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



GOVERNMENT OF LEBANON

ANIMAL PRODUCTION OFFICE, BEIRUT

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

REPORT ON CERTAIN ITEMS OF DAIRY DEVELOPMENT WORK
IN THE ANIMAL PRODUCTION OFFICE - LEBANON
FOR THREE MONTHS, ENDING MARCH 17, 1969.

(VOL. I)

By

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Beirut- Lebanon
17th March 1969.

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INTRODUCTION

My contract of three months as a Consultant expires today. I was engaged by the Animal Production Office to study certain aspects of dairying in Lebanon and to report upon them. It was not expected that I should attend the office regularly.

However, my involvement in the work took somewhat a different turn. Dr. Sultan Haidar, the Director General, asked me from week to week to look into urgent executive work and I attended office every day from 8.00 A.M. I was out on field-trips 26 times in connection with the urgent need of starting the Mobile Cheese Unit this season. This report therefore deals with the specific work I was asked to do, more or less of an executive nature, rather than of consultative type.

I am grateful to Dr. Sultan Haidar, Director General, Animal Production Office for the guidance and facilities he gave in my work. Also, to the officials in the Dairy Branch Mr. Najib Sultan, Mr. Nasser Al Amin, and Mr. Michel Mansour for their whole hearted cooperation and for making all the information available to me. Miss Jacqueline Murr took great deal of trouble in doing all the typing, including this report. Driver Abdul Karim drove me over 2500 km., some of it over very rough roads and cross-country. To these both, I am thankful.

Mr. George Janho, the Manager of the Mobile Cheese Unit and Mr. J. Kofod FAO Cheese Expert accompanied me to all the areas for survey of sheep milk and were most helpful throughout. George did all the interpretations most efficiently.

I would also like to express my thanks to Mr. K.E. Kolding of FAO and to Dr. E. Chouari for the assistance they rendered in connection with the Mobile Cheese Unit.

Dara N. Khurody

17 March 1969.

Chapter 1. Survey for obtaining sheep milk for
operating the Mobile Cheese Unit.

1.1 The Mobile Cheese Unit:

Its cost of \$ 18,000 was paid for the Royal Danish Government. It was developed by FAO and was constructed in Denmark and shipped out to Beirut in May 1968. Basically, it has been developed to follow the flocks of sheep as they move in search of fresh pastures. Last year it was used in connection with the FAO Regional Dairy Training Course at Terbul. Sheep milk from Terbul farm was used for the purpose. It has a small cold store (cooled by a gas-operated engine and compressor), 2 cheese vats, water-storage and heating arrangements. Milk can also be tested. It has a capacity to handle about 1,000 kg. of milk daily. A Danish cheese expert is also attached to the Unit and would be here till the end of this year. It is to be pulled by a tractor for moving it from place to place. The tractor has not been provided by FAO.

1.2 The MCU has now been gifted by the FAO and the Royal Danish Government to the Government of Lebanon from 1st January 1969, on certain conditions. These specify that it is the responsibility of the Animal Production Office to use it in the best interest of a development programme with milk of sheep, goats and cows. The operational staff, supplies, milk etc. is to be provided by the APO. The sale of cheese is also its responsibility.

1.3 In order to utilise this facility with sheep milk and to follow the flocks as they move 3 or 4 times during the season, all the important areas for sheep milk in Lebanon were visited and a rapid survey was made soon after my joining in APO. Briefly, the position in each is as under:

1.4 Akar-Halba area:

There are over 20,000 sheep in the area, The milk produced is partly converted into samneh and is utilised by the owners themselves. Partly it is converted into laban which is sold daily at Tripoli. During the early part of the season they obtain as high as 75 p.l.* per kg. for laban, delivered to merchants at Tripoli. The transport cost is 50 p.l. per wooden-tub holding about 18 kg. or about 3 p.l. per kg. The merchants supply the wooden-tubs to make the laban in. They sell laban to the groceries and dairy shops, of which there are about 200 in Tripoli, at 90 p.l. per kg. in full tubs and make a profit of 23%. The retail price is 110 p.l. per kg. So the dairy shops make another 22%! As the season advances the price goes down but on an average the producer get about 65 p.l. for sheep milk in this area. Converting into laban is not considered to be any trouble as the women of the household do this. Samples of laban examined showed that it was a very good product.

- 1.5 A good place to locate the unit would be Koueikhate village, which is located at the junction of three roads on east, west and south on which there are several sheep-keeping villages. The Akar-Halba sheep, however, remain throughout in their villages and do not move out. Their owners adjust the numbers kept, according to the grazing available.
- 1.6 No one ever puts on ounce of fertiliser on the grazing land and the manure that accumulates at the place where the sheep are stalled for the night, is sold away to vegetable growers! So, each year the grazing areas become poorer and poorer!

1.7 Some 6,000 sheep which belong to villages in Mt: Fneidik in Lebanon, come down to the plains of Akar around the Customs out-post at Abudieh and remain there during the 3 months of winter, after which they get back to the higher altitudes. Very little milk is sold in the plains, as the lambs are suckled. The main occupation of these shepherds is to rear and sell the lambs and old ewes, when in the plains. A flock of 100 sheep could maintain about 20 members of the family, throughout the year, using some of the milk, products and cash obtained from sales.

1.8 Hermel (Pop: 15,000) area:

In the area there are about 10,000 goats and 6,000 to 7,000 sheep. Here the flocks come down during the winter from Mt: Merchind in Lebanon (1,800 meters high) and remain in the Hermel area for about 3 months of the winter. They get back to higher elevation by end of April, same as they do in Akar. The grazing is said to be extremely poor in the plains of Hermel and this affects the quality of cheese and consequently the price realised for milk. In this area it is only about 50 p.l. per kg. for sheep milk in the early part of the season and it gets reduced to about less than 45 p.l. later on. Goat milk is about 25 to 30 p.l. per liter. Last season a merchant from Aleppo (Syria) established a small cheese unit and purchased the milk. The roads in the mountains to collect the milk are not very good, and it would not be easy to move the MCU up the mountains with the sheep. The cost of transport to bring down the milk would be very high.

1.9 The general pattern of purchase of milk in the Bekka:

Sheep milk is largely used for making of Halloum cheese in Bekka area. Goat milk is also purchased at a cheaper price and is mixed with sheep milk, before cheese is made. Although there are several parties who purchase milk in these area, and convert it into cheese, the ultimate buyer is a wholesale merchant at Beirut. He obtains about 75 to 80% of all the sheep and goat milk available in Bekka, as milk or as cheese. As the largest buyer, he decides the prices to be paid from time to time and controls the whole operation. All the shepherds are painfully aware of this situation.

1.10 All milk is collected by the merchants twice a day in pick-up, from points upto which the shepherds bring it. Payment is made once a week. When it is said that the merchants move with the sheep, it implies that they adjust their collection arrangements but always take the milk to their permanent places where they make the cheese. These, do not move.

1.11 A verbal contract is agreed into between the shepherds (most of them illiterate) and the merchants, but it is a binding only so far as the supply for the whole season is concerned, The price depends upon what the buyer is prepared to pay. It could vary at times every week or 15 times during the season, invariably downwards as the season advances. This is inspite of the fact that the quality of milk improves and higher yield of cheese is obtained. The higher prices in early stages are paid merely to bind the shepherds down.

1.12 Some of the buyers may supply sheep-feed during the winter months as an advance payment, which is recovered during the season.

1.13 Al Kaa (Pop: 4,500) area:

It lies on the extreme north-east border of Bekaa valley (60 km. north of Baalbek) and about 15 km. from the Syria border. Al Kaa is the last Lebanese village on the road to Homs. To the north of the village is located the Al Kaa Customs post. Beyond this (but still in Lebanese territory) is a large treeless plain between two ranges of hills (about 30 sq. km. in size) where there is the largest single camping-ground used by Lebanese sheep. It has several native names all pointing out, how bad, or how poor, or how rough etc. it is! The shepherds here are Lebanese and they do not move north towards Syria.

1.14 Unlike in the center or south of Bekka, there are no grassy pastures at Al Kaa. Instead there are three main low growing forage plants, viz. Sheeha (an aromatic plant said to be responsible for good flavour in milk, cheese, ashta and sanneh) Kassem and Billan. The last named is a thorny plant eaten by goats only. Water, however, is scarce and has to be brought on donkeys in rubber-bags from the source in the village of Al Kaa. Some of the shepherds who have larger flocks have constructed cement concrete tanks, to hold about 2,000 gallons to fill which they pay L.L. 7.00. At the beginning of the season there are some 200 tents of the Bedouins, who own about 40,000 sheep and 4,000 goats. Some 10 merchants operate in the area and they all have their cheese-making arrangements in the Chtoura area. About 10 to 15 Tons of sheep milk is produced daily and about 2 Tons of goat milk.

