

SPECIAL RELIEF OPERATIONS SERVICE

LEB/96/004

27B

Republic of Lebanon
Office of the Minister of State for Administrative Reform
Center for Public Sector Projects and Studies
(C.P.S.P.S.)

The Lebanon

South Lebanon and West Bekaa
Assessment of the Impact of April 1996 Israeli Military Operation
and
Emergency Needs for 1996
in the Agriculture, Livestock and Fisheries Sectors

June 1996

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

الجمهورية اللبنانية
مكتب وزير الدولة لشؤون التنمية الإدارية
مركز مشاريع ودراسات القطاع العام

Abbreviations and Aeronyms Used

CDR	Council for Reconstruction and Development
DHA	Department of Humanitarian Affairs
ESCWA	Economic and Socila Commission for Western Asia
FAO	Food and Agriculture Organization of the United Nations
HCR	High Relief Commission
ICA	Israeli Controlled Area
IDF	Israeli Defence Army
LTM	Lebanon Tobacco Monopoly
MINAGRI	Ministry of Agriculture
TCOR/OSRO	FAO's Special Relief Operations Service
UNDP	United Nations Development Programme
UNIFIL	United Nations Interim Forces in Lebanon

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I. General

I.1. Background

From 11 to 26 April 1996, South Lebanon and West Bekaa were attacked by Israeli Defence Forces (IDF). This resulted in a massive displacement of population (up to 400 000 persons), human casualties (256 people killed, of whom 104 in Quana, and 600 wounded), serious damage to infrastructures and meaningful consequences for all production sectors.

On 24 April 1996, a Delegation from the Ministry of Agriculture of the Lebanon met with the Deputy Director General of FAO and requested the urgent fielding of a mission to assess emergency and rehabilitation needs for South Lebanon and West Bekaa following the April 1996 "Grapes of Wrath" Israeli military operation.

On 20 May 1996, the Executive Secretary of the UN Economic and Social Commission for Western Asia (ESCWA) approached FAO's Director-General requesting the Organization to join an Inter-Agency Special Technical Mission to Lebanon as instructed by the UN Secretary General, in accordance with paragraph 8 of General Assembly Resolution A/50/22C.

From 27 May 1996 to 4 June 1997, the FAO Special Relief Operations Service fielded a mission to the Lebanon¹ to join the ESCWA²/Inter-Agency Special Technical Mission and also assess emergency needs for the agriculture and fisheries sector.

The mission was followed, and coordinated its findings with, a mission from FAO's Policy Assistance Division (TCA) fielded by the Regional Office for Near East (RNE)³.

¹ Laurent Thomas, Operations Officer, Special Relief Operations Service (TCOR), FAO, Mr Nazih Mahmoud, National Consultant, FAO. The mission benefited from valuable contribution of Dr Faker Dakroub, Director, Agriculture Department, MINAGRI, Dr Georges Mansour, Director, Statistics and Planning Department, MINAGRI, Dr Ismat Boulos, Deputy Director, Fisheries Division, MINAGRI, Dr Mansour Kassab, Director, Livestock and Animal Health Division, Dr Ali Srour, Director Production Department, Lebanon Tobacco Monopoly, Dr Samir N. Abu Jawdeh, President, Green Plan Authority, Dr Mounif El Taki Agriculture Department, Saida and their staff. The mission benefited also at its inception of the guidance of His Excellency Shawki Fakhoury Minister of Agriculture and the preliminary findings were reviewed with Dr. Adel Choueiry, General Director, MINAGRI. Dr A. Ben Rohmdane, FAO Representative provided advice throughout the mission, and the results of the mission were shared with Mr. Nadir Hay-Hammou, Deputy Resident Representative UNDP and Mr Ross Mountain, UNDP Resident Representative.

² Under the leadership of Dr. Hazem El Beblawi, UN Assistant Secretary-General, Executive Secretary, ESCWA

³ J.Y Piel, TCAR-RNE, FAO (1-10 June 1996)

This report contains only the assessment of the impact of the military operation and the immediate needs for the agriculture and fisheries sector.

Profile of Southern Lebanon

The Southern part of Lebanon consists of 7 "Cazas"(provinces) namely Saida, Tyr (Sour), Jezzine, Nabatiyeh, Bint Jbeil, Marjeyoun and Hasbaya covering approximately 10% of the total area of the Lebanon (10 452 Km²).

According to unpublished and unofficial estimates, the population of the Cazas total about 406,000 persons (about 14% of the total population) distributed as follows: 130 000 in Saida, 110 000 in Tyr, 10,000 in Jezzine, 70 000 in Nabatiyeh, 35 000 in BintJbeil 35 000 in Marjeyoun and 16 000 in Habaya.

Southern Lebanon is divided "de facto" in three different zones: the Tyr pocket, the United Nations Interim Force in Lebanon (UNIFIL) area of deployment (AD) and the Israeli Controlled Area (ICA - so called security belt of approximately 600 Km² kept under the military control of Israel). In the AD and ICA, the basic infrastructure and public services are rather rudimentary and the level of socio-economic activity is limited compared to its potential.

The area has been a region of instability and conflict for the past 20 years. In June 1993 military air raids incurred extensive damage to all production sectors private housing and, to a lesser extent, to public and community buildings.

Recent military operations Hizbolah/Israel immediately after the mission indicates that instability remains high in the region despite the recent signing of a cease fire agreement. The region can be considered a permanent state of emergency.

Short description of military operations

Tension and incident levels between the Israeli Defense Army (IDF), de facto forces (Southern Lebanon Army) and armed elements (Hizbollah) gradually increased from the beginning of April 1996.

