

LEB/96/004

174

PARAL...
...
... 562 i/08



Ambasciata di Beirut

Ambasciata

الجمهورية اللبنانية

Beirut, the 17th of August, 1999

مكتب وزير الدولة لشؤون التنمية الإدارية
مركز مشاريع ودراسات القطاع العام

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

Dear Yves,

I have the pleasure to enclose a survey report on the agricultural situation in the Caza of Jezzine, prepared by experts of the *Mediterranean Agronomic Institute of Bari* (IAMB), which is affiliated to the International Organization *Centre International de Hautes Etudes Agronomiques Méditerranéennes* (CIIHEAM), following their missions in the Jezzine region during the last semester.

We consider the rural sector a priority because there is an urgent need to recover the basic social fabric of the Jezzine region and because agriculture can pave the way to revamp tourism and in particular agro-tourism in the region.

This study aims at providing a comprehensive outlook of the current agricultural situation in the 26 villages and hamlets of the Jezzine Caza, that our experts have visited one by one. It reports the situation as it results from interviews, made on the basis of a pre-established questionnaire, with local authorities and organizations (municipalities, public services, traders organizations, cooperatives, NGOs, schools, social and religious institutions, etc.). Its conclusion point out some guidelines for future interventions, without pretending to be firm recommendations. However, it might help the potential donors to better identify the actions to be undertaken in this sector, in order to support the re-integration of the Caza in the social, economical and political life of Lebanon.

Yours

Giuseppe Cassini
Giuseppe CASSINI

Action by
CTR 562/RAH

HE.M. Yves DE SAN
Coordinator for the United Nations
United Nations House

BEIRUT

LEB/96/004
20 AUG 1999
RR
RAH

Handwritten notes and signatures at the bottom right of the page.



CIHEAM / IAM-Bari

“CAZA DE JEZZINE”
a case of study

(Survey Report on Agricultural Situation)

JEZZINE

o

JULY 1999



CENTRE INTERNATIONAL DE HAUTES ETUDES
AGRONOMIQUES MÉDITERRANÉENNES
ISTITUTO AGRONOMICO MEDITERRANEO DI BARI
CIHEAM / IAM-B

“CAZA DE JEZZINE”
a case of study

(Survey Report on Agricultural Situation)

JULY 1999

Prepared by:

Dr. BIAGIO DI TERLIZZI
Dr. NINA ABOU-GHANEM

CONTENTS

	page
Preface	
Background about Lebanon	1
Background about Caza de Jezzine	6
Objective of the study	9
Methodology of the study	9
Results of the study	10
Social and Political situation	12
Agriculture and Forestry	16
Lines of possible development	27
Acknowledgement	31
Consulted documents	31
Annexes	

PREFACE

The Jezzine region ("Caza de Jezzine") has been one of the most suffering regions in Lebanon over the past 20 years due to well known political events. For a long time it has been almost completely isolated from the rest of Lebanon, in fact data about this region are missing.

The present document has been inspired and supported by the Italian Embassy in Lebanon as a contribution to better understand the situation in the region after the recent withdrawal of the South Lebanon Army (SLA) in June 1999.

The Italian Embassy has formally charged the International Organization *Centre International de Hautes Etudes Agronomiques Méditerranéennes* (CIIHEAM) through its Italian Institute (*Istituto Agronomico Mediterraneo-Bari*, IAMB) for the execution of the study.

For the realization of this report, the IAMB team including Dr. B. Di Terlizzi and Dr. N. Abou-Ghanem in cooperation with Mr. Issam Akiki, the representative of the *Caritas Liban*, carried out an extensive survey of the region at the beginning of July 1999. The mission was aimed at establishing links with local authorities and people, collecting data and evaluating the needs of the region.

Survey results and impressions are reported hereinafter.

BACKGROUND ABOUT LEBANON

The Lebanese Republic is located in the easternmost part of the Mediterranean Sea, covering a *total area* of 10,452 square kilometers.

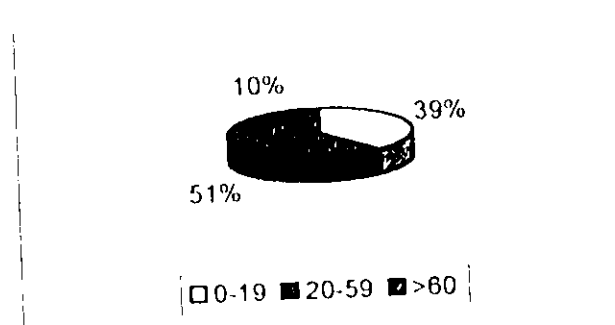
According to the last census of 1996, Lebanon has a *population* of 3.1 million (excluding 200,000-230,000 registered Palestinian refugees).

The Lebanese society is *multi-religious* and consists of 17 religions and sects.

The *population growth rate* is 1.62% according to 1997 estimates and is expected to keep at 2-3%.

The Lebanese population is *extremely young*, given that more than one third of the total population (39%) is under 19 (Figure 1).

Figure. 1 Age structure of the Lebanese population.



Source- Oxford Business Group, 1999 "Emerging Lebanon 2,000"

The country has experienced a strong *rural-to-urban migration*, so that today about 85% of the population is thought to be urban. Each *family* includes ca. 4.7 persons as an average of urban (4.0) and rural families (5.0).

Lebanon's *literacy rate* is among the highest in the Arab world, standing around 90%. There are over 2,500 schools and 21 Universities in the country.

The national *Gross Domestic Product* (GDP) experienced a continuous growth over the period 1992-1997 (5.17 billion US\$ in 1992 to 15.198 billion

US\$ in 1997). The peaks of the real GDP growth coincide with a very intensive period of reconstruction which ended in 1996/1997.

The *inflation rate* has had a constant tendency of approximately 10% over the last 5 years. *GDP-Per capita* has also grown from 3,800\$ in 1995 to 4,000\$ in 1997 (OBG, Banque Audi, Quarterly Economic Report).

Total *exports* are divided between industry and agriculture. The industrial sector, mainly producing cement, furniture, paper, detergents, cosmetics, pharmaceuticals, etc., is estimated to contribute by about 10-15% to the GDP and to provide about 90% of Lebanese commercial exports.

Agriculture contributes by approximately 8 to 10% to the Republic's GDP. Food and agricultural exports, including forestry products, provide about 10% of commercial export earnings.

The *working population* includes 1,362,000 persons or about 34% of the total population (according to Central Statistics Administration). The *private sector* employment is 82.8% whereas the *public sector* is represented by 13.6%. The labor force distribution according to the sector is presented in Table 1.

Table 1. Employment rate in different sectors in Lebanon.