1.15 When the pasture resources are over the sheep move down to lower Bekka in different groups, for there is no single area which can accomodate all the Al Kaa sheep and goats together.

1.16 Haouch ed Dahab and Talia area:

The area lies about 10 to 15 km. south and west of Baalbak. There are a few private sheep farms in it. For sale of milk they usually have long standing arrangements with cheese making merchants. Only in these cases, a seasonal price is agreed to and for the current season it ranges between 70 to 75 p.l. It is said to be about 3 p.l. higher than last year.

1.17 In addition to the farm sheep, the area (which is about half-way to the final travel of the sheep) receives each year 20,000 to 30,000 sheep, which move down to it from the north, on their way to the south. Some of these are Syrian sheep also.

1.18 Bar Elias/ Chtoura area:

Quite a few sheep terminate their travel in this area, and do not go south of it. There is good grazing here of grasses on high lands, along side roads and in the fields between the crop . From here they get back to their original camping areas when the season is over.

1.19 Milk from the Government farm at Terbul is bought at 70 p.l. per liter by a merchant who has a cheese factory in this area at Kab-Elias.

1.20 Jib-Jannine (Pop: 5,000) area:

This is about 20 km. further south of Bar Elias area. Some of the flocks come down to this area by about June each year and remain for 2 to 3 months and then get back. Out of the total agricultural area of 10,000 dunums in Jib Jannine, nearly half is said to be unirrigated. It is leased out for about L.L. 3,500 for 3 to 4 months for grazing of about 7,000 sheep or 0.5 piasters per sheep, per day. As they reach here towards the end of the season little milk is produced.

1.21 Rachaya area:

A few sheep come up to Rachaya itself (1,265 meters) but remain on the foot hills. Very little sheep milk is available in the area.

1.22 Hasbaya (Pop: 7,000), Marjayoun (Pop: 8,000), Khiam (Pop: 10,000) and Nabatie (Pop: 20,000) area:

Prior to June 1967 war, some sheep from Syria used to enter the country from the south, but now that route does not operate any more. In the south, there are a large number of goats (Hasbaya has 15,000 against only 200, sheep) but they remain in the mountains and are not allowed to come down to cultivated areas. Although it is a well developed agricultural area, it does not produce milk of any kind. Laban and Labneh from Beirut are obtained here by groceries on a small scale for local sales.

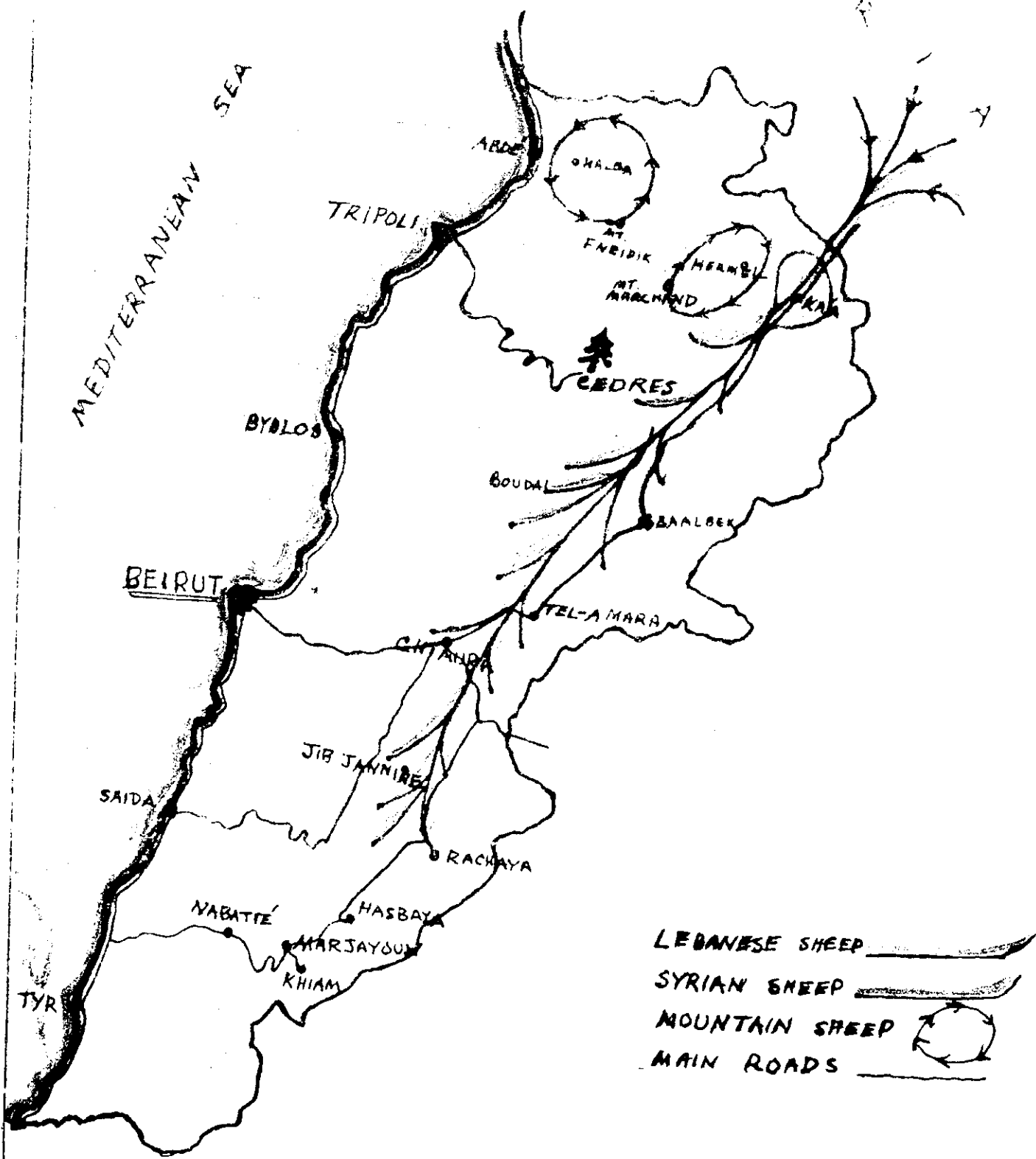
- 1.23 Marjayoun has 1,000 sheep in milk during the season but the milk is hardly enough, even for local needs. In the beginning of the season the price is 40 p.L. which later on gets reduced to 30 p.L. per kg. No cheese is made in the area.
- 1.24 At Nabatie there are only about 250 sheep in milk during the season. The price here is 60 p.L. per kg. The town, which has a population of 20,000 and 7 large schools, uses substantial quantity of imported milk powder.
- 1.25 The current defence activities in the south, would not be conducive for working in the area, even if there was any milk.

1.26 Syrian sheep:

Approximately 100,000 to 150,000 sheep from Syria enter Lebanon each year. Most of them pass through the customs out-post at Al Kaa where they have to clear all their documents. Their first halt for camping is south of Baalbek and go right upto the foot-hills of the mountain on the west in the Bekka upto Boudai, Nabi Rachade, Taraya etc. They remain in the valley, sell the milk and lambs, and get back by end of August to Syria. This year they also have been late and have just started coming in.

1.27 Sheep movement map:

A map showing the travel of sheep inside Lebanon in search of fresh pastures is given on next page.



LEBANON

SHOWING SHEEP ROUTES

SCALE



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Chapter 2. Observation and actions taken

- 2.1 Immediately upon lambing from December onwards each year, the first priority on milk is to suckle the lambs. Only when they could be weaned and if the pastures are satisfactory, that sheep milk becomes marketable. This year due to heavy rains and snow the milk selling season was delayed by about two weeks and started only in the first week of March.
- 2.2 The country being small and well served with all-weather motor-able roads, hardly any shepherd fails to find buyers willing to take the entire production for the whole season. Halloum cheese made from sheep milk is in demand throughout the year, whereas the availability of sheep milk is only for 15 to 20 weeks in the first half of the year. This is the main reason why the buyers are keen to contact the shepherds, even in advance, and take over all the available milk for the season. This of course does not mean that there are no problems of marketing!
- 2.3 In search of fresh pastures, the sheep in Lebanon (local and those that come from Syria) move from north Bekaa to the south upto the foot hills of Rachaya, or about 120 km down. The Syrian sheep begin to arrive in early March, and their first halt is somewhere near south of Baalbek. Lebanese sheep usually make their first move in early April. Both, terminate the movement by end of June. After that, the return journey begins which may also take 3 to 4 months to reach the areas from where they started. The Syrian sheep get back by August/September. The flocks thereafter remain in the original areas till they move out again in next season.