At dawn of 11 April 1996, Israel commenced its operation "Grapes of Wrath" on South Lebanon and West Bekaa.

During this operation almost 25 000 artillery, tank and mortar rounds were fired, in the area controlled by UNIFIL, by the IDF. The most intensive shelling in one day was approximately 3 500 rounds which is roughly equivalent to the intensity of an "average" full month of military activity before the operation. In addition, 560 air attacks were

launched by the Israeli forces during which nearly 1 500 bombs were dropped. Most of the activities took place within UNIFIL areas of operations⁴.

From the start of the operation, the coast of Southern Lebanon was also sea blocked by Israeli Navy and gun boats were firing on the coastal road. Other raids were carried out by the Israeli army in areas north of the UNIFIL controlled area, but no figures could be obtained on the magnitude of the attacks.

The conflict lasted 15 days when a cease fire was signed on 26 April 1996 with Israel, under the vigilance of the Governments of France and USA.

The South and West Bekaa witnessed similar events in the Summer of 1993. However when comparing the recent events with those of 1993 there is a salient difference: In 1996, before the massive military operations the general mood was optimistic and efforts being made to normalize life throughout the country particularly for reconstruction and reactivation of the economy.

The Israeli military operation brought a psychological flashback. There was a return of death and destruction as has been the case during the past 20 years of war. The massive outflux of approximately up to 400 000 people from the South affected not only those displaced , but the whole country.

At the local level, uncertainty about the military operations in terms of its goals, strategic significance, duration and extent of damages traumatized the displaced, though the nation as a whole came together in an unprecedented spirit of solidarity.

Following the implementation of the cease fire which came into effect on 27 April 1996, at 04.00hrs the displaced were encouraged by the Government to return to their homes in South Lebanon and West Bekaa.

The overwhelming majority of the displaced were able to relocate over the subsequent two days. However since several hundred houses in South Lebanon had been destroyed, many displaced persons were required to seek temporary shelter in their villages or their vicinity.

⁴ Source UNIFIL

I.2. Terms of Reference of the Mission and Schedule of Activities

The mission had two main objectives:

1. **Special technical Mission on the request of the UN Secretary General and under the leadership of ESCWA:** "To study and prepare, within one month's time, in cooperation with the United Nations Interim Force in Lebanon, a report on the human and material losses and damage resulting from the recent and ongoing hostilities" in accordance to paragraph 8 of General Assembly Resolution A/50/22 C.

The report should describe the losses and damages in as much details as possible so that the magnitude of the damage will be clearly indicated. It was not the purpose of the report to give financial value to the damages incurred particularly since many of the losses and damages related to the people themselves are beyond any value.

2. **Assessment of immediate needs for the agriculture sector.** Evaluate the immediate emergency needs for the affected farmers and short term rehabilitation for the agriculture sector, with particular reference to specific needs of target groups of affected populations

Modus Operandi. With regard to the agriculture and fisheries sectors, many farmers, fishermen, and livestock owners were interviewed, as well as representatives of professional associations, non-governmental and private sector entities.

The mission made on site assessments in affected villages and towns and met with returnees and other affected persons, within and outside the UNIFIL intervention zone. The mission also met with Development Committees set up in the affected region in 1993 under the aegis of a Ministry of Agriculture/FAO Special Relief Operations Service project for the "Urgent Supply of Basic Inputs to South Lebanon and West Bakaa", which was funded in 1993, following Israeli attacks.

Basic data on the farm population, agriculture, and livestock was compiled from the Ministry of Agriculture (MINAGRI) Planning and Statistics Department Annual Report, and from the data base of the FAO/MINAGRI relief project located in Tyr.

Figures on the amplitude of the damages were drawn from interviews with farmers' organizations visited in the field and existing information in the Ministry. These data thus remain provisional.

The problems of the affected population were reviewed with national authorities including the High Relief Committee, the Chairman of the Council for the South and the Minister of Agriculture.

Discussions were held with Ministry of Agriculture officials in Beirut and Saida, and the assessment of damage and needs was reviewed by the concerned Technical Departments.

II. Salient Features of the Agricultural, and Fisheries Sector in South Lebanon

II.1. The Resource Base and Agricultural/Fisheries Production.

Southern Lebanon covers an area of approximately 1 000 Km² or 10 % of the national territory. The region comprises approximately 406 000 inhabitants of which 200 000 (50%) are directly involved in agricultural activities. It is estimated that approximately 5 000 farm families can be found in 20 villages of the irrigated fertile coastal region and 20 000 farm families live on the hills (with an average of 8 persons per farm family).

The region affected by recent attacks from Israel includes the administrative divisions "Cazas" of Tyr, Nabatiye, Bint Jbeil/Marjeyoun (part) and West Bekaa.

The area has been a region of instability and conflict for many years. In June 1993 military air raids caused extensive damage to agriculture, livestock and fisheries in addition to damage to housing and community buildings.

Apart from the recent tragic events the devastating impact of continuous raids on this part of Lebanon should not be underestimated. Particularly evident is the destruction of physical assets such as fruit orchards, green houses, machinery, irrigation infrastructure, and nurseries.

Agroecologic sub regions and production systems. The area is divided into two agricultural regions: The coastal plain and the interior hilly land. In the coastal plains, a narrow strip of 3-5 km along the sea shore, small holdings intensively cultivate vegetables mostly in protected cultivation, citrus fruits and bananas. Crops are usually irrigated and light mechanization is utilized. In this region the value of most agricultural land is very high, based more on land speculation than on agricultural productivity.

In the hilly land of the interior the agricultural potential is low. Farmers are cultivating poor rainfed perennial and annual crops, olive trees, and tobacco. Some villages in the region are also renowned for their production of perennial crop seedlings.