Sector	%
Agriculture	20
Industry	18
Building	6
Trade	16
Transportation and communications	7
Financial Services	3
Other	29

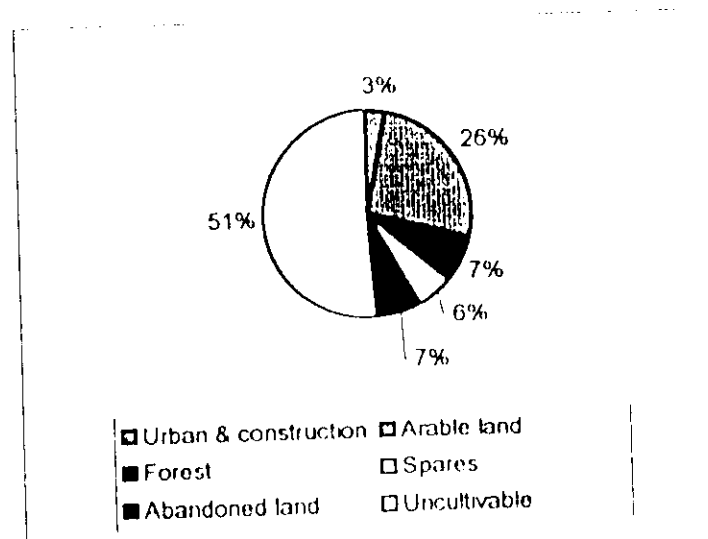
The *unemployment rate* is approximately 15% (1996 estimates). Almost one half of unemployed forces (45.4%) is under 24 years.

Agriculture is one of the most important production sectors in the economy contributing by about 10% to the Lebanese GDP in 1997.

The working population is estimated at one third of the total Lebanese population. *The agricultural labor force* accounted for 20% of the working population in 1996.

Although a strong migration from the rural area towards Beirut occurred during the war, *the total cultivated area* has largely increased over the last 40 years reaching almost 300,000 ha in 1997, accounting for 26% of the entire country surface (Figure 2 and Table 2).

Figure 2. Land use in Lebanon



Source- Oxford Business Group, 1999. "Emerging Lebanon 2,000"

Table 2. Total cultivated surface area in Lebanon.

Surface (ha)	1961	1997
Rainfed	214,327	177,465
Irrigated	40,775	117,113
Protected	-	1,976
Total	255,102	296,554

Source- Ministry of Agriculture, 1997 "A study about villages"

The *distribution of arable land* among the different Lebanese regions shows that the Bekaa Valley contributes by 44%, followed by North Lebanon, South Lebanon, Nabatieh and Mont Lebanon (Table 3).

Table 3. Distribution of cultivated area in Lebanon.

Region	Cultivated area				
	Rainfed	Irrigated	Protected	Total	%
Bekaa	74,228	56,054	84	130,366	44
Mt Lebanon	13,054	10,788	849	24,691	8
North Lebanon	45,388	32,987	623	78,998	27
South Lebanon	18,015	15,052	391	33,458	11
Nabatieh	26,780	2,232	29	29,041	10
Total	177,465	117,113	1,976	296,554	100

Source - Ministry of Agriculture, 1997: "*A study about villages*"

The production of fruits, vegetables, flowers and field crops covers around 67% of the agricultural sectors in Lebanon. Out of a total cropped area of about 296,554 ha, around 47% is grown with fruit crops, grapevine and olives and 15% with vegetables. The *most important crops* include olives, grapes, citrus and fruit species with a cultivated area of 51, 16, 14, and 59 thousand ha, respectively (Table 4).

Table 4. Main cultivated crops in Lebanon and related areas.

Crop	Surface (,000 ha)	%
Cereals	56,313	19
Legumes	10,070	3
Vegetables	45,540	15
Industrial crops	16,623	6
Fruit crops	73,002	25
Citrus	14,087	5
Pome fruits	15,448	5
Banana	3,005	1
Other	40,462	14
Grapevine	15,771	5
Olives	51,552	17
Fallow land	26,619	9
Others	1,064	0.3
Total	296,554	100

Agricultural exports accounted for 23% of the total Lebanese exports in 1990. In the following years, there has been a sharp reduction in the role of agriculture in the national trade structure till it reached about 10-11% of national exports in 1997.

However, Lebanon today is still far from being agriculturally *self-sufficient*. In 1994, the FAO study estimated that the post-war domestic food production did not exceed 30% of the country's needs. Self-sufficiency has been only achieved in fruits, poultry, potato and vegetable production.

BACKGROUND ABOUT "CAZA DE JEZZINE"

The "Caza de Jezzine" occupies a surface area of 25,959 ha representing about 2.5% of the whole Lebanese territory. It is bordered in the East by the Bekaa Valley, in the South by Marjayoun (under Israeli control), in the West by Sidon district and in the North by Chouf.

The average temperatures (following the agro-meteorological data collected in the station of Jezzine region during the period 1984-1987) reach 28-30°C, even 35°C in summer and 5-10°C in winter. Temperatures often drop below 0°C in December and January.

The rainfall average for the whole region is approximately 1,200 mm/year with some peaks in winter months. Summers are almost rainless.

Before the Israeli occupation, the area counted about 70,000 inhabitants, living in different villages and representing about 2.2% of the whole Lebanese population at that time. The total number of registered villages and localities in the area is about 100, but 14 of them are still under the Israeli control.

The region is mostly populated by Christians with a minor presence of Muslims, Shiites and Sunnits, as well as Druz.

The *birth rate* as well as other parameters in the region are similar to other parts of Lebanon.

The *general exodus* during the war caused the considerable percentage of ancient population actually living in the area.

The natural vocation of the region is *agriculture* but the Israeli invasion disrupted the production during the war. Between 1978 and 1981, about 1,100 ha of tobacco were destroyed 300 ha of agricultural land were abandoned because of land mines, and 51,000 olive trees and 70,000 fruit trees were destroyed (source: the United Nations High Commissioner for Refugees). Indeed, arable land is estimated at approximately 7,500 ha but the actually cultivated area is only 4,000 ha. Its distribution is reported in Table 5.

Table 5. The agricultural land in Caza de Jezzine.

	Surface in ha
Rainfed	2817
Irrigated	1252
Protected	19
Total cultivated land	4088
Woodland	6742
Pastures	12396

Source - Ministry of Agriculture, 1997: "A study about villages".

Only 30.6% of arable land is *irrigated* while the rest is not supplied with irrigation system. Almost the whole irrigated area is used for fruit trees and vineyards, whereas the small remaining part is for the cultivation of seasonal crops.

The rainfed land is used for cultivating seasonal crops such as tobacco, legumes and wheat.

The general level of agricultural production in the Jezzine area is very poor.