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- 2.4 The Lebanese flocks which live in the mountains may not take this detour at all. They only come down to the plains for 2 or 3 months of winter and get back for the rest of the year.
- 2.5 The map on next page shows the movement of the sheep flocks in Lebanon.
- 2.6 There is yet a third group consisting of many thousands of sheep, that has a different itinerary. They remain in the plains and hardly move out at all. They graze around the villages in Agricultural areas after the crops have been removed or on marginal lands, or along the road sides and could be called "village-sheep"
- 2.7 The buyers of milk have their cheese-making out-fits at permanent places. They, however, arrange to collect the milk from new places to which the sheep have moved. Collection of milk is always done by the buyers themselves. The flocks move 3 to 4 times during the season or about once a month.
- 2.8 Most of the sheep and lambs get a certain amount of concentrates (barley, wheat-bran, corn, and beet-pulp), but those kept on farms usually get more. At times, the buyers of milk supply the concentrates on credit and recover the value during the season, through purchase of milk.
- 2.9 In north Bekka, outside the agricultural areas, the pastures are extremely poor and consist of not of grasses but of certain low growing forage plants. No one ever puts any fertilizer or manure or rakes the surface soil. Sheep manure from Al-Kaa is bought by vegetable and fruit growers in Saïda, 180 km. away! This practice should be discouraged and strictly controlled.

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- 2.10 Very few flocks of sheep are without a few goats. The kidding season for goats starts six week or so, after that of sheep. For about 2 to 3 months, goats milk may comprise of as much as 25% of sheep milk in certain area. Goats are said to be "discriminate grazers" and lead the sheep to areas where the grazing is better! Goats milk is cheaper by about 25 p.l. per kg., and have also to be purchased by the buyers. The buyers make cheese out of mixed milk. In some areas there are more goats than sheep, e.g. Hermel in the north and Marjayoun, in south.
- 2.11 Verbal contracts are entered into for purchase of milk for the whole season. Only in a few cases (e.g. sheep kept on farms) the price may also be agreed to for the whole season. Otherwise, the general practice is to start with a higher price at about 50-60 p.l. and to reduce it almost every week to about 45-50 p.l. per kg. It really becomes the "buyers market" and the shepherds are utterly helpless. There is great need to organise them into co-operatives so that their bargaining position may strengthen.
- 2.12 The intervention of APO, even in a small way to purchase about 1,000 kg of milk daily for the Mobil Cheese Unit, is expected to have a salutary effect on raising the general level of prices. In any case, it will put a fear in the minds of the other buyers that they have to play fair with the shepherds.
- 2.13 On the average, the annual returns of the shepherds from a flock of say 100 sheep, at the current sale prices in Lebanon are as on the next page.

Annual return from 100 sheep:

		L.L.	%
<u>Milk</u>	100 kg x 55 p.l. kg x 100 sheep	5,500	70.5
<u>Male Lambs</u>	40 x 25 L.L. each	1,000	13.0
<u>Old Ews</u>	20 x 40 L.L. each	800	10.2
<u>Wool</u>	100 kg x 3 L.L. per kg.	300	3.8
<u>Manure</u>	200 bags x 1 L.L. per bag	200	2.5
	Total L.L.	<u>7,800</u>	<u>(100)</u>

or a gross income of L.L. 78. per sheep, per year.

- 2.14 There are nearly 150,000 ewes in Lebanon. The gross income to the shepherds would thus be about L.L. 11,700,000 per year. The income of the owners from Syria, who bring the sheep here for grazing and sell of milk, lambs, and wool is separate and would be about the same figure.
- 2.15 Sale of milk forms the most important source of income (above 70%) for the shepherds and it also brings in cash every week. Any effort that could be made to improve its marketing and obtaining better prices will greatly help the economic condition of the shepherds. In due course lambs, old ewes and wool should also be systematically marketed. Sheep manure should, however, never be sold but returned to the land. Unfortunately the shepherds are not able to see the damage the sale of manure is doing to the grazing lands and business. The steps that should be taken to ensure that manure from the sheep is used exclusively on their grazing lands, is something that should receive early attention of the APO.
- 2.16 In the Bekka there are approximately 70,000 Lebanese milking sheep. The area also gets about an equal number of milking sheep each season from Syria. At the rate of 1 kg. of marketable milk per sheep per day, the daily available supply is about 140 Tons for about 100 days of the season. At the rate of 5,5 kg. of milk for 1 kg. of Halloum cheese, the seasonal production would be about 2,500 Tons of Halloum cheese.

- 2.17 Approximately 75% of the above is bought by one wholesale merchant, from Beirut, from the small merchants who collect the milk and make cheese. The Beirut merchant, stores the cheese and sells it throughout the year. This is not a healthy practice and is apt to work against the interests of the shepherds. The shepherds know this situation to their dismay, namely, that one private party controls most of their business.
- 2.18 At present the shepherds are not interested in making cheese themselves. They only make at times, ashta or samneh for sale or for their own use, The merchants are said to be good at making of Halloum Cheese but the hygienic condition of their factories needs to be examined and improved upon. There are known a few good examples of these at Chtoura.
- 2.19 The results of the survey on sheep-milk were reported from the time to time to Dr. Sultan Haidar. It was finally decided that after a short trial-run of the Mobile Cheese Unit at Tel Amara to train the staff, it could start its operation this season at Al Kaa. This area is the spear-head from where the main batch of Lebanese sheep (about 40,000) move down south for the season.
- 2.20 Accordingly, several shepherds of Al Kaa area were met on a number of occasions with the Mukhtar of the village (Husseini Toum). Purchase price of 65 p.L. per kg. for the whole season for sheep milk and 35 p.L. for goats milk, was agreed to. A draft contract

was also drawn up and its translation was read out in Arabic. Quantities for each were also roughly fixed, to a total of about 1,000 kg. per day. The draft contract is attached to the end of this Chapter.

- 2.21 Similarly, a draft contract was also drawn out for collection and transport milk by a local tractor-trailer owner at L.L. 35.00 per day. It is also attached to the end of the Chapter and is terminable by giving notice of one week. Action it is being taken seperately to purchase a pick-up for the purpose.
- 2.22 The MCU was moved from Tel Amara on Wednesday the 12th March 1969 and parked in the village of Al Kaa itself, some 7 km. away from the shepherd camp. This was considered convenient for the staff. The first collection of milk was made on Saturday the 15th March 1969. Samples of milk were also taken at the collecting points. A much larger number of small producers than expected, however, offered the milk. The tractor-trailer arrangements also took a long time for transporting, than would have been the case with a fast pick-up. This delayed the arrival of the milk to the Unit. A meeting of shepherds was held that evening in the house of the Mukhtar and a revised plan was agreed upon. On the second and third day there was some improvement but still it did not come in time. The late arrival of milk created several difficulties. Whereas the staff had little work till about 1.00 P.M., they have had to work till about 11.00 P.M. every night. It was noticed that the cold storage arrangement in the cheese Unit is not meant to cool the milk, so that it could be used early next morning. Attempts made to do this on the first three days have not been satisfactory and the acidity of milk got up very high. Only some soft cheese could be made from it and not the Halloum.

2.23 These difficulties could not be foreseen as only the actual trial of the MCU under field conditions have brought them to light. The question of moving the MCU to the shepherds' camp itself, is therefore under consideration. It will solve many problems and the project will be able to handle the evening milk also, which according to the present timings seems impossible, if the Unit continued at Al Kaa. Besides, as the day temperatures rise, the keeping quality of milk would be reduced further. Efforts are also being made to get the sheep milked around 8.00 A.M. and not 11.00 A.M., as at present.