The climate varies from Mediterranean humid on the coast to Mediterranean humid of medium altitude towards the interior (average of 600 mm of rain per year). Ground water management is essential for any agricultural activities.

Land resources. South Lebanon possesses approximately 10 % of the area which can be used for agriculture at national level.

Perennial crops. Perennial crops in the South include citrus fruits and banana cultivation in the coastal area and olive trees on the hills. It is estimated that the region covers 54% of the total area planted with citrus fruits, 44 % of the area planted with olive trees, and 90% of the area planted with banana.

Annual crops. The main crops planted are cereals and tobacco on the hills and protected vegetable production in the coastal area.

The area planted with cereal is estimated at approximately 20 000 ha (20% of the area planted with cereals at national level). Cereals include wheat and barley. They are planted in the poor soils of the hills. Yields are usually very low (1.5 MT/ha).

An area of 4 950 ha was planned to be planted with tobacco in 1996 (58% of the area planted with tobacco in the country). Tobacco is a monopolistic commercial crop under the control of the Lebanon Tobacco Monopoly which attributes licenses to produce, provides free seeds and purchases harvest at highly subsidized prices.

Protected cultivation of vegetables under tunnels covers 352 ha.

Livestock was affected by past unrest and has suffered since 1980 due to various contagious and enzootic diseases which have affected the health of the animals and reduced their numbers. Figures on livestock are reported not to be fully reliable. However it is estimated that there are over 15 000 head of cattle and over 170 000 goats and sheep in the South. The number of poultry exceeds 8.7 million.

Fisheries activities are artisanal, mainly based on demersal trammels and longlines, lampara round haul nets and beach seines. Fishing is carried out in very shallow waters. The gear used is considered as destructive due to small mesh size. The number of fishing boats has decreased during the past years due to the continuous unrest. It is estimated that in the affected region approximately 1 270 fishermen carry out their activities on 427 boats of less than 8 metres long.

Farmers, Farm Holdings and Farm Equipment. The agricultural labour force is not known since a census has not been made for many years. It is known that the percentage of the urban population reaches more than 53%. The decrease in the Lebanese agricultural force was compensated by employment of foreign labour, mainly from Syria, which may represent about one third of the total current labour force in agriculture.

The major part of holdings in the country are smaller than 2 ha (and much less for the farms of the coastal region), and fragmentation of land is reported to be an obstacle to modernization and particularly mechanization.

A large number of families considered as farm households have considerable non farming incomes. This explains their capacity to subsist, being in fact part time farmers, which is due to the particular attachment of the Lebanese to their land, even if they leave their villages to work and live in towns or if they are employed in non-agricultural activities nearby. This phenomenon also has a strong influence on financial practices and agricultural investment.

Land fragmentation due to the succession system in Lebanon is a constraint to low cost agricultural production.

Whilst on the hilly land of the interior most of the land is cultivated by owners, land tenancy and share cropping are important for the intensive production systems of the fertile coastal area. Most of the contracts are concluded orally for one season or one agricultural year. Short term tenancy and share cropping are usually not favorable for the future development of agriculture.

Support Services/Projects

The Ministry of Agriculture is responsible for the administration and the development of agriculture. The Ministry is represented by a regional office in South Lebanon, based in Saida. In addition, under the supervision of the Ministry of Agriculture, two autonomous offices operate in the South: the Lebanese Institute of Agricultural Research Station and the South and the Green Plan (agency for land preservation, land reclamation and public agricultural engineering).

The Commission for the South, an autonomous Government institution, is also involved in the funding of operations in the agriculture sector. Besides these institutions other administrations are responsible for the agriculture sector such as the Council for Reconstruction and Development (CDR), the Ministry of Hydroelectric Resources (irrigation planning and water management), the Ministry of Finance with the land registry and the National Board of Tobacco and Tombak (tobacco monopoly).

The above mentioned institutions have suffered from the unstable situation in the south, and the secondary effects from the war. Particularly salient is the weakness of support services such as agricultural extension and research.

In the South, in addition to a nation wide programme under the Green Plan, two projects were implemented in recent years in support of agriculture: project OSRO/LEB/302/AUS - "Urgent Provision of Basic Agricultural and Veterinary Inputs to South Lebanon and West Bekaa" which assisted 35 000 displaced families with the supply of agriculture inputs following the 1993 Israeli attack, and project LEB/91/002 "Improvement and Development of Olive Cultivation in Southern Lebanon and West Bekaa".

No specific major funding is foreseen or in the pipeline for the agriculture sector of South Lebanon.

II.2. Current Situation of Agriculture Sector in South Lebanon

In spite of the last 20 years of internal and external strife, the agriculture sector in the South has for a long time succeeded in maintaining an appreciable level of activity and output, mainly due to the strong and historical attachment of the population to agriculture and the ancestral knowledge of South Lebanon farmers. Nevertheless the physical damages which were incurred in the past are serious, concerning mainly irrigation networks, farm buildings, rural roads, terraces, tree plantations, and livestock especially cattle, sheep and poultry.

Besides the recent damages to the sector, the agriculture suffers from secondary effects of past events:

- Damages due to lack of maintenance and repair
- Displacement of the farm population,
- De facto partitioning of the country resulting in obvious regional distortion
- Rupture of internal marketing channels and loss of external markets,
- Poor performance of communication, transport and power supply due to partly destroyed infrastructures
- Break down of regional public administration, and especially the Ministry of Agriculture, basic support services such as extension and research
- Technological stagnation, particularly with reference to neighbouring countries in the Near East region
- Distortion of normal social and structural evolution which generally accompanies and interacts with economic development
- Lack of confidence and tendency to confine investment and entrepreneurial activities to sectors other than agriculture offering prospects for a quick turnover of capital.