The *average cultivated area* per family is about 0.5 ha. It is calculated that about 4,000 families are involved in agriculture. About 1,000 families live permanently in the Jezzine region whereas the remaining 3,000 families *abandoned* their houses, live out of the region and return to Jezzine just for harvest.

The local market can consume about 20-25% of the agricultural production. The rest was sold to South Lebanon Army (SLA) at a political price. The main crops cultivated in the region are legumes, citrus, apples, grapevine, and olives.

Industry is mainly based on very small enterprises. The last data about the existing factories in the Jezzine region dating back to 1994 include 58 enterprises, 50% of which in the Jezzine city. The reported activities were civil building, wood and mineral exploitation, steel factories, agro-food industry *etc.*

The total number of employees was 327. Only two enterprises employed more than 30 people.

The Jezzine region was once famous for its typical *handcraft activities*. The typical handmade knives produced in the area were very well - known all over the world and represented the major source of income for more than 100 families.

OBJECTIVE OF THE STUDY

The general objective of the study is to support the economical and social rehabilitation of the region and its re-integration in the social, cultural and political life of Lebanon. The study is aimed at establishing links with local authorities and population, collecting data and evaluating the short and long-term needs of the region, especially in agriculture.

METHODOLOGY OF THE STUDY

One- week exhaustive survey of the area of interest was carried out at the beginning of July 1999 in order to collect detailed information and to ascertain the real situation in Caza de Jezzine. The logistic support to the survey was kindly provided by the Caritas Lebanon.

During the survey, villages were visited singularly and interviews with local authorities and organizations (municipalities, mayors, public services, traders organization, cooperatives, NGOs, schools, social and religious institutions, etc.) were carried out.

Direct inspections to a representative number of families were also undertaken in order to better understand the real conditions and needs of the local population.

Interviews were carried out following a pre-established questionnaire. An example of the questionnaire is given in Annex 1.

Most data were ascertained by visual observation during the visits.

RESULTS OF THE STUDY

During the survey a total number of 26 villages and/or localities of the Jezzine region were visited and some of collected data are reported in Annex 2A. General data about population and agriculture of the remaining localities and villages are summarized in Annex 2B.

The study provided detailed information on the region concerning the social and political situation and agricultural resources.

According to the survey, the total population of the area is approximately 11,000 people.

The working population is estimated at about 22% of the total. Such a percentage may be attributed to the migration of young people towards the rest of Lebanon, especially Beirut.

60% of the working population has constant salaries mainly in public institutions and schools. For almost one fifth of the working population (18%), agriculture is the unique source of income whereas for 40% of the population it represents the second activity.

The population of the area is multi-religious with a high predominance of Christians (over 80%). The rest of the population includes Muslims: Shiites and Sunnits are concentrated in Benwati, Roum and Kfarhouch. The Druz are present in the Srayra, Khamlet Khazen, Aray and Bhanin areas.

Detailed information about Jezzine population is reported in Table 6.

Table 6. Population data on part of the surveyed region.

Village	Christians	Druz	Shiits	Sunnits	TOTAL
Kfarhouneh	185	-	37	1	223
Ain Majdalain	500	-	-	-	500
Jezzine	3,000	-	-	-	3,000
Wadi Jezzine	241	-	-	-	241
Aray	325	11	-	-	336
Bhanin	8	6	-	-	14
Dhour Bkassine	130	-	-	-	130
Sabbah	138	-	-	-	138
Machmoucheh	51	-	-	-	51
Bkassine	325	-	-	-	325
Ghobbattieh	50	-	-	-	50
Benwati	-	-	-	550	550
Jal El Nashi	50	-	-	-	50
Al Midan	105	-	-	-	105
El Harf	89	-	-	-	89
Btaddine Lekch	170	-	-	-	170
Tid	50	-	-	-	50
Besri	60	-	-	-	60
Mazraat Mathaneh	94	-	-	-	94
Kteleh	26	-	-	-	26
Anan	500	-	-	-	500
Sfaray	200	-	-	-	200
Roum	530	-	103	-	633
Azour	140	-	-	-	140
Al Baba	8	-	-	-	8
Honsieh	108	-	-	-	108
El Kebeh	15	-	-	-	15
Kaytoulch	170	-	-	-	170
Al Maknounieh	40	-	-	-	40
Haytoura	80	-	-	-	80
Hidab + Qattine	80	-	-	-	80
Saidoun	300	-	-	-	300
Raimat + Shkadif	100	-	-	-	100
Snaya	110	-	-	-	110
Zhelteh	35	-	-	-	35
Kfarfalous	15	-	-	-	15
TOTAL	8,028	17	140	551	8,736

During the survey, some problems and constraints related to socio-economic and agricultural sectors emerged.

Data and impressions collected are summarized and presented in the next two paragraphs.

A . Social and political situation

• *Political situation*

After the SLA withdrawal there is a vacancy in the political life of the region. Lebanese army and police have no direct control of the region due to logistic and military reasons. This contributes to a general feeling of insecurity of the people living in the area. There is still no free transportation and trade exchange with the rest of Lebanon. This is due also to the limited possibilities of movement of the population from Caza de Jezzine who is still subject to strict controls at two check points connecting the area with the rest of Lebanon.

• *Economical situation*

Over the last 20 years, the presence of the SLA has been one of the most important sources of income for the local population and all activities in the area were closely related to it. It is estimated that the area had an economic benefit of approximately 300,000-500,000 \$/month from the exchange with SLA, salaries, tributes for widows, etc. Its withdrawal resulted in about 500 families of former soldiers remaining without any source of income.

Furthermore, the population should face the new reality without security for marketing the production surplus.

Jezzine region was once characterized by handcraft activities, especially decorative cutlery. Typical handmade knives produced in the area were famous all over the world and were the main source of income for more than 100 families.

During the war, this activity lost its real economical value due to the difficulties in the supply of raw materials necessary for the production and

in the marketing of products, especially abroad. Nowadays, only ten families are fully devoted to this activity whereas 16 are involved in knife production as second source of income.

- *Social situation*

The long war period has left very sad and visible traces in the area. The social situation of Jezzine region is very difficult and characterized by the presence of about 400-500 ancient persons, 100 widows, 200 orphans and 200 arrested people.

It is also calculated that about 300 soldiers have withdrawn with the SLA leaving their families in the area.

Another noteworthy point is the general absence of young people due to death, jail or exodus from Jezzine area.

The age structure of the Jezzine area is reported in Table 7.

Table 7. Age structure of the "Caza de Jezzine" population.