2.24 The quantity of milk received during the first three days (covered in this Report) was as under:

	<u>No. of Suppliers</u>	<u>Sheep milk</u>		<u>Goat milk</u>		<u>Total milk (kg.)</u>
		<u>(kg.)</u>	<u>No. of sheep milked</u>	<u>(kg.)</u>	<u>No. of goats milked</u>	
<u>March 1969</u>						
Saturday 15th	18	603.5	1,385	26.5	31	630
Sunday 16th	9	583	-	-	-	583
Monday 17th	9	658	-	-	-	658

2.25 Samples of milk could be taken and tested only on the first day with following results:

	<u>Specific Gravity</u>	<u>Fat (per cent)</u>
<u>Sheep milk</u>	1.031 to 1.033	6.2 to 6.7
<u>Goat milk</u>	1.030	4.6

- 2.26 The Halloum cheese and Arishi (also preserved in brine) have been packed in tins and will be transferred to the cold-store at Terbul shortly. After a couple of weeks or so, it is proposed to invite public tenders for the sale of the seasons' production of both the products. Approximately 20 Tons of Halloum and 4 Tons of Arishi is expected to be produced during the season.
- 2.27 Preliminary calculations show that there would be some loss on the program at the end of the season. These have been reported to the Director General. This is mainly due to the fact that the APO has purposely fixed a higher initial price for milk for its own purchases, than that paid by other buyers. It is also proposed to pay a premium of upto 5 p.L., per kg., for better quality and cleaner milk. Similarly, our overheads on staff are high. We have one Manager and two labourers for a comparatively a smaller turnover. In fact, with the double shift we may have to take two more men. They have also to work all the seven days of the week. However, the initial trials have showed that the MCU could make good quality Halloum cheese and Arishi and we should be able to sell them well.
- 2.28 It is to be stressed that through the use of the Mobile Cheese Unit, it would be possible to collect correct by the following data on technical and economic matters not available so far:
- (i) Composition of milk (Fat & SNF, acidity, etc.) from sheep and goats, variations from flock to flock, variations from day to day throughout the season, variation due to moving of flocks to different pastures etc.

- (ii) Study of feeding methods and variations week-to week as pasture conditions change.
- (iii) Variation in quantity produced daily, per sheep, from flock to flock.
- (v) Cost of keeping sheep by the shepherds.
- (vi) **Manufacturing** cost of Halloum cheese and Arishi per kg. and yields of these from 100 kg. of milk. What affects their yields?
- (vii) Comparison of quality and yield of APO cheese and Arishi with that made by the trade.
- (viii) Drawing up a list of recommendations for the trade to improve the quality of their products. Where possible, demonstrations would also be given.

2.29 Apart from the above, the daily contacts with about a dozen important shepherds (we have on our list two of the Tribal-Chiefs) for approximately for 3 to 4 months, should enable APO to study their business needs and problems closely. This has never been done by any one before in Lebanon. Indeed, the opportunity could lead to introducing the idea of organising a cooperative society of the shepherds which could service the members both ways, that is, (a) supply feeds, veterinary aid, medecins, credit facilities etc. and (b) market all that they have to sell. Here, the assistance and expert advice of the State Cooperative Department could be usefully invoked.

2.30 The APO may not be able to achieve all the above stated objectives in one season, but a way could be paved to the development of such a program in due course. This would be the greatest advantage emerging out of the MCU and could be a starting point of a much wider impact upon sheep improvement program in Lebanon and indeed, in this entire area. It could, for instance, ultimately lead to the establishment of a few cooperative cheese factories which are owned by the shepherds, where they employ their own cheese makers and market their production and cut out all the intermediaries. This way, they can get higher prices, look after their sheep better and the consumers could get cheaper and better products.

GOVERNMENT OF LEBANON

ANIMAL PRODUCTION OFFICE - BEIRUT

Draft Contract to supply milk for cheese-making, for the 1969 season

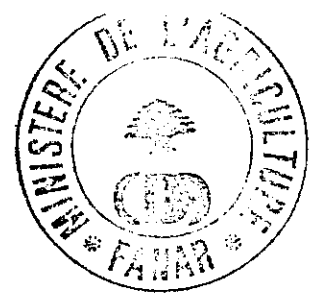
Name of Supplier:

Al Kaa.

Name of Buyer : Director General, Animal Production Office, Ministry
of Agriculture - Beirut.

CONDITIONS:

1. The supply will begin from the shepherds tented-camp at Al Kaa from the morning of 15th March 1969, for 4 days as trial in the first instance. If milk is found satisfactory, it shall be continued for the whole season of 1969. It is expected that the sheep will remain in Al Kaa area from 30 to 60 days. Thereafter, they shall move to Bar Elias area and will remain there till the end of the season or about end of June 1969.
2. The supplier will keep the milk ready between 10 A.M. and 11 A.M. and again between 3 P.M. and 4 P.M. every day. The milk will be brought by the supplier at one of the four mutually agreed collecting places by the road side in the Al Kaa camp area. When the sheep move down to Bar Elias area, new collection places will be fixed.



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3. The buyer will supply the required number of new tins (4 gallon size) in which the milk will be brought upto the collecting point. It shall be the responsibility of the supplier to take care of the tins to see that they are **thoroughly** cleaned with hot water and are drained and dried before use each time. If upon inspection by the Manager of the buyer, any tin is found to be not properly cleaned, a fine of L.L. 1.00 per tin shall be levied, which will be deducted from the amount of milk payable to the supplier. All milk shall be measured at the time of delivery.
4. The Buyer will send his transport with empty cans at the agreed places and at the agreed time, twice a day. The driver will initially inspect the milk for smell, cleanliness, freshness etc. He shall also draw a sample. If the milk is good, the driver of the Buyer will accept it, and will give a receipt in the pass-book of the Supplier for the quantity received. The Supplier must always bring the pass-book with the milk, each time. The receipt shall indicate the quantity of milk in morning and afternoon, and the date .
5. No goat milk shall be mixed sheep milk. Under no circumstances any water shall be added to the milk. Only clean, freshly drawn milk from healthy animals shall be supplied and accepted by the Buyer.
6. The driver of the Buyer shall have the right to reject, and not accept the milk if it is dirty, or stale. If the supplier does not accept the decision of the driver, he shall be free to come with the milk to the cheese unit and the Manager will examine it. The Manager's decision shall be final and binding . If the milk is rejected the supplier will have

../..21

to take it away himself. In case of all milk upon its arrival at the cheese unit, samples will be examined by the Manager in the laboratory. If he is not satisfied with the quality, he will explain to the supplier concerned and it would be expected that the supplier will improve it forthewith . But if no improvement is noticed inspite of intimation, the supply will be discontinued and no compensatic shall be paid. In that case this contract will terminate before the end of the season.

7. Price. Sheep milk shall be paid for at 65 p.L. (sixty five) per kg. for the whole season of 1969. The price of goat milk shall be 35. p.L., per kg.
8. Payment of milk shall be made every Saturday at an agreed place and time in the presence of the Mukhtar, for the previous seven days supply. An entry to this effect will be made in the pass book of the supplier. If any supplier is not present personally at the appointed time, he shall be paid on the following Saturday. When the sheep move to Bar Elias area, a new place shall be fixed.
9. Any day, if the driver does not come within one hour after the appointment time to collect the milk, due to breakdown or any other reason, the buyer shall compensate in full for the value of milk, as per quantity supplied on the previous day. Similarly, the supplier is prohibited from selling milk to others, within the quantity agreed upon between him and the buyer, in this contract. The supplier is free to sell to others if he has more milk than the agreed quantity and the buyer can not take it.

10. When the flocks are moved from Al Kaa area to Bar Elias, seven days notice shall be given by the supplier to the Manager of the buyer. All the flocks which supply milk to the cheese unit shall have to move together. At the new place, as per as possible, efforts shall be made to locate the flocks in a group to enable rapid collection of milk by buyer. During the move, for three days (6 milking) the supplier will make his own arrangements for the disposal of milk and the buyer shall not take any milk. This is to allow, both the parties to settle down in the new place.
11. Under this contract the supplier has agreed to supply kg. to kg. of sheep milk daily covering two milking.

Signed by supplier/or his
thumb impression
in the presence of Mukhtar
Hussein Toum, of Al Kaa.
on March 1969.

Signed by the
Director General

(Sultan Haidar)
On March 1969 at Beirut.

GOVERNMENT OF LEBANON

ANIMAL PRODUCTION OFFICE - BEIRUT

Draft Contract for collection and transport of milk from the
tented-camp of the shepherds in the Al Kaa area.

Name of the carrier:

Al Kaa

Name of the hirer: Director General, Animal Production Office
Ministry of Agriculture, Beirut.

CONDITIONS:

1. The carrier will be responsible to provide with a licensed driver a registered Tractor and Trailer in good condition and running order to collect twice a day, daily on all days of the week, milk from four to six collecting points in the Al Kaa tented-camp of the shepherds and to bring the milk to the Mobile Cheese Unit located at the village of Al Kaa.
2.
 - (i) The carrier will be responsible for the empty cans, given to him by the Manager of the **Hirer** to collect the milk.
 - (ii) The Hirer will reach the collecting points punctually morning and afternoon every day as per instructions given to him by the Manager.