According to a survey carried out by the Government in 1992 for the planning of recovery and reconstruction of the country⁵, the accumulated losses during the period 1976 to 1992 were estimated at almost twice the value of net agricultural input in an average year.

In addition, unfavorable trends not directly related to the unrest continued and accelerated in a period of weakened Government action and presence:

⁵ Recovery Planning for the Reconstruction and Development of Lebanon, vol 2, CDR International Bechtel Inc. Dar Al-Handasah Consultants (Shairs & Partners). 1992

- unregulated use of prime agricultural land for urbanization and construction (especially on the narrow coastal strip), hence
- excessively high value of agricultural land;
- highly fragmented land in small holdings with relatively low farm mechanization
- uncontrolled management of resources including ground water

The above mentioned structural damages and negative features in a sub region highly dynamic in terms of agricultural production and marketing, cause grave disadvantage to the farmer in the South. The April disaster contributed to the further deterioration in an already fragile sector of production, in urgent need of investment.

This must be seen as a major disaster for producers already highly vulnerable economically due to the instability in the region over the last 20 years and the continuous process of decapitalization.

Agriculture in South Lebanon should be seen as problematic and apart from the recent events, the devastating impact of continuous raids and resulting insecurity on this part of Lebanon should not be underestimated.

III. Impact of the April 1996 Israeli Attack on the Agricultural and Fisheries Sector (see Annex I)

Preliminary Conceptual and Methodological Considerations. Because of the specificity of the agriculture sector which involves large areas and cycles of production stretched over a relatively long period, an accurate assessment of direct and indirect damages resulting from the attack will need more time, and involve more surveying difficulties than the assessment of human casualties and damage to infrastructure.

The evaluation of damage raises a certain number of conceptual and methodological issues which should be addressed properly in order to avoid any misinterpretation.

In terms of impact on farmers' food security and income, the indirect loss of production exceeds by far the direct damages; however its assessment needs a cautious and rigorous approach and deserves a comprehensive and detailed evaluation.

As a matter of fact it is obvious that the mere fact of abandoning farms for a period of more than two weeks in a period of peak activity in the agriculture and fisheries seasons jeopardized the whole crop cycle of production and fisheries operations.

The mission classified the damages and losses to the agriculture sector into five categories:

- Damages due to the direct shelling and bombing⁶. It includes human and livestock casualties due to their lethal impact, destruction of trees and standing crops, damages to rural infrastructure, motorpumps and irrigation networks, destruction or damages to agricultural machinery, greenhouses, and bee hives.

- Production losses due to the abandoning of production activities because of the unrest, including i) the interruption of the irrigation of nurseries (tobacco and seedling production), and vegetable farms, resulting in a withering of plants, ii) death of animals due to hunger and thirst (particularly poultry), livestock left unattended, iii) theft of equipment, and iv) abandoning of nets at sea due to the naval blockade.

- Production losses measurable only at a later stage (harvest of long cycle crops) due to above mentioned causes, such as i) the foreseen general yield and quality decrease in the 1996 tobacco crop, ii) general decrease in production for all irrigated perennial crops, and iii) lower productivity and deterioration of animal health due to stress and lack of care.

- Investment (inputs) and income losses due to i) the non-harvesting/rotting of crops on plots because of the flight of producers, traders and consumers (this was particularly salient for the commercialization of milk, fruit and vegetables), ii) escape of swarms of bees and domestic animals, and iii) impossibility for fishermen to go to sea.

- Indirect economic "opportunity losses" such as i) unemployment for rural seasonal workers and farm casual labour, ii) delay in the crop planting calendars, iii) decapitalization of the farm and increasing indebtedness (especially for farms under land tenancy and share cropping contracts), iv) disastrous effects on private commercial and artisanal activities up and down the production stream, v) lack of investment in the sector and vi) exodus of qualified labour and support services due to renewed insecurity. These losses are the most difficult to quantify; but are economically meaningful.

The interaction and combination of effects between the above mentioned factors resulted in a major and complex economic emergency for the agriculture sector in the affected areas.

Magnitude of the Damages. It is estimated that almost all farmers in 136 villages in Southern Lebanon⁷ and eight villages in West Bekaa have been directly or indirectly affected by the conflict in terms of loss of production and economic opportunities.

The preliminary assessment carried out by the national army, as instructed by the Government, found that a total of 73 farms were damaged by direct shelling or bombing,

⁶ According to UNIFIL reports, a total of 25 000 rounds of artillery (tanks and mortar) and 1500 bombs (air strikes) were recorded in UNIFIL area during the two-week Israeli military operation.

⁷ Cazas of Tyr, Nabatiye, BintJbeil and Marjeyoun

of which 15 were totally damaged, 11 partially damaged and 47 slightly with some damages.

Even though the population has shown an extraordinary capacity for recovery, the economic losses in terms of agricultural production cannot be underestimated. It is also estimated that the attacks had consequential and meaningful effects on all private sector activities upstream and downstream of agriculture, livestock and fisheries production.

Agriculture

Tobacco. The attack occurred in a critical period for tobacco since it corresponded to the time of transplanting nurseries (25 March - 25 April). It is estimated that up to 45 % of the tobacco nurseries (equivalent to 600 ha of the field crop) were affected, fully lost or too overgrown for an optima replanting, due to the abandoning of the farms and displacement of the population. Even though some farmers were able to purchase new seedlings in non affected regions, the quantities procured were insufficient and the transplanting was made with up to 1.5 months delay.