Age (years)	Actual number	%
0 - 4	1,470	13.13
5 - 19	3,710	33.13
20 - 24	615	5.49
25 - 39	1,610	14.38
40 - 64	2,637	23.54
More than 65	1,158	10.34
Total	11,200	100

The estimation indicates that 2,435 persons among Jezzine population are employed. The profile of the employees according to the kind of job is presented in Table 8. Generally women do not work.

Table 8. Sectors of employment in Jezzine region.

Sector	N° of employees	%
Commerce	226	9.28
Trade and handcraft	368	15.11
Agriculture	367	15.07
Animal Breeding	58	2.38
Day laborer	143	5.87
Transport	102	4.19
Teachers	467	19.18
Public administration and institutions	536	22.01
Private sector	112	4.60
Professionals	56	2.30
TOTAL	2,435	100

- *Public services*

Generally, the level of Public Services in the region is very poor and inadequate.

It is to be mentioned that in the whole area just few schools are effectively operating. 90 % of students attend the schools mostly concentrated in Jezzine, Machmouche and Roum.

The number of students in Jezzine region is about 3,150 and distributed as reported in Table 9.

Table 9. Number and distribution of students.

Type of school	N° of students	%
Primary school	1810	57.48
Complementary school	864	27.44
High school	272	8.64
Technical school	131	4.16
University	72	2.29
Total	3,149	100

Healthy service may be widely improved. The Governmental hospital in Jezzine, having a capacity of 51 beds, has the minimum required equipment

(even for surgery operations) but is lacking personnel. This problem is obviated for the moment by the presence of *Médecins sans frontières* volunteers. There are 4 dispensaries in the region. The dispensary in Roum belonging to "Ordre Souverain de Malte" is equipped for general medicine and employs 4 persons. Specialized services are ensured by 6 doctors on volunteer basis. The dispensary covers 2/3 of the service costs through the financial aid provided by France, Italy and other countries whereas 1/3 is paid by people.

Electricity and water supply, as well as telephone service, are unstable so that population is provided with generators and tanks. The region is supplied by potable water from Caza de Nabatye (Nabaa al Fassaa) but the capacity of the source does not satisfy the actual needs of water, thus new sources of supply should be constructed. There is also an urgent need for rehabilitation of old potable water nets and construction of a new one.

The region suffers from river pollution by waste water. There are no water depuration systems so that waste water pollutes the rivers used for irrigation. Sometimes, it induces serious health problems in the local population. An appropriate waste water treatment would bring high benefits from the health and environmental point of view.

The region is connected with the rest of Lebanon by two main roads towards Chouf and Saida. Both are generally well maintained.

Transportation is provided by taxi (30 cabs) and bus services. The unique existing bus in the region goes to Beirut three times per week.

Eight trucks and 10 pick-ups ensure goods transportation in the region.

- ***General exodus from the area***

The Jezzine area, populated by 70,000 inhabitants before the wartime, has experienced a tremendous exodus over the past years. It is calculated that 85% of the population has left the area, so that today there are only about 11,000 people. The discrepancy between the official and collected data

concerning the present population is huge and give an idea of the exodus rate in the region. The comparison between the official (election 1996-97) and collected data during the survey are presented in Table 10.

Some completely abandoned locations such as Souaneh, Rimmaneh and Deir el Mzeiraa were also observed during the survey.

Table 10. Comparison of official and collected data about the population of some places in Jezzine region.

Location	Official data	Collected data
Jezzine	18,500	3,000
Anan	1,275	500
Qaitouleh	6,775	170
Sfarai	2,312	183
Kteleh	1,437	26
Besri	812	60
Roum	4,375	800
Kfarfalous	1,060	15
Benwati	1,600	500
Haytoura	1,870	80

B. Agriculture and Forestry

Crop production

The main cultivated crops in the area include the olive followed by grapes, apples and other fruit crops, as presented in Table 11 and Figure 3. The total value of local plant production is estimated at approximately 7,000,000 \$ (Table 12).

Figure 3. Crop pattern in Jezzine.

