. *Guidelines for assessing the human impact of disasters*. New York City, United States of America. <https://www.undp.org/publications/guidelines-assessing-human-impact-disasters>

UNEP. 2022. *Spreading like wildfire: The rising threat of extraordinary landscape fires*. Nairobi. <https://www.unep.org/resources/report/spreading-wildfire-rising-threat-extraordinary-landscape-fires>

World Bank. 2024a. *Lebanon Interim Damage and Loss Assessment (DaLA): Assessment Report*. Washington, D.C. <https://documents1.worldbank.org/curated/en/099111224112085259/pdf/P506380-c62fbec6-b541-45c2-beff-d0a436d07e02.pdf>

World Bank. 2024b. *Lebanon poverty and equity assessment 2024: Weathering a protracted crisis*. Washington, D.C. <https://documents1.worldbank.org/curated/en/099052224104516741/pdf/P1766511325da10a71ab6b1ae97816dd20c.pdf>

Annexes

Annex 1. Summary of damages and losses (USD)

	Losses	Damages
Crops	533 539 181	48 794 503
Annual crops	111 207 499	
Wheat and barley	7 053 298	
Tobacco	46 656 150	
Potato and vegetables (tomato)	35 145 674	
Crops under greenhouses	980 897	
Other annual crops	21 371 480	
Perennial crops	422 331 682	36 468 062
Olives	236 925 483	11 896 242
Citrus fruit trees	97 555 862	9 777 886
Deciduous fruit trees	7 526 398	5 406 453
Bananas	26 721 507	3 839 932
Vineyard	471 563	611 951
Other perennial crops	53 130 869	4 935 597
Crop assets		12 326 441
Greenhouses		814 185
Field irrigation systems ⁴		3 366 016
Solar panels		974 000
Other crops assets		7 172 240
Livestock	41 447 263	48 053 658
Livestock		28 944 198
Cattle		6 787 240
Goats		8 516 750
Sheep		3 816 781
Laying hens		548 018
Broilers		7 779 915
Beehives		1 495 494
Livestock products	41 447 263	
Cattle milk	11 930 730	
Goat and sheep milk	13 197 740	
Eggs (laying hens)	1 335 793	
Honey	12 303 235	
Offspring cattle	568 130	
Offspring goats and sheep	2 111 638	

⁴ Pipes, connector and pump

	Losses	Damages
Livestock assets		19 109 460
Livestock feed		131 040
Milking equipment		296 566
Poultry farm		339 860
Poultry feed		258 048
Beehives		8 474 466
Livestock shed/farms		9 609 480
Aquaculture	1 110 000	536 000
Aquaculture production	1 110 000	
Aquaculture farms		536 000
Fisheries	3 909 407	765 000
Fisheries production	3 909 407	
Fishing vessels		765 000
Forestry	6 016 575	19 785 235
Forestry products	6 016 575	
Pine kernels	2 707 284	
Fuel wood	3 309 292	
Damaged forest trees		19 785 235
Total	586 022 426	117 934 396

Source: FAO. 2024. DIEM-Impact. In: *Data in Emergencies (DIEM) Hub*. Rome. [Cited 28 March 2025]. <https://data-in-emergencies.fao.org/pages/impact>

Annex 2. Summary of recovery needs (USD)

	Types of activities/investments	Short term (2025–2026)	Medium term (2027–2028)	Total
Immediate, short-term recovery (1–2 years)	Emergency assistance to crop production, livestock and fisheries for the resumption of agricultural activities (support for seed, fertilizer, feed, small tools and equipment, etc.)			
	Support for crop production (seed, fertilizer, cash support, small tools, etc.)	26 179 750		26 179 750
	Support for animal production (feed, veterinary inputs, cash support, small tools, etc.)	2 793 788		2 793 788
	Distribute fishing gears to fisherfolk	2 318 688		2 318 688
	Support for aquaculture production (fingerlings, feed, other inputs, etc.)	527 563		527 563
	Reconstruction and restoration of agricultural assets (land and terrace rehabilitation, orchard restoration, livestock restocking, on-farm irrigation rehabilitation, farm building rehabilitation, pastureland restoration, etc.)			
	Support for perennial crop replacement	11 331 980	33 995 939	45 327 918
	Support for greenhouse rehabilitation	2 19 788		2 196 788
	Support for livestock restocking	12 771 654	38 314 961	51 086 615
	Support for small irrigation infrastructure rehabilitation	3 628 986	1 209 662	4 838 648
	Support for solar panels used for irrigation	1 050 094	350 031	1 400 125
	Support for agrifood MSMEs	7 291 345		7 291 345
	Support for agricultural machinery	1 919 063	639 688	2 558 750
	Restoration of forest and pastureland	2 844 128		2 844 128
	Support for fisheries vessels	824 766	274 922	1 099 688
	Support for rehabilitation of aquaculture farms	577 875	192 625	770 500
	Support for rehabilitation of livestock and poultry farms	10 930 774	3 643 591	14 574 365
	Support for rehabilitation of government buildings, agricultural and research centres, and agricultural vocational schools	718 750		718 750

	Types of activities/investments	Short term (2025–2026)	Medium term (2027–2028)	Total
Medium-term recovery (2–4 years) of the agrifood sector	Support to agricultural value chain restoration (fruit and vegetable value chains, dairy value chain, etc.)			
	Support for fruit and vegetable value chain revitalization		12 600 000	12 600 000
	Support for dairy value chain restoration		6 300 000	6 300 000
	Support for agrifood MSMEs		20 250 000	20 250 000
	Support to sustainable natural resources management and ecosystem restoration in the context of climate change (reforestation and forest management, sustainable fisheries management, water harvesting, etc.)			
	Reforestation and sustainable management of forest and pastureland		25 597 148	25 597 148
	Sustainable fisheries management		5 550 000	5 550 000
	Support irrigation water infrastructure		7 875 000	7 875 000
Institutional support for agriculture sector recovery	Institutional support (coordination mechanisms, data and assessments for evidence-based recovery, quality and safety infrastructure, plant and animal health (One Health approach, vaccination programmes, etc...))			
	Support coordination structures for efficient recovery response delivery	1 110 000		1 110 000
	Strengthen of agricultural information systems	2 000 000		2 000 000
	Resume agricultural service delivery (extension and education)		2 800 000	2 800 000
	Strengthen food quality and safety infrastructure		3 500 000	3 500 000
	Support agricultural research (seed multiplication programmes)	1 800 000		1 800 000
	Support rolling out of the farmers' registry as a tool for emergency and recovery support	500 000		500 000
	Support institutional framework for agricultural resilience		500 000	500 000
	Strengthen plant and animal health systems (One Health approach)		2 000 000	2 000 000
	Support livestock vaccination programme	1 875 000	1 875 000	3 750 000
	Total	95 190 989	167 468 567	262 659 556

Source: FAO. 2024. DIEM-Impact. In: *Data in Emergencies (DIEM) Hub*. Rome. [Cited 28 March 2025]. <https://data-in-emergencies.fao.org/pages/impact>

Contact

FAO Representation in Lebanon
FAO-LB@fao.org | fao.org/lebanon
Beirut, Lebanon

Office of Emergencies and Resilience
data-in-emergencies@fao.org | data-in-emergencies.fao.org
Rome, Italy

Food and Agriculture Organization
of the United Nations

ISBN 978-92-5-139748-0



CD5013EN/1/04.25