There will be major losses in terms of quality of the final product (up to 30 % loss in quality) and yield (up to 25% loss in yield). The loss of the tobacco nurseries implies a direct loss for the Tobacco Monopoly (cost of the seed), and for the farmer (labour and fertilization investment).

The area of fields destroyed due to direct shelling or bombing is not known as yet, however it is assumed that losses due to direct impact are minor in relation to losses due to abandoning of nurseries which resulted in withering, overgrowth and late transplanting.

Lebanon Tobacco Monopoly (LTM) estimated that combining losses in yield and decrease in quality, the loss in production value could reach up to 45% compared to normal years, however depending on the weather conditions until the harvest period in September, the production output forecast can change greatly. Based on claims settlement the LTM will be able to make a detailed assessment of damages and thus establish a production forecast as from the first week of July.

Nurseries (Production of Seedlings). This economic activity was not directly affected by the impact of the bombing (only one nursery of 100 m² reported to have been destroyed by the impact of a shell), but rather by the lack of irrigation and care of seedlings for a period of up to two to three weeks. If species such as olive trees or older planting material survived, other species and the younger seedlings in the nurseries withered. Loss due to lack of care and irrigation could reach up to 10 % of the production in the affected areas.

Citrus Fruit. Information compiled by Ministry of Agriculture officials and farmers' associations indicate that up to 14 000 trees (equivalent to a total area of 56 ha)

may have been totally or partly affected/damaged by shells or bombs (2% of orchards in the affected region). Losses in production due to lack of irrigation and loss of income due to non harvest of the fruits should also be taken into account in the estimate of the damages.

Banana. Up to the equivalent of seven hectare of banana plantation (7 000 trees) may have been completely destroyed due to direct hits or lack of irrigation (2% of the banana plantations in the affected region).

Olive (and Other Perennial Crops such as Apple and Almond Trees, Figs). Up to the equivalent of 18 ha of plantations, mostly of olive trees (4 500 trees) are reported to have been damaged by the shells and bombs. This represents approximately 0.3 % of the total area planted with olives in the affected region (area planted with other trees not known). The loss of trees of full production age is a major investment loss for a farmer.

Cereals and other Field Crops (Pulses and Vegetables). Crops cultivated under banana plantation (first year of plantation) and cereals (wheat) were affected in some places due to direct hits (all field crops) or lack of irrigation/non harvest (vegetables and particularly melons). It is estimated that up to 50 ha of field crops were damaged (roughly 2% of estimated area cultivated with field crops in the affected region).

Crops under Greenhouse Intensive Cultivation. Up to 120 green houses covering 5 ha of crops are reported to have been totally or partially damaged (damage to the polyethylene plastic cover). This represents 10 % of the greenhouses in the affected area. However a careful estimate of the degree of damages should be made to assess the magnitude of repairs/replacement to be made to these structures (from 30 % to 100% of the plastic cover). Crops grown in greenhouses were also damaged, and important investment and financial losses resulted in the protected cultivation subsector due to the impossibility to commercialize short cycle production (especially tomato and cucumber).

Forestry. Limited damages (not quantified) to the public pine forests in Nabatiyeh were reported to the mission.

Rural Infrastructures, Water Supplies, Irrigation Networks and Agriculture Mechanization. It was reported that approximately ten motorpumps used in artesian wells used for agricultural purposes, had been partially damaged. Up to five tractors and one combine harvester were reported to have been damaged. Up to three km of irrigation canals were damaged (broken down approximately in 300 metres of principal canals and 2 700 metres of secondary and tertiary networks), up to 200 individual water reservoirs were damaged and approximately 1 500 m of rural roads were also damaged. The destruction of storage facilities and trucks will also directly affect the agricultural commercialization network.

Agribusiness and Food Processing. There has been no report of damages to the major cereal mills and olive processing units of the region. Reports were received of losses in production and interruption of activities of the milk processing units (five small scale units of one MT of processing capacity are reported to have been affected) and in banana ripening stocks (eight stores of 1.5 MT of capacity lost their stocks under processing). The private companies involved in the supply of agricultural inputs stopped commercial activities for at least 3 weeks.

Livestock.

The recent events added further strain on the already existing hardship of the livestock holders. Shelling and bombing demolished not only houses but also adjacent animal holdings which resulted in the death of numerous domestic animals (dairy herds, goats, sheep and poultry). The animals, left without food and water for more than two to three weeks during the bombardment, either died or suffered until the return of the displaced owners. Some animals left on their own were stolen or lost.

The most substantial damages were registered to the commercial and family production of chickens due to the insufficient, or lack of, necessary care (food, water and sanitary care). In addition to the above, meaningful damages were recorded such as the escape of hundreds of bee swarms, increase in animal diseases and loss of productivity due to nutrition and war stress and also the lack of care during the period of hostilities.

A preliminary estimate carried out by the Ministry of Agriculture staff in South Lebanon indicated that many livestock owners suffered losses as a result of direct bombing or due to the abandoning of the farms and herds. The estimated losses (preliminary estimate) are 25 to 50 dairy cattle (1% of estimated herd in the affected region), up to 850 goats and sheep (0.9% of the estimated herd in the affected regions), 150 000 to 200 000 poultry (6 to 10% of the estimated flock in the affected region) and up to 100 beehives (1% of existing hives in the affected region).

Fisheries

The fishermen of the South operate in difficult conditions due to reported frequent harassment from a foreign Navy. According to representatives of the "Union" of fishermen in South Lebanon, up to 180 boats (540 fishermen, 42% of the fishing fleet) lost their nets at sea due to the naval blockade during the hostilities, which prevented them from looking for their fishing gear installed the night before military operation began.