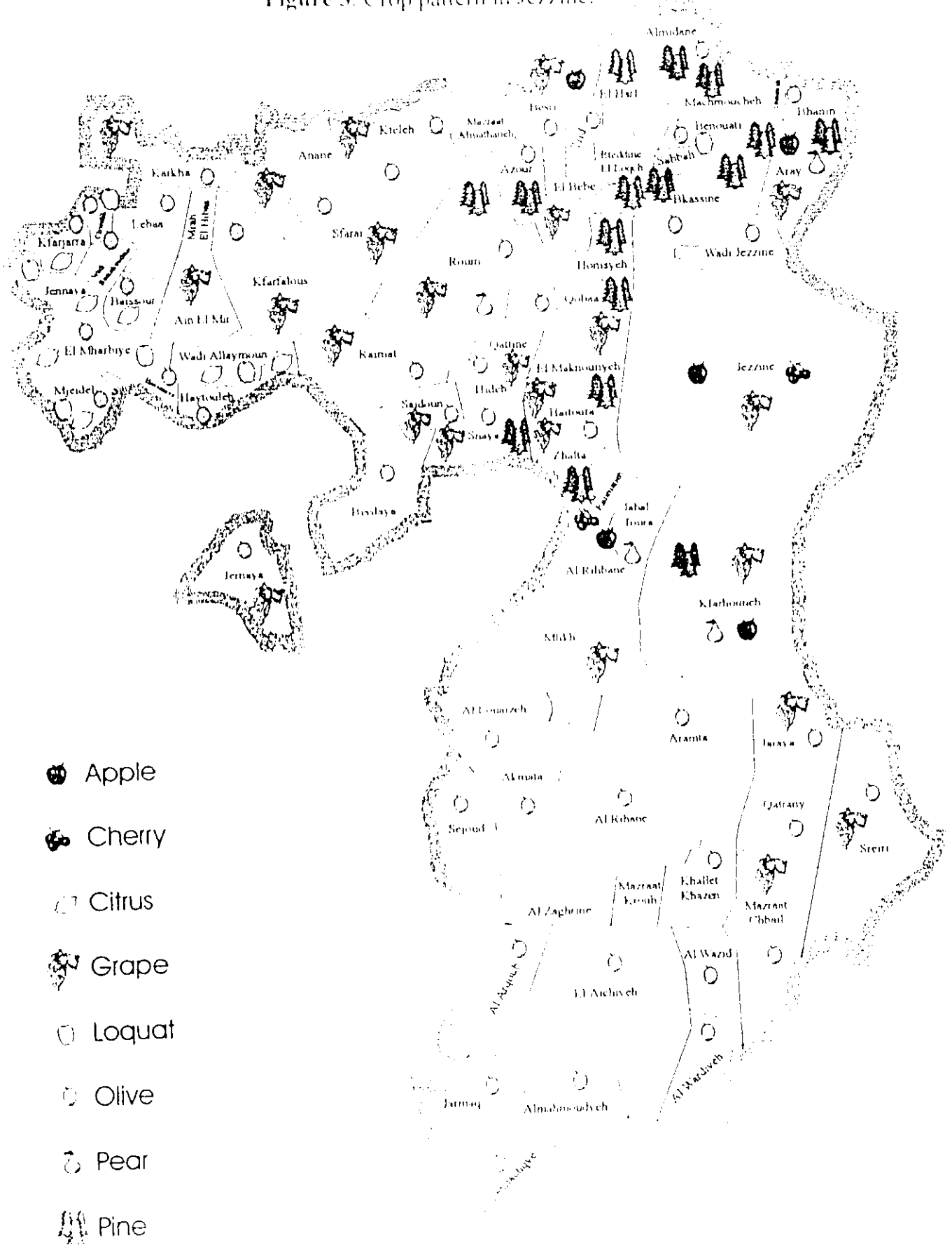


Table 11. The main crops in the Jezzine region.

Crop	Cultivated surface (ha)	%
Pines	615	29.77
Olives	519	25.12
Grapes	460	22.27
Apples	180	8.71
Citrus	65	3.15
Loquat	85	4.11
Others (pears, peaches, cherries...)	94	4.55
Seasonal crops (vegetables, tobacco, etc.)	35	1.69
Protected culture	13	0.63
Total	2,066	100

Table 12. Economic value of crop production.

Crop	Production (tons)	Value (\$)
Pines	9,000	2,600,000
Olives	700	650,000
Grapes	2,600	590,000
Apples	2,800	980,000
Citrus	900	270,000
Loquat	1,500	1,200,000
Others (pears, peaches, cherries...)	1,800	540,000
Seasonal crops (vegetables, tobacco, etc.)	700	140,000
Total	20,000	6,970,000

As deduced from tables 11 and 12, pine is the most widespread and economically important crop in the area (Figure 4). Pine nuts production has a long tradition in the area and is a very demanded product from the Lebanese and other neighboring markets (Figure 5).



Figure 4. Wide area of pine forest typical for the Kuzinc region



Figure 5. Harvesting pine wood

Livestock production

The value of the total animal production of the area is estimated at about 1,100,000 S. The livestock of the region consists in 5,300 goats, 300 milk cows and 3,100 beehives.

The goats are mainly used for local meat consumption. The milk production, estimated at 1,100 t/year, exceeds the local needs. The absence of milk processing factories and frigo trucks in the region induce serious problems related to the marketing of milk surplus.

During the last period, bee keeping has developed and reached a honey production which exceeds 32 t/year (Figure 6).

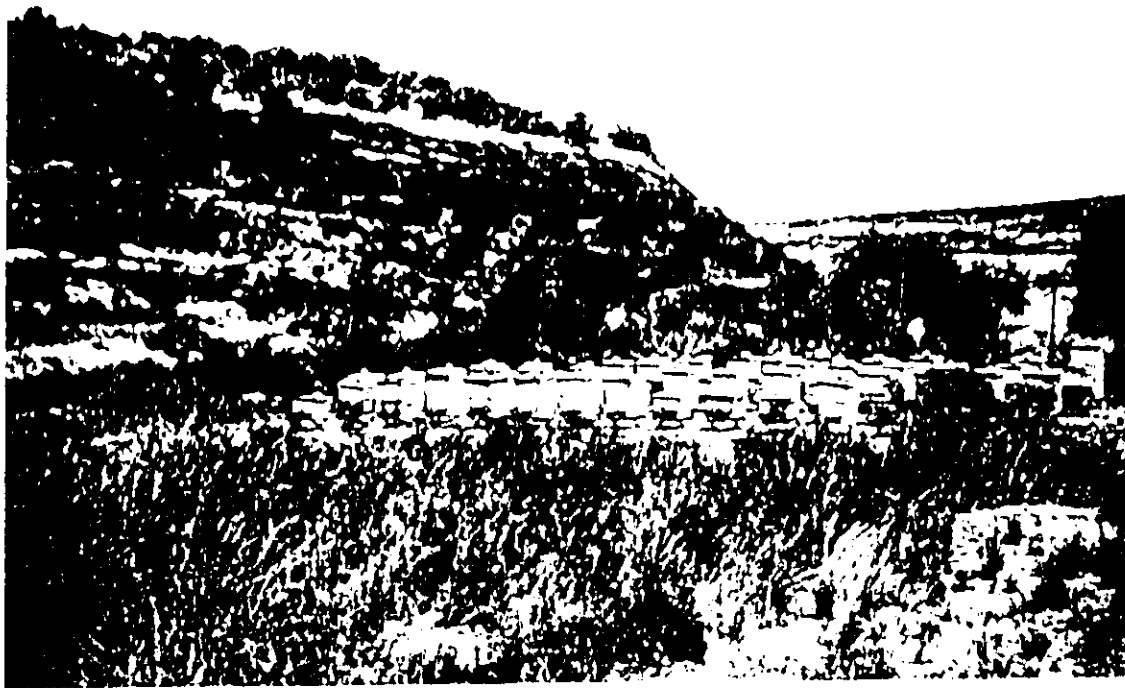


Figure 6 Bee keeping activity in Jezzine area.

Agriculture, one of the main sources of income in Jezzine area, is generally at a very poor level and is confronted with many problems. The problems encountered in the agricultural sector are:

- *High fragmentation of farms*

This is a problem of the rural area agriculture because of a part of farms in Jezzine region. The average cultivated area per family is about 0.5 ha. Such high fragmentation hampers the introduction of a new mechanization and the expansion of irrigated surfaces.

- *Uncultivated land*

During the survey large areas of abandoned or semi-abandoned land were observed in different locations such as Jezzine (1,250 ha), Besri (200 ha), Ramet (300 ha), Saidoun (15 ha), etc. This is the consequence of the general exodus of the population over the years due to the war and the high risk due to the presence of land mines.

Rough estimates report that about 80% of arable lands are abandoned. Most of them are uncultivated but some still cropped (Figure 7).



Figure 7. Uncultivated land in the Jezzine

Even if some of them are visited by the owners during the harvest period, it is easy to calculate what is lost due to the inappropriate management of such lands.

- ***Technical and technological level of Jezzine agriculture***

The war and insecurity have practically isolated the area from the rest of Lebanon. This situation has resulted in a massive abandonment of all pre-existing technical structures and in the migration of skilled and educated people towards Beirut and other Lebanese areas.

Only three very young agronomists are present in the area with less than five years of working experience.