- (iii) He shall correctly follow instructions given to him to check the quality of milk and to take samples delivered by each supplier.
- (iv) He shall correctly enter the quantity of milk in the pass-book of each supplier each time he receives the milk, upto the quota fixed for each.
- (v) He shall pour the milk of each supplier correctly into the hirer's cans, as per making on them, and ensure that the milk of different suppliers is not mixed.
- (vi) He shall note down the quantity supplied by each supplier in his own book and give proper account of the quantity of milk collected to the Manager, at the Unit. This should tally, with the milk received by him from the suppliers.
- (vii) He shall be responsible for any loss of milk enroute, and shall ensure that nothing is removed from any of the cans or nothing is added to the milk.
- (viii) He shall strictly follow any other instructions that may be given to him by the Manager of the hirer, from time to time.

3. For rendering the above services, the carrier will be paid by the hirer L.L. 35.00 (thirty five) per day. Payment will be made once a week. He will be informed of the date from which collection will begin.
4. Any day the carrier is not able to reach the collecting points at the appointed time himself, or make alternative arrangements under his responsibility and at his own cost, and the milk does not get collected, he shall be responsible to pay to the hirer the full value of milk not collected, at the rate at which milk is purchased by the Hirer from the suppliers. The quantity shall be as per that collected on the previous day.
5. This contract is terminable by the Hirer by giving to the carrier seven days notice in writing.

Signed by the Carrier, in the
presence of the Mukhtar Houssein Toum
on March 19 69 at Al Kaa.

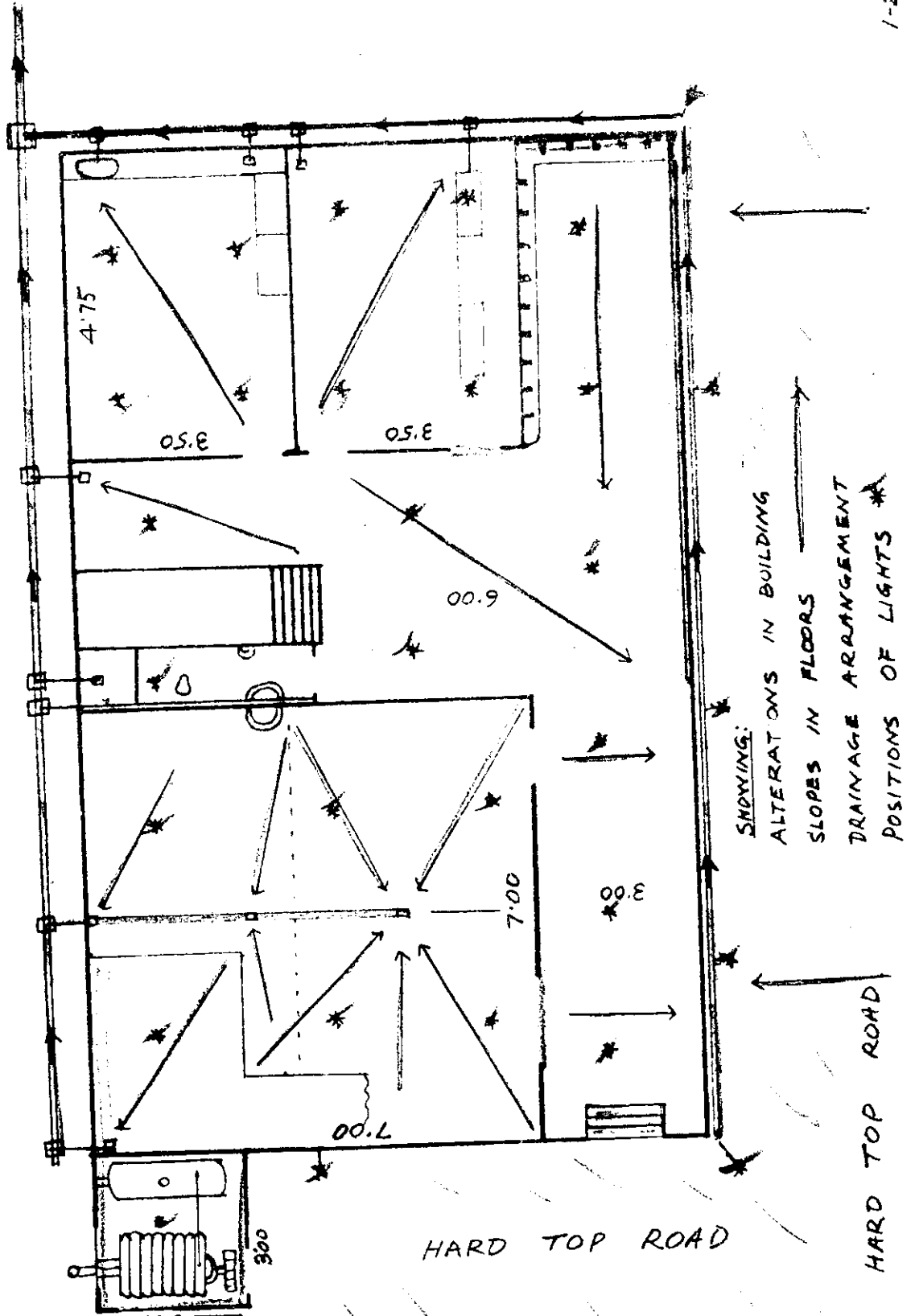
Signed by the
Hirer at Beirut.

- 3.7 The producers who will supply the milk at each place, have yet to be contacted. Their number is not known but are expected to be many, till they are grouped into cooperatives. The dairies which will purchase the milk have also to be met and terms are to be settled. There are some ten dairies in Beirut which have been obtaining licences for import of whole milk powder from APO on the written condition that they will purchase the milk ex-government centres, when it is available.
- 3.8 The purchase and sale prices are under consideration in APO and the decision is expected shortly. The APO will bear a part of the expenses involved in chilling and transporting milk. Although the producers will be paid more than at present, the consumers prices will not be affected and in some cases will even be lowered.
- 3.9 The staff requirements to operate the centres has to be worked out. The men have to be appointed and trained. A set of instructions will be drawn up pertaining to each aspect of the working at the centres.
- 3.10 Three refrigerated trucks(4 tons carrying capacity) have also been purchased for L.L. 28,500 each, and are ready for use.

DR/2

ABDE' MILK COLLECTING CENTER

SCALE 1:100



SHOWING:
 ALTERATIONS IN BUILDING
 SLOPES IN FLOORS
 DRAINAGE ARRANGEMENT
 POSITIONS OF LIGHTS *

HARD TOP ROAD

HARD TOP ROAD

Republic of Lebanon

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



ABDE MILK COLLECTING CENTER

(Notes on Dr. No. 1)

Important:

The premises are to be used as a dairy and will have very heavy wear and tear on all the services, every day. Best type of material, workmanship and supervision are therefore to be employed in executing the under-mentioned works:

- (1) A new room on the north-east corner is to be constructed for housing the hot-water unit. It should have two large windows and a 110 cm wide door.
- (2) A platform 80 cm high is to be constructed for placing the 600 gallon milk-chilling tank on it. Total weight of the filled tank would be over 3 Tons and will come on 6 legs. The area below the tank should be suitably re-inforced so that it does not sink.
- (3) The two sides of the platform should have glazed tiles. The side of the ramp should also have glazed tiles. The dairy room, and all rooms and areas should have a 120 cm high tiled surface from the floors, to keep them clean. The walls should be painted with washable paint.
- (4) The length of the ramp is yet to be determined, to give a gentle slope and the exact length is not shown on the drawing. The top surface of the ramp and the 120 cm wide area over the platform, up to the wall on the east, should be of 8 cm thick rich concrete, with smooth and non-slippery finish. It is to be used with can-carrying trollies. There

would be a 10 cm high reinforced edge on the side of the ramp, to prevent the can-trolleys to slip down the side.