IV Remedial Measures taken by Farmers, Fishermen, Government, UN Agencies, NGOs and International Donors Community

UN Resolution. The United Nations Security Council after its debate on the hostilities in the Lebanon on 22 April 1996 adopted a resolution which explicitly called on the international community to provide humanitarian assistance and assistance for the reconstruction of affected areas.

On 23 April, the UN General Assembly adopted a resolution on the situation in Lebanon, which included a call for a UN mission to assess the damages caused by the hostilities. An Inter-Agency Mission led by ESCWA was fielded on 27 May 1996.

Following the cease fire, there was an uninterrupted stream of people returning to their towns and villages. This was facilitated by group repatriation. Basic repairs to roads and utilities began on the first day of return.

The Lebanese Government has embarked on a dual programme of enhancing internal security and promoting economic stability and growth. Lebanon periodically faces hostilities at its borders that require the country to shift, temporarily, from development and reconstruction programmes to emergency relief activities. Beyond the immediate emergency relief efforts, the Government of the Lebanon is determined to consider its activities in Southern Lebanon and West Bekaa as part of the reconstruction and development programmes.

The High Relief Commission (HCR) successfully managed the crisis by taking quick policy decisions, immediate release of funds and excellent working relationships with the main operators in the public sector and civilian society. For example repair work on different networks has been conducted with great efficiency by the technicians of the different Government services. The Government has announced its determination to build on that achievement and to go further with respect to emergency preparedness, and capacity building for emergency response

Many civilian institutions in the Lebanon participated effectively in the relief activities in close cooperation with the different Governmental bodies designated by the HRC.

A flash Appeal for immediate relief assistance was launched on 20 April 1996 under the aegis of the Department of Humanitarian Affairs (DHA) for a total amount of US\$ 8.5 Million to address emergency relief and humanitarian needs of 20 000 families in direct need, representing 100 000 to 120 000 persons during the period end April through end July.

As of 29 May 1996, contributions amounted to US\$ 15.5 million in addition to more than twenty in kind contributions. Cash for relief services were provided by 18 countries and in-kind donations were received from 28 countries.

Contributions were received from International and National Federations of the **Red Cross** of 9 countries, and channelled through the Lebanese Red Cross.

Cash contributions for a total amount of US\$ 2.4 million were provided by **international and national NGOs** and Lebanese expatriate communities. These contributions were channelled through the Government and/or Ministries and/or NGOs, (national and international) operating in Lebanon.

All Appeal operations were coordinated through HRC, with the support of the United Nations Department of Humanitarian Affairs through the UNDP office.

UNDP has offered to assist the Government in the socio-economic rehabilitation and reconstruction of South Lebanon through a multipronged area development scheme aimed at recovering and developing local potential. A preliminary assistance project for a total amount of US\$ 500,000 has been prepared for this purpose.

The World Bank extended an additional US\$ 15 million to finance emergency rehabilitation activities in Southern Lebanon. The World Bank is also considering other modalities to meet the emergency rehabilitation needs.

V. Emergency Proposals for Urgent Assistance to Affected farmers and Fishermen

Emergency support to the affected farmers, livestock owners and fishermen should be a top priority.

Fund mobilization and all efforts should be geared towards enabling farmers and fishermen to resume their production activities. These proposals have been prepared to cover urgent minima need. The projects have been listed in order of priority. Provided funding is received, the Government intends to built on the excellent work done by project OSRO/LEB/302/AUS from 1993 to 1995 to set-up the foundations wit the proposed emergency intervention for a medium term rehabilitation plan for the agriculture sector of the South, keeping in mind its potentiality and future development challenges. They do not aimed at covering the huge economic losses resulting from the attack as described in Chapter 3 above. This may appear as derisory with regard to the major economic disaster induced by this military operation.

Three proposals for immediate technical assistance have been prepared by the Mission for submission to the international donor community, they include:

- 1. Coordination of emergency assistance and supply of essential inputs to farmers affected by the April 1996 Israeli military operation.

- 2. Urgent supply of fishing gear to fishermen affected by April 1996 naval blockade.

- 3. Support to veterinary services for the control of bovine and small ruminants Mastitis, following temporary interruption of livestock production activities due to April 1996 Israeli military operations.

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VI. PROJECT PROPOSALS

Project Proposal No. 1

Appealing agency: FAO

Title: Coordination of Emergency Assistance and Urgent Supply of Essential Inputs to Affected Farmers

Code: LEB/96/1

Target Population: Up to 10,000 affected farmers directly or indirectly affected

**Implementing Agency/
Institution:** FAO/MINAGRI

Time frame: One Year

Objective: To enable the farmers which were affected by the crisis to resume production activities
To coordinate emergency programmes aimed at urgent rehabilitation of agriculture in South Lebanon and west Bekaa and provide advice to implementing cooperative, professional organizations, Non-Governmental and/or private organizations.

Funds requested: US\$ 503 000

Summary

1. Background

As a consequence of the recent military interventions, considerable damage has been incurred to the small greenhouse production systems, as well as to field and perennial crops (olive, banana and citrus). Many families have lost their means of subsistence and are unable to procure the minimum inputs to resume production activities. In addition the Government is forced to increase imports in order to meet the basic food requirements of the population due to the resulting decrease in production. It is the Government's wish to rapidly restore the local production capacity and encourage farmers to quickly rehabilitate the affected farms.

To this effect, the project will be initiated to provide the most urgently needed inputs to the affected farmers, coordinate emergency interventions in support of the recovery of agriculture in the affected region and provide technical guidance to farmers' organizations, the private sector and NGOs active in the area.