Farmers are poorly informed about the progress in agriculture due to the absence of any extension service in the area. The practices in agriculture are still based on manual work. Mechanization is almost completely absent. The scarcity in tractors and other machines increases the costs of rent. The costs of ploughing or other agricultural practices are 20-25% higher than in the other Lebanese agricultural areas.

The recently (1994/95) established three-year Technical School of Agriculture in Jezzine, including approximately 27 students in total, should be the basis for the agriculture modernization in Jezzine area.

- ***Marketing level***

The problems related to the marketing of local agricultural and handmade products are of utmost importance for the development of the region. It is known that the local market can consume only 20% of the agricultural production of the region. Hence, it is essential to have a well organized and efficient marketing service in the region able to increase the value of local agricultural products.

Nowadays, it is more important to improve the marketing level of the local production than it was before. In the past the whole production was

acquired by the SLA at political prices ensuring more or less a secure income for producers; now, on the contrary there is no sure market for local agricultural products .

Marketing activities are old fashioned, if they exist, they are fragmented and suffering from different organizational problems. The lack of trucks and other transportation vehicles has resulted in 10% higher transportation costs in Jezzine than in the rest of Lebanon.

- *Agricultural cooperatives*

Administratively there are 7 agricultural cooperatives in the region (Table 13) but, due to their very low economical power, they are inefficient. Each cooperative has a certain number of members but there is no real coordinated action to solve the existing problems and improve the agricultural level through:

- training and updating,
- implementation of mechanization and modern technologies,
- better marketing of local production.

Table 13. Cooperatives in Jezzine region.

Locality	Nr of members
Jezzine	85
Bkassine	60
Saidoun	22
Raimat	80
Aychyé	250
East Saida	12
Benwati	newly established

The single farmer cannot afford the purchase of some machines and or vehicles because of the elevated costs and it could be non-profitable due to extremely small surfaces.

The introduction of modern techniques and machines in the area might be facilitated through the enhancement of the role of the existing cooperatives in the region.

- ***Production costs***

Farmers from Jezzine area have higher production costs as compared with the rest of Lebanon due to higher costs of:

- manual workers and chemicals;
- the rent of tractors and other machines;
- transportation costs.

In addition, the non rational use of pesticides, herbicides *etc.* due to the poor knowledge of the proper use also increases production costs.

The cost of manual work in Jezzine is much higher than in the rest of Lebanon due to the very limited number of workers and the high demand. The traditional way of production has a very high impact of manual work during the different operations. The single worker may earn about 20\$ per day (working 8 hours), three times more compared with the costs in the Bekaa valley (6\$/day). The whole manual labor force is represented by the local people.

The price of chemicals and their non rational and efficient use are also important factors influencing the production costs in the area. The cost of chemicals in the area is roughly 10 % higher than elsewhere in Lebanon due to transportation expenses. There are three specialized shops selling chemicals for agriculture in the area to fulfill the local needs.

However, the market prices of local productions, although negatively influenced by the above mentioned factors, are still very competitive at the

Lebanese level. Generally, the market price of local agricultural products is 10-15% lower than in Saida and Beirut.

- ***Agro-food industry***

Part of the local grapevine production is processed in arak or wine. Besides 4 main distilleries located in Roum (3) and Azour (1), there are about 100 family-scale arak and wine producers.

Olive oil is produced in 4 traditional (Bkassine, Besri and Azour) and 1 modern olive mills (Lebaa) in quantities estimated at about 110,000 l/year. Part of olive production is transformed in poor quality soap which is not marketable. The soap production reaches about 25 tons/year.

The temporary storage of part of agricultural products is ensured by 2 cold rooms in Jezzine. Their total capacity, including about 36,000 boxes, does not satisfy the local needs and the enlargement of one of the existing cold rooms has been envisaged.

- ***Women in agriculture***

A very significant result of the survey is the observation that traditionally women do not work in the Jezzine area. Although the majority of rural households in the region are headed by men, the number of women-headed households has increased as a result of male migration and widowhood (more than 200 widows live in the region).

- ***Forestry***

The pine forest in Jezzine area covered in the past the largest surface in the Middle East extending at more than 1,700 ha. Almost two third of the pine forests were lost during the war due to the fires and bombing, so that the actual surface under the pine is calculated at *ca.* 600-700 ha. An area of about 200 ha has been also declared as protected area by the Ministry of Agriculture.

Actually, there are no official programs for the reforestation of areas lost during the past years, nor appropriate programs to preserve the still unpolluted environment of the region. In addition, there are no nurseries dealing with the production of pine plantlets. The organization of well organized and modern nurseries able to supply good quality plantlets should be of big support to the general reforestation campaign.

The consume of pine nuts is common in all Middle East countries, and there is a great demand for such product, so that reforestation should represent an important contribution to the general budget of the area.

An additional advantage of reforestation might be an increasing interest for the tourism in the area.

Republic of Lebanon

Office of the Minister of State for Administrative Reform

Center for Public Sector Projects and Studies

(C.P.S.P.S.)

LINES OF POSSIBLE DEVELOPMENT

The survey has demonstrated that the Jezzine region, which has long been almost isolated from the rest of Lebanon due to unfortunate political events, needs an urgent help to reach the level of development of other Lebanese regions. While other Lebanese regions have experienced an intensive post-war reconstruction and rehabilitation programs over the last decade, the Jezzine region has remained out of these programs.

Thus, all future activities and/or sectors of intervention should be addressed to the re-integration of the region in Lebanese trade by filling the gap between Jezzine region and the rest of Lebanon.

The primary task of any possible action is to stop the exodus of people from the region and, if possible, to invert the migration tendency.

Based on the survey, agriculture and handicraft were identified as possible sectors of development for the entire Jezzine area. The support of these two sectors which have a long tradition should have immediate favorable consequences for the general development of the area.

Agriculture, one of the main sources of income in Jezzine area, is generally at a very low level and is confronted with different problems, although it has substantial development potentials.

The development of agriculture would produce benefits to more than 4,000 families involved in the agricultural production either as primary or secondary source of income. Among them about 3,000 families have left the area and return only for harvest period. These families, together with those living in Jezzine, should be the direct beneficiaries of future projects. Actions to support agriculture in the region should be addressed to favor the return of those 3,000 families.

Some objective parameters indicate that the return (even partial) of the people migrated from Jezzine may become a reality if the development of the area is triggered off. The statistical data report that most people live in Beirut suburbs in poverty due to the high costs of living and the high unemployment rate.

The first objective should be the increase in production per unit of cultivated land. Increased land use efficiency should produce lot of benefits to farmers.

As the fruits actually produced in the area are not "export quality" their production should be improved in both quality and quantity. This implies the introduction of new attractive crops and/or varieties for Lebanese and international markets. Proper irrigation systems should also be ensured through the rehabilitation of the existing networks or the construction of new irrigation systems.