- (5) The remaining area of the platform should have the same finish as that of the dairy floors.
- (6) Before finishing the platform, a tipping-bar is to be fixed firmly in concrete.
- (7) A small platform 15 cm high, with foundation bolts is to be made for fixing the refrigeration equipment. Its exact location and size will be determined in consultation with the equipment suppliers.
- (8) Under the floor in the Dairy room, a 5" to 6" diameter drainage pipe is to be laid, in the position shown in the drawing.
- (9) This pipe should have three perforated man-hole covers of brass 25 cm square, which should be removable for cleaning. All other man-hole covers inside the building, should be of the same type and removable.
- (10) All floors of the rooms and areas should have slope as shown in the drawing. At no place water should be get pocketed and remain stagnant. The slope should be 1 in 100.
- (11) All the man-holes inside the building should be connected with an outer sewer which should be of adequate size and having adequate slope. It should also have man-holes at places shown in the drawing for ease of cleaning the pipe. Finally, it has to be connected with the main drainage system of the locality of the southern side of the building. The level of this drain should be determined.

- (12) It is for consideration if the drainage from the toilet is to be also connected with the dairy wash-water, or is to be carried separately?
- (13) The flooring of all the rooms has to be well laid and of impervious non-slippery tile. It should be set in rich cement with uniform joints. The floor should have a strong sub-surface. The tiles have to be approved.
- (14) On the northern end of the milk reception and despatch area, new steps have to be made. The edge marked A to D, is to be re-informed with a nose-rail or channel to prevent damage from the trucks.
- (15) An open drain 25 cm wide is to be made in the front, to take the wash-water from the reception dock and the road, and has to be connected with the man hole on the south, with a grit chamber. It should have adequate slope.
- (16) The plinth facing in the front of the building should be smooth, as wash-water from the milk reception area will flow over it into the drain.
- (17) A parapet wall 100 cm high is to be built from D to E and E to F in drawing, to enclose the waiting area.
- (18) The toilet is to be arranged as shown in the drawing.
- (19) One wash-basin with mirror is to be fixed in the dairy-room and one in front of the can-washing room as in the drawing.
- (20) Lights are to be positioned as shown in the drawing. The six out-side lights, should have water-proof fittings. All lights fittings and wiring to be used have to be approved.

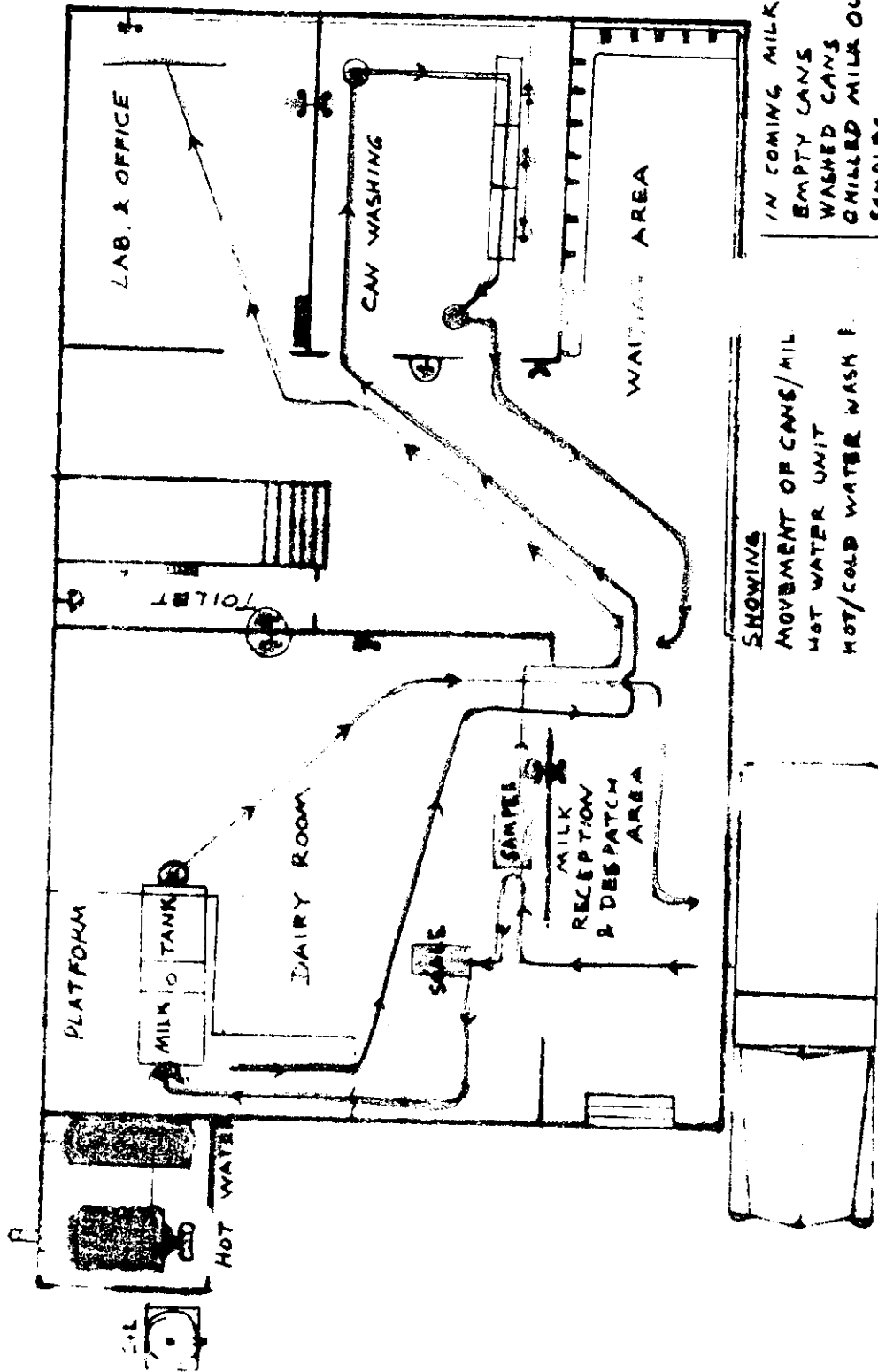
- (21) Two new doors, one in the Dairy Room and one in the Can Washing-room, are to be made as shown in the drawing. They should open flush with the walls. All other doors should also be altered to open flush with the walls.
- (22) As a result of the platform being built, the positions of the 2 windows in the dairy room will need to be changed.
- (23) The strip of land on the west to the building, and the area on the north are to be hardened, after proper consolidation to take heavy trucks.

DNK/jm
1.2.1969.

DR/2

ABDE MILK COLLECTING CENTER

SCALE 1:100



SHOWING
 MOVEMENT OF CANS/MILK
 HOT WATER UNIT
 HOT/COLD WATER WASH F.

IN COMING MILK
 EMPTY CANS
 WASHED CANS
 CHILLED MILK OUT
 SAMPLES
 WASH POINTS

1-2-69

ABDE MILK-COLLECTING CENTER

(Note on Dr. No. 2.)

Important:

The hot and cold water instalation should be carried out as per the highest industrial standards with regards to pipes, fitting, workmanship, insulation and finish

- (1) For use at the dairy, the hot-water unit should be adequate to give a supply of 800 liters of hot-water at 70°c for 3 hours in the morning and 3 hours in the evening. There should be adequate pressure in the water for effective washing of the floors and to economise its usage.
- (2) For the central heating, there are expected to be 12 standard size room radiators. Two will be located on the ground floor and ten on the first floor.
- (3) The need for treating the water before heating it should be examined.
- (4) The drawing shows the 16 points where hot and cold water outlers and wash-points are needed. At any one time not more than 5 will be in use. The pipe sizes have to be determined accordingly. At the outlet point, the pipe size should be of ¾" inside diameter.
- (5) All hot-water pipes should be adequately insulated and painted red. Cold-water pipes to be painted light blue.
- (6) Best quality industrial type valves and fittings should be used throughout. There should be adequate number of isolation valves and unions to carry out repairs satisfactorily. The wash-points, should have 15 cm long nipples to attach the hose pipe. The wash point assembly should be got approved.
- (7) All pipes should be properly and securely fixed to the walls with clamps, in a neat manner.

DNK/jm
1-2-1969.

Chapter 4. Discussions with UNICEF/FAO/WFP
representatives in Beirut.

- 4.1 In order to consider obtaining assistance from the UN Agencies, notes were prepared and several meetings were held in APO, with the Director General in **Chair**. Meetings were also held in UNICEF Office. The notes prepared, are attached to the end of this Chapter.
- 4.2 As a result of these discussions, a proposal has been informally and orally suggested to UNICEF to give equipment for 5 milk chilling and cheese making centres costing in all about \$ 60,000.
- 4.3 On the distribution side the proposal is for UNICEF to assist in a program to give daily $\frac{1}{4}$ liter of milk to 10,000 school children for 200 days per year. It is also proposed to give milk at a subsidised rate (50% of the economic cost) to 5,000 low income group families (whose monthly income is less than L.L. 300) at the rate of 2 liters per family, per day, throughout the year. The latter arrangement will take care of the needs of the pre-school children and of the adults. The studies carried out by AUB point out that there was marked nutritional deficiency in the diet of the pre-school children amongst the low income group families.
- 4.4 UNICEF assistance may consist of providing containers, transport vehicles, laboratory equipment, non-fat-dry milk etc.