From 1993 to 1995, the FAO's Special Relief Operations Service (OSRO-TCOR) implemented a very successful project, OSRO/LEB/302/AUS - "Urgent provision of Basic Agricultural and Veterinary Inputs to South Lebanon and West Bekaa", thanks to a donation from the Government of Austria. The project enabled not solely the supply of essential agricultural inputs to more than 10 000 destitute farm families but also succeeded to set up mechanisms with the wide participation of farmers' organization and the civilian society in support of the proposed rehabilitation strategy in the affected region.

The project will build upon the excellent work carried out by, the emergency project set up following an Israeli military attack in 1993. It is designed to offer the possibility to reflect on and prepare a more comprehensive medium term rehabilitation strategy during the project cycle. The project should also set up the institutional framework to facilitate future investments eventually combined with medium to long term assistance for extension and training.

2. Project Description/Responsibility for Implementation

Based on the experience accumulated and recommendations made by former emergency project OSRO/LEB/302/AUS and the UNDP funded FAO Project for Development of Olive tree production in the South (PNUD/FAO/LEB/91/002), the project should be able to immediately take the following urgent actions:

- Comprehensive assessment of the damages to the agriculture sector, and also of the existing capacities and coping mechanisms developed by the population
- Coordination of activities and technical advice to the numerous NGOs, farmers organizations and private sector entities involved in the assistance to affected farmers
- Distribution of essential inputs to affected farmers
- Launching of two urgent intensive extension campaigns (CIVIT) in accordance with the methodology developed by SDRE and already tested successfully in emergency conditions, for olive production improvement and/or the improvement of the efficiency and competitiveness of vegetable production, with emphasis on integrated production and protection practices (IPP) to aim at a supply of high quality and healthy vegetables

In addition to the comprehensive assessment of the impact of the war on the agriculture sector and evaluation of capacities and farmers coping mechanisms, coordination of activities, and provision of technical advice the project will provide inputs to enable the most affected farmers resume agricultural production as follows:

	US\$
- Green Houses repair (4.8 ha): Rolls of polyethylene plastic cover (size 5.5 mX 72 m): 150 units @ US\$ 275	41 500
- Vegetable seed	71 000
- Citrus saplings: 14,000 units @ US\$ 3.5	49 000
- Olive tree saplings: 4,500 units @ US\$ 3.5	16 000
- Banana (Cavendish) saplings : 8,000 units @ US\$ 7	56,000
- Fertilizer (17.17.17) for arboriculture and vegetable production: 50 MT @ US\$ 250	12 500
- Fertilizer (urea) for arboriculture: 60 MT @ US\$ 200	12 000
- Knapsack sprayers and protective clothing: 150 units @ US\$ 100	15 000
- Pesticides (Provision for vegetable production. Types and quantities to be determined later based on low mammalian toxicity criteria and observed damages at a significant economic level)	5 000
- Motorpumps (35 CV) w pipes: 10 units@ US\$ 3 000	30 000
- Water tanks size 1mx2m capacity 2,000 liters : 200 units @ US\$ 250	50 000
- Beehives and protective clothing: 100 units @ US\$ 200	20 000
- Technical assistance National Consultants (1 Project coordinator, 2 national agronomists and one veterinarian for 10 months)	33 000
- Technical assistance (CIVIT): 6 weeks in two missions	22 000
- Technical Backstopping	10 000
- Administrative support (secretariat and driver)	5 000
- Training and CIVIT	10 000
- Training supplies	5 000
- General operating expenditures	40 000

The vehicles, office and office equipment will be provided under project OSRO/LEB/302/AUS operationally concluded but for which no official transfer to the Government has been made, as yet.

The project will rely as much as possible on national expertise and to the extent possible mobilizing the know how at regional level under the TCDC agreement and more specifically, obtaining the cooperation of FAO's regional working groups such as the Regional Working Group on Greenhouse Crop Management in the Mediterranean Region.

Technical assistance will be provided to assist the project team in training activities, preparation of CIVIT campaign and design of proposals for further technical assistance aimed at bridging emergency to development throughout the rehabilitation phase.

3. Financial Summary

Item	Amount US\$
Technical Assistance (international)	22 000
Technical assistance (national)	33 000
Administrative Support	5 000
Technical backstopping	10 000
Equipment (vehicles, computers)	P.M.
Equipment (motorpumps, water tanks, beehives, knapsack sprayers)	115 000
Supplies (plastic cover, seed, saplings, fertilizer, pesticides)	263 000
Training	15 000
General and Direct Operating Expenditures	40 000
TOTAL	503 000

Project Proposal No. 2

Appealing agency: FAO

Title Urgent Supply of Fishing Gears to Fishermen Affected by April 1996 Naval Blockade

Code: LEB/96/2

Target Population: 540 fishermen (180 boats) directly affected by the naval blockade

**Implementing Agency/
Institution:** FAO/MINAGRI/Fishermen Union of South Lebanon

Time frame: One Year

Objective: To replace fishing gears lost at sea during the naval blockade and enable affected fishermen to resume production activities.

Funds requested: US\$ 110 050

Summary

1. Background

Fisheries activities are artisanal, mainly based on demersal trammels and longlines, lampara round haul nets and beach seines. Fishing is carried out in very shallow waters. The gear used is considered as destructive due to small mesh size. The number of fishing boats has decreased over the past years due to the continuous unrest. It is estimated that in the affected region approximately 1 270 fishermen carry out their activities on 427 boats of less than 8 metres long.