The crop and/or variety substitution necessitates proper management ability which involves the training and updating of farmers in the area through an efficient extension service. The problems of organization of such service in the area might be solved through the enhancement of the role of cooperatives.

The second feature of Jezzine agriculture is the very low percentage of actually cultivated land. As mentioned before, only 20% of land potential is actually exploited. Therefore, the expansion of cultivated areas under proper cropping is one of the priorities for agricultural development. A part of arable land is abandoned by owners and ready for cultivation while the rest needs some investments for becoming cultivable (terraces, land reclamation). This should be followed by the development and adoption of improved irrigation practices.

The encouragement of producers' associations and the increased efficiency of existing cooperatives should be one of the actions with the highest impact on the improvement of agriculture in Jezzine. Cooperatives should be strategic and the unique way leading to the modernization and introduction of mechanization in Jezzine agriculture. The appropriate introduction of machinery in agriculture is possible only through the associations considering the high degree of household fragmentation.

Cooperatives should also enhance the profitability of local products and maximize their value. They should promote the establishment of different small-scale fruit- and milk conservation and processing industries directed towards an exploitation of local production. Cooperatives should also improve the marketing capacity of local productions through the development of modern methods of

handling, storage and packing in order to improve and upgrade the quality of products for competitive markets.

The establishment of such factories would create new job opportunities especially for rural women and provide sustainable income for them. This would increase the well-being of poor women, especially the widows in the region, helping them to play a major role in the local society.

The recently established (1994/95) School of Agriculture in Jezzine, once appropriately equipped, should ensure the technical support necessary for the implementation of the above mentioned activities.

All activities in agriculture should be environmentally sound and aimed at preserve the existing unpolluted ecosystem of the region. Beautiful pine forests in the area should be preserved and the surface lost due to fire and bombing during the last twenty years should be renewed. This is very important not only for the production of pine nuts but also to lay the tourism development. The development of agriculture related conservation and processing industry should support the tourism development through the supply of the typical products of the region.

The handcraft activities, which were the main activities in the region, have been almost abandoned because of the difficulties of supplying raw materials for the production of decorative knives, and for marketing problems. The revival of this activity might be crucial for the region. Although there are only ten families fully dedicated to this activity and 16 involved in knife production as second source of income, there are large human and professional resources in the region able to carry out this activity but who have abandoned it over the years. An intensive well-organized marketing service and the participation in Lebanese and international exhibitions might reaffirm the role of handcraft production as one of the symbols of Jezzine region.

Besides the previously mentioned sectors which are included in our study, the region needs also investments to implement environmentally sustainable solid waste treatment and waste water depuration systems, to improve transportation and infrastructures, to replace the forest areas lost over the years.

All the above-mentioned activities should be supported by favorable political actions encouraging the re-integration of the Jezzine region in the Lebanese reality.

ACKNOWLEDGEMENT

Deep thanks are expressed to the Italian Embassy in Lebanon for the trust and reward of the CIHEAM/IAMB technical skills.

Thanks are addressed to the local authorities and population of the region for their hospitality and kindness.

Thanks are also extended to Caritas Liban and its local officers in Jezzine area for their unlimited availability and logistic support to the survey.

We express our gratitude to IAMB colleagues who encouraged and helped for the drafting of this document.

CONSULTED DOCUMENTS

1. "Lebanon 1997-8, the annual Business, Economic and Political review", Oxford Business Group, 1998.
2. "Emerging Lebanon 2,000, the annual Business, Economic and Political review", Oxford Business Group, 1999.
3. "A study about villages-Preliminary results (Enquete Village – Resultats Preliminaire)", Administration of Studies and Coordination of the Lebanese Ministry of Agriculture , 1997.
4. "The Reconstruction", The Central Statistic Administration, 1998.

ANNEXES

ANNEX 1.

QUESTIONNAIRE APPLIED DURING THE SURVEY.

SOCIO-ECONOMICAL STUDY

Village: _____

1. Village inhabitants

A- Inhabitants	
B- Houses	

2. Sector of employment of the active population

	Actual nr
A- Trade	
B- Handcraft	
C- Agriculture	
• Crop production	
• Animal breeding	
• Spinning	
D- Day labourer	
E- Free profession	
F- Public administrations and institutions	
G- Private sector	
H- School	

3. Number and repartition of the students

Teaching cycle	Preprimary and primary school	Complementary school	Secondary school	Technical school	Universities
Actual nr					

4. Agriculture sector

Crops	Cultivated lands		Abandoned lands
	Surfaces (hectares)	Production (Tons)	Surfaces (hectares)
Rice			
Grapevine			
Pines			
Tobacco			
Apple			
Pear			
Peach			
Cherry			
Citrus			
Loquat			
Seasonal crops			
Protected culture			

5. Animal Breeding

Sector	Number of breeders	Number of animals
Milk cow		
Cow for meat production		
Goats		
Chicken		
Apiculture		

Public services

Potable water	Waste water	Solid waste
Water source	- Septic tanks	- Waste collection service
- Age		
- Condition		
- internal net	- Sewerage	
- Age		
- Condition		- Waste treatment
- Capacity		
Water tank	- Depuration stations	
- Age		
- Condition		
- Capacity		
- Depuration		

ANNEX 2A.

SUMMARIZED DATA RELATED TO VISITED VILLAGES AND/OR LOCALITIES.

Locality:	BKASSINE
Nr of people	325
Nr of houses	250
Nr of students	100
Army & police	
Teachers	25
Public administration	10
Agriculture	75 (secondary activity)
Main crops	Pine

Locality:	BENWATI
Nr of people	550
Nr of houses	160
Nr of students	100
Army & police	100
Teachers	10
Public administration	6
Agriculture	300 (primary and secondary activity)
Main crops	Olive, Pine, Grapevine, Pome fruits, Peach

Locality:	GHOBBATYE
Nr of people	50
Nr of houses	30
Nr of students	
Army & police	4
Teachers	
Public administration	
Agriculture	3 (livestock)
Main crops	Citrus, Olive, Peach

(continue)

Locality:	JALLE EL NASHI
Nr of people	50
Nr of houses	13
Nr of students	10
Army & police	
Teachers	2
Public administration	
Agriculture	
Main crops	Pine, olive

Locality:	EL MIDANE
Nr of people	105
Nr of houses	
Nr of students	10
Army & police	
Teachers	
Public administration	
Agriculture	
Main crops	Pine, Olive.

Locality:	TID
Nr of people	50
Nr of houses	50
Nr of students	10
Army & police	2
Teachers	
Public administration	2
Agriculture	
Main crops	Grapevine, Olive.

(continued)

Locality:	MAZRAAT EL MATHANEH
Nr of people	94
Nr of houses	70
Nr of students	20-25
Army & police	
Teachers	4
Public administration	5
Agriculture	
Main crops	Olive, grapevine

Locality:	BESRI
Nr of people	60
Nr of houses	25
Nr of students	8
Army & police	3
Teachers	2
Public administration	3
Agriculture	5
Main crops	Olive, Grapevine, citrus

Locality:	ROUM
Nr of people	633
Nr of houses	280
Nr of students	
Army & police	20
Teachers	33
Public administration	
Agriculture	50
Main crops	Pine, olive, tobacco, grapevine.

(continue)

Locality:	BHANNINE
Nr of people	14
Nr of houses	
Nr of students	
Army & police	
Teachers	
Public administration	
Agriculture	
Main crops	Pine, olive, grapevine, citrus.,

Locality:	ARAY
Nr of people	336
Nr of houses	85
Nr of students	70
Army & police	10
Teachers	10
Public administration	3
Agriculture	25
Main crops	Apple, peach, grapevine

Locality:	RAIMAT
Nr of people	100
Nr of houses	40
Nr of students	10
Army & police	2
Teachers	1
Public administration	1
Agriculture	
Main crops	Olive, grapevine, tobacco, vegetables.

(continue)

Locality:	SAIDOUN
Nr of people	300
Nr of houses	80
Nr of students	34
Army & police	3
Teachers	10
Public administration	6
Agriculture	
Main crops	Olive, grapevine, tobacco.

Locality:	HIDABE & QATTINE
Nr of people	80
Nr of houses	40
Nr of students	15
Army & police	
Teachers	3
Public administration	
Agriculture	
Main crops	Olive, grapevine

Locality:	AIN MAJDALAIN
Nr of people	500
Nr of houses	100
Nr of students	40
Army & police	10
Teachers	1
Public administration	3
Agriculture	
Main crops	Apple, cherry, grapevine

(continue)

Locality:	QAYTOULEH
Nr of people	170
Nr of houses	200
Nr of students	7
Army & police	3
Teachers	5
Public administration	
Agriculture	
Main crops	Pine, olive, apple.

Locality:	KFARHOUNEH
Nr of people	223
Nr of houses	1200
Nr of students	45
Army & police	
Teachers	
Public administration	
Agriculture	
Main crops	Pine, apple, grapevine, nuts

Locality:	ANAN
Nr of people	500
Nr of houses	140
Nr of students	90
Army & police	10
Teachers	10
Public administration	
Agriculture	15
Main crops	Olive.

(continue)

Locality:	SFARAY
Nr of people	200
Nr of houses	
Nr of students	50
Army & police	3
Teachers	10
Public administration	
Agriculture	
Main crops	Olive, grapevine.

Locality:	AZOUR
Nr of people	140
Nr of houses	130
Nr of students	25
Army & police	
Teachers	4
Public administration	2
Agriculture	3
Main crops	Olive, grapevine

Locality:	AL MAKNOUNIEH
Nr of people	40
Nr of houses	
Nr of students	
Army & police	
Teachers	
Public administration	
Agriculture	
Main crops	Pine.

(continue)

Locality:	SNAYA
Nr of people	110
Nr of houses	
Nr of students	
Army & police	
Teachers	
Public administration	
Agriculture	
Main crops	Pine, olive, grapevine.

Locality:	ZHELTEH
Nr of people	35
Nr of houses	10
Nr of students	6
Army & police	
Teachers	
Public administration	
Agriculture	
Main crops	Pine

Locality:	JEZZINE
Nr of people	3,000
Nr of houses	1,400
Nr of students	
Army & police	
Teachers	
Public administration	
Agriculture	250
Main crops	Apple, grapevine, pear, peach, cherry.

(continue)

Locality:	MACHMOUCHEH
Nr of people	51
Nr of houses	
Nr of students	
Army & police	
Teachers	
Public administration	
Agriculture	
Main crops	Pine, fruit trees, vegetables

ANNEX 2B.

SOME DATA CONCERNING NON VISITED LOCALITIES OF JEZZINE REGION.

Village	Nr of inhabitants					Cultivated crops (in order of importance)							
	< 100	100 + 200	200 + 500	500 + 1000	> 1000	Pines	Olives	Grapes	Loquats	Citrus	Apples	Other Fruits	Legumes
Jdeidet Al Wadi	x						1	2					
Sabbah		x				x							
Bteddine El Lekech		x				1							
Al Zeghrine	x						2	1					
Sreira	x						1	2					
Kfarfalous	x						2	1					
Kallet Kazen	x						1						2
Mrah El Hbass			x			1							2
Wadi Baoukoudaine			x				1			2			
Wadi Jezzine			x				1						2
Wadi El Laymoune		x							2	1			
El Zeghrine	x						2	1					
Shibar	x						1	2					
El Walik		x					2		1	3			4
Sejoud	x						1						
Ktah	x						1	2					
Kotram	x						1						
Rihane		x					1						
Mlikh							1						
Qobaa	x					1							
Mharbyeh	x						1		2	3			
Bosslaya	x						1						
Mjaidel		x					1		2	3			
Tebar			x				1			2			
Touarzel							1						
Mahmoudyeh	x						1						2
Kfarjara		x					1	3		2			4
Jernaya	x						1	2					
Karkha	x						1	2					
Jarmaq	x						1						2
Jennaya			x				2	3	1				
Haytoura	x					1	2						
Hessanyeh			x				2		1				
Homsyeh		x				1							
El Harf	x					1							
Haytuleh	x						1			2			
Demachkyeh	x						1						
Bayssour		x					1			2			
Achyeh			x				1						2
Ubeba	x						1						
Aramta		x					1						
Atkoub	x						1						
Am El Mar			x					2					1
Sabbah		x				1							

الجمهورية اللبنانية

كتب وزير الدولة لشؤون التنمية الإدارية
مركز مشاريع ودراسات القطاع العام

Republic of Lebanon

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

ANNEX 3.

NEEDS OF JEZZINE REGION PRESENTED BY KAEMAKAM OF CAZA

- Well equipped and efficient agricultural cooperatives
- Agricultural Machinery (spraying machines, tractors, harvesting, *etc.*)
- Cow and goat farms
- Milk and cheese production factory
- Olive mills
- Fruit processing industry
- Industry for grape transformation (arak, molasses, wine, *etc.*)
- Better supply by pesticides and fertilizers
- Improved plant material and cuttings through establishment of nurseries
- Improved fire-brigades equipment
- Public infrastructures (roads, protected areas, *etc.*)
- Industry for pesticide and fertilizer production
- Irrigation network, tanks and pipelines for water distribution.