4.5 It has been also suggested that as the first step towards the examination of the proposals a joint UNICEF/FAO Team may be formed to visit Lebanon later this year to go into all aspects of the aid requirements to the APO and make its recommendations. The last occasion when such a team visited Lebanon was in 1962. The Technical Assistance and Fellowship which the APO will need, will also be examined by the Team. By the time the Team visits, the three APO milk centres should also be operating. Some of the legal measures for controlling the purchase and sale prices of milk and products, as well as the revision of imports duty on dairy products, would also have progressed. The fate of the request to UN Special Fund, would also have been known.

GOVERNMENT OF LEBANON

THE ANIMAL PRODUCTION OFFICE - BEIRUT

The ever increasing imports of live animals, meat and dairy products into Lebanon, without there being any plans to produce more locally, had been a matter of some concern to the Government of Lebanon. For instance, imports of meat and live animals increased from L.L. 24.4 million (\$7.6 million) in 1956, to L.L. 94.3 million (\$30 million) in 1966. Imports of dairy products increased from L.L. 15 million (\$4.7 million) to L.L. 31.3 million (\$10 million) during the same period. At this rate, by 1985 the imports of animals and meat would cost the country in foreign exchange equivalent to \$65 million and that of dairy products \$42 million per year, even if there was no increase in prices of these commodities.

On the other hand, although exact figures are not available, all evidence points to the fact that the number of dairy cows has been steadily decreasing in Lebanon due to lack of incentive or support policy of any kind.

In order therefore to attend to all matters connected with animals, their production and the existing situation, the Government considered it necessary to enact a Presidential Decree on September 3, 1966 (Law No. 54/66) and to create a specialist department called "Animal Production Office", in July 1967. The FAO/UNICEF Team that visited Lebanon in 1962, had also recommended inter alia the setting up of an autonomous body to attend to all matters pertaining to a National Milk Policy. Dr. Sultan Haidar, was appointed as the Director General of the new office. A well represented Advisory Council was also formed to assist the Director General with a non-official Chairman (Mr. Fouad Salam), who has been connected with Animal-Husbandry and Dairy matters in Lebanon for many years. Amongst the eight members, five represent the producers in the private sector, and one each represents the Ministry of Finance, National Economy (Consumer Protection Dept.) and Agriculture. The Council meets once a week. All major decisions, go directly to the Minister of Agriculture, for approval and ratification.

The budget of the APO for 6 months of 1967 was L.L. 300,000 (\$94,000) in 1968 it was L.L. 1,100,00 (\$344,000) and in the current year it is L.L. 1,600,000 (\$500,000).

Apart from exercising all powers as the Head of the Office, the Director General has five branches directly responsible to him. These are (1) District Offices, (2) Animal quarantine and slaughter house at Tripoli, (3) Public relation and information, (4) Legal matters, controls and enforcement and (5) Administration and finance.

There is a provision to have a Technical Director, under the Director General, who would look after directly the two main wings: (a) Technical Development and (b) Economics and Trade Services. Under the former there are four main sections (1) Animal feeds, fodders and animal development, (2) Demonstration and manufacturing, (3) Analysis and standards and (4) Recording and herd books. Under the wing of Economics and Trade Services, there are three sections (1) Grading and marketing, (2) Economic studies and (3) Statistics. (See the attached chart).

The above described structure has been approved by the Council of Ministers. In terms of number of staff, there is a provision to appoint 58 professionals and technicians and 66 non-professionals and office men. As qualified personnel becomes available, the posts will be filled in.

For the time being, officials from the Ministry of Agriculture have been transferred and some specialists have been appointed on contract basis. Some of the office staff has been taken on temporary basis.

Since the establishment of the office, a great deal of information on cattle, production of milk, eggs, poultry, prices, etc., in over 1,500 villages and farms has been collected. There are 6 staff cars for field work. A survey on cost of production of milk in the different zones was also undertaken through a private firm of consultants. A number of proposals and Orders have been developed to support local production of milk, one of them being to fix minimum prices to be paid to producers for cow, sheep and goat milk and for payment of premium on the basis of quality and cleaner milk supplied. A "National Policy for Milk" has also been drawn up. Proposals are also getting ready to modify the structure of import duty on certain dairy products, which compete directly with fresh milk. Participation by government in certain production and processing activities, is also visualized.

On the executive side the Dairy Branch is expecting shortly equipment purchased from USA for 3 milk chilling centres with a capacity of 2,500 litres each, costing in all \$10,000. Buildings to house the centres in north, south and central Lebanon have been taken over from the Ministry of Agriculture and their modification



is expected to cost equivalent of \$6,000. 400 transport cans are also under order costing \$8,000. The total expenditure on the three centres would therefore be equivalent of nearly \$40,000 and they are expected to go into production by end of June 1969.

The centres will purchase milk from the small producers who have been experiencing difficulty in marketing or are not getting adequate prices. It is proposed to purchase milk at 42 piastres Lebanese per kilo (13.5¢), against only about 35 piastres (10.9¢) paid by the buyers at present. The chilling and transporting cost is expected to be about 5 piastres (1.5¢) but it is proposed to deliver the milk to the processors at 45 Piastres (14¢) only. Government will subsidize the difference up to 5 piastres (1.5¢) per kilo. Care will be taken to see that consumer's prices do not increase. In fact, in some cases they may even be brought down.

Since the processors use imported whole milk powder for making of cultured milk products (e.g. yoghurt), they shall be given the import license only if they agree to purchase all the fresh milk the government centres may have to offer and if they fulfill all the technical and sanitary requirements regarding their plants. Some 10 processors are already obtaining licenses of whole milk powder on this condition, although at present the Animal Production Office does not have any milk to offer. Some of them have carried out certain improvements in their plants, buildings, method of working, etc., as advised by the A.P. Office.

In order to assist in the achieving of the objectives of the APO, it proposes to make a request shortly to the U.N. Special Fund to provide experts, certain equipment, etc. The S.F. contribution asked for is \$1,636,700 and the government contribution would be equivalent of \$2,019,455, for a 5-year project.

FAO/Royal Danish Government recently donated a Mobile Cheese Unit (cost \$18,000) and arrangements have been made to purchase approximately 1,000 kg. of sheep milk daily from March 15, 1969, from the Beduin-shephards and to convert it into Halloum cheese and to sell it. 65 piastres (20.3¢) per kilo is to be paid for sheep milk or approximately 3 piasters (1¢) more than the monopolistic buyers. Shephards will also be paid an additional of 5 piastres (1.5¢) per kilo, as a premium for quality, never paid to them by others. From one of the shephard's camp where the Mobile Unit will start working, approximately 25% of the milk will be purchased by government at higher prices during the current season. This is the first step towards organizing the shephards into cooperatives and it is hoped to service them for all their needs and ultimately to also market all their products namely milk, lambs, old ewes,

wool, manure, etc. As far as is known, no where in the Middle East such work has been undertaken. The scope of improvement of the economic conditions of thousands of shepherds, who own nearly a 100 million sheep in this area, can be better imagined than described.

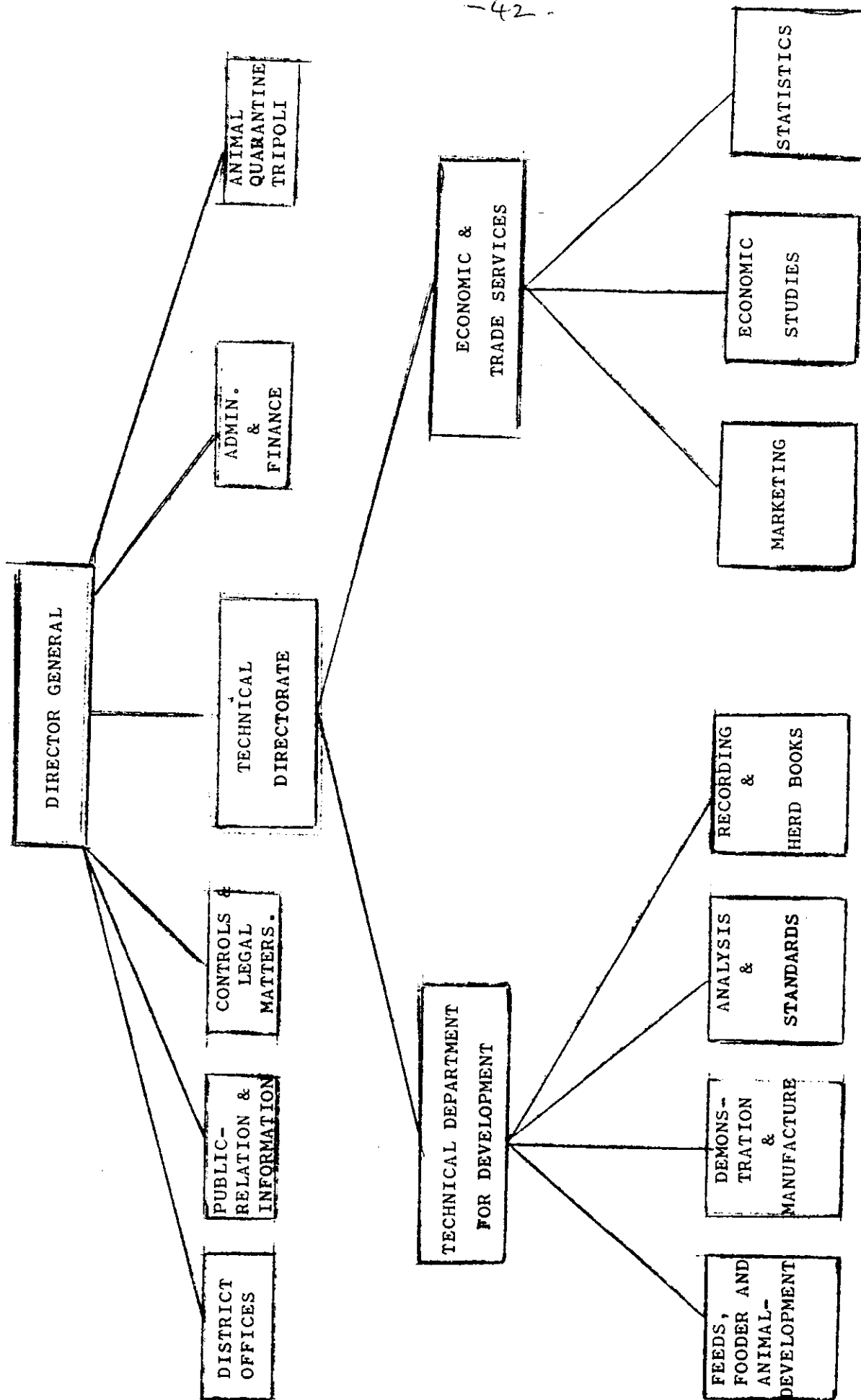
For the last 4 years, FAO and the Royal Danish Government also operate here twice a year a Dairy Training Course for the Near East and about 30 men are trained each year. A National Training Course, exclusively for Lebanon (on the pattern of National Courses in other countries in the region) is also to be started in the near future. A Dairy Diploma Training (2 years course) has also been proposed and is expected to start in 1971.

The above facts were narrated by Dr. Sultan Haidar at a meeting in UNICEF office on February 26, 1969, where representatives of FAO and the WFP were also present. He stressed that any assistance the U.N. Agencies based in Beirut can give at this stage of development, would greatly help to consolidate the position and create a nucleus around which a viable National Program, for the Lebanese Animal Industries could be built-up.

DNK:NS

March 11, 1969

CHART SHOWING THE STRUCTURE AND ACTIVITIES OF THE ANIMAL PRODUCTION OFFICE - BEIRUT.



GOVERNMENT OF LEBANON

ANIMAL PRODUCTION OFFICE- BEIRUT

Subject: Draft, Integrated plan for improvement in production, collection and distribution of milk in Lebanon.

The Scope of Operation:

The plan is treated under four main aspects:

- 1- Improvement in Production.
- 2- Improvement in Collection and Transport.
- 3- Improvement in Rationalised Distribution.
- 4- Technical Assistance.

1- Improvement in Production:

- 1.1 Eight to ten areas of concentrated production of milk shall be selected for intensive development.
- 1.2 Approximately 10,000 milking cows and 5,000 young-stock, and 25,000 resident (that is, non-migratory) sheep shall be covered in the plan. All animals shall be registered and some of them shall be also recorded for milk.
- 1.3 Approximately 5,000 producers (25,000 persons in all) and about 50 villages would be involved.
- 1.4 Producers shall be induced to form into co-operatives by assisting them in kind against managerial expenses and for purchase of shares of the co-operatives.
- 1.5 Pastures and land for fodder production involved in the keeping of the above number of animals, shall be brought under an improvement program. Fertilisers and seeds shall be supplied as aid. Production of appropriate fodders and their conservation shall be included. All this shall be done through the co-operatives.

..2..

- 1.6 An agreed number of milking cows, young-stock and sheep shall be provided with an agreed quantity of concentrates free of cost, for 3 to 5 years, on the condition that at least 5% of the feeding cost saved, is utilised for replacement of an agreed number of cows and sheep with better live-stock. This would also be done through the co-operatives.
- 1.7 Concentrates for feeding shall be taken at 3 kg. to 4 kg. per cow, per day, and 1 kg. per sheep, per day, or at what ever rate this has been allowed in the projects of similiar type elsewhere.
- 1.8 Food for humans, shall be worked out on the basis of that allowed for similar projects in this region.
- 1.9 The co-operatives shall be provided with cash funds on 5 to 7 years credit and at a low rate of interest, for importation of improved animals and their sale to the members on credit. The loan will be recovered from the sale of milk. This facility shall be provided only to those co-operatives, which: (i) have improved their fodder and pasture resources properly (ii) have looked after their existing live-stock in a better manner and (iii) have sold their milk to the Government chilling centers (described in the next section)
- 1.10 In the case of sheep farming in Lebanon, sale of milk provides about 60 to 70% of the gross income to the flock owner. Sale of lambs, old ewes, wool and manure provide for the rest. Co-operatives of sheep owners shall therefore be assisted to market their other products also in an organised manner to obtain better returns.
- 1.11 Since in small countries there is a close relationship between milk and meat industries and both are persued jointly by the same persons (and since Lebanon also imports large quantity of meat and live-animals) a study shall be made for coordinating the two and for determining the assistance to be given to the latter also.

2- Improvement in Collecting and Transport of Milk:

- 2.1 Generally speaking, one milk collecting and chilling center shall be provided per 500 milking cows, or per about 4,000 to 5,000 kg. of milk per day. It shall receive, sample and test, chill, provide storage and

../.3

- 3.4 Similarly, in order to cover the pre-school children and other vulnerable consumers, at least 25,000 low income group families (say, those with an income of less than L.L. 300, per month), in Beirut and 5 other towns, shall be covered. They shall receive 2 liters of milk per family per day at a subsidised price, which shall not be more than 50% of the economic price of milk.
- 2.5 All milk under this program shall be packed in specially marked containers, not useable for domestic market milk. These shall be provided under an aid program.
- 3.6 Equipment for recombining and making of Toned milk in the plants licenced to make such milk, non-fat-dry-milk, cans and transport for collection of raw milk and distribution of processed milk, would be needed.
- 3.7 Since processing facilities are at present available only at Beirut, a study will be made to determine whether it would be more economical to transport such milk from Beirut or to process and package it in the other towns themselves? In the case of the latter, complete dairy equipment for such plants would be needed.

4- Technical Assistance:

- 4.1 To carry out the various studies and activity visualised under the program, a number of technical experts (including veterinary aid, breeding and management) shall be needed. Training for the local staff (in Lebanon and outside) is to be included. In some cases, training and demonstrations would need to be given to the producers themselves, e.g. in clean milk production, keeping of simple herd-records etc.
- 4.2 In order to evaluate the benefits derived through supplementary milk feeding in schools, (e.g. gain in weight and hight, reduction in sickness etc.) assistance shall be needed to maintain correct records of such children and their comparison with control groups, who were not supplied with additional milk. Such studies shall be under the supervision of trained personnel and the results obtained shall be published.

26th Feb. 1969.

DNK / jm

Chapter 5. General Matters.

- 5.1 Guidance was given by me to the Dairy Branch on the following items:
- (i) Specification for the purchase of milk cans.
 - (ii) Fixation of producers' prices of sheep, cow and goat milk and payment of premium for quality.
 - (iii) Revision