The fishermen of the South operate in difficult conditions due to reported frequent harassment from a foreign Navy. According to representatives of the "Union" of fishermen in South Lebanon, up to 180 boats (540 fishermen, 42% of the fishing fleet) lost their nets at sea due to the naval blockade during the hostilities, which prevented them from looking for their fishing gear installed the night before military operation began.

2. Project Description/Responsibility for Implementation

The project aims to replace equipment lost at sea by the fishermen during the Israeli naval blockade. This will enable the 540 fishermen to resume their production activities.

The assistance provided through the Fisheries Division of the Ministry of Agriculture includes the following supplies⁸:

The list is drawn up on the basis of 180 sets of gear each consisting of:

- 1 x 100m stretched gillnet
- 4 x 100m Trammel net
- 3 kms Longline

Trammel Nets

360 pieces - 20 mm (bar length), 100 m length, 210/2 twine 60 meshes deep	2 400
360 pieces - 120 mm (bar length), 100 m length, 210/4 twine 7 meshes deep	500
360 pieces - 20 mm (bar length), 100 m length, 210/3 twine 60 meshes deep	3 200
360 pieces - 120 mm (bar length), 100 m length, 210/6 twine 7 meshes deep	1 000

Gillnets

180 pieces - 35 mm (bar length), 100 m length, 210/6 twine 300 meshes deep	20 000
180 pieces - 20 mm (bar length), 100 m length, 210/6 twine 300 meshes deep	20 000

Ropes

100 coils (200m/coil) Polypropylene 5mm dia medium twisted
2000

Floats

125,000 floats No 4, 20 gms buoyancy	7 500
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Weights

Lead Sheeting 6000 kg - to be supplied locally	6 000
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⁸ Detailed specifications of gear to be confirmed when full fledged project document prepared

Stapling Twine

540 spools 0.25 kg/spool PA R150tex (210/6) twisted twine	5 600
540 spools 0.25 kg/spool PA R600tex(210/24) twisted twine	5 600

Long Line

540 x 1000m reels - Main line PA monofilament 0.6mm dia	8 000
360 x 1000m reels - Snood line PA monofilament 0.4mm dia	1 750
1080 pkt hooks (100 hook pkts) Mustad Kirby No 14 hooks	3 000
Total (Rough Approximation)	86 550

A national consultant will be recruited to supervise the project inputs distribution and provide training to affected farmers on improved fishing practice.

A backstopping mission from FAO's Fisheries Division will assist the national project team in training activities and design of a proposal for further assistance in order to bridge emergency to rehabilitation keeping in mind development challenges for the sector.

3. Financial Summary

Item	Amount US\$
National Consultant (3 men/months)	3 500
FAO backstopping	5 000
Fishing gear	86 550
Training	5 000
General and Direct Operating Expenses	10 000
Total	110 050

Project Proposal No. 3

Appealing agency: FAO

Title: Support to Veterinary Services (Division of Livestock and Animal Health) for the Control of Bovine and Small Ruminants Mastitis

Code: LEB/96/3

Target Population: Affected livestock owners of South Lebanon and West Bekaa

**Implementing Agency/
Institution:** FAO/MINAGRI

Time frame: One year

Objective: To support Government efforts to assist dairy livestock owners to control the expected increase in mastitis infections on their herds

Funds requested : US\$ 85 000

Summary

1. Background

During a period of up to one month the livestock owners left their animals unattended and without any care or sanitary treatment. An increase in infectious diseases is expected following the stress resulting from this abandoning of the herds. The veterinary services have got the capacity through national or external resources to carry out the necessary basic vaccination campaigns to control main epidemic diseases such as Foot and Mouth disease, Brucella, Enterotoxemia and Rinderpest. However support is lacking for the control of bovine and small ruminant mastitis of which the rate of infection is expected to increase dramatically. It is estimated that up to 20 % of the dairy herds in the affected area (approximately 12 000 goats and sheep and 800 cows) could be affected by different types of mastitis. The problem of mastitis is significant in South Lebanon since the livestock owners generally wait a long time before contacting the veterinary services, trying to cure the infection by themselves and calling a veterinarian in last resort. The economic losses due to mastitis infection are considerable. Considering that the production of milk (all dairy herds) in the South is estimated at 50 000 MT/year, the fall of production due to mastitis could result in major economic consequences. This

could be minimized by a strengthening of the diagnosis capacity of the Livestock and Animal Health Division and the supply of adequate veterinary drugs.

2. Project Description/Responsibility for Implementation

The project will provide the Livestock and Animal Health Division with the necessary veterinary products and laboratory tests to set up a campaign to control the infection in the area affected by the recent Israeli military attack.

The following supplies will be provided:

	USS
- Kits for Mastitis diagnosis: 100 units @ US\$ 30	3 000
- Injectable antibiotics injectable for treatment (large spectrum antibiotics; types to be defined according to main infections at a later stage): 3 000 bottles of 100 ml @ US\$ 8	24 000
- Antibiotics/antiinflammatory intramamatory preparations/tubes: 25 000 tubes @ US\$ 0.5	12 500
- Disinfectants and chemicals (including teat dips and iodine solution)	10 000
- Cold chain (cool boxes), nose punches and supplies for field testing	3 000

A backstopping mission from FAO's Animal Health Division will assist the national project team in training activities and design of a proposal for further assistance in order to bridge emergency to rehabilitation keeping in mind development challenges for the sector.

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3. Financial Summary

Item	Amount US\$
National consultant (3 men/months)	3 500
Technical backstopping	3 500
Supplies (diagnosis kits, antibiotics, chemicals)	52 500
Equipment (cool chains, handling equipment)	10 000
Training	5 000
General and Direct Operating Costs	10 500
Total	85 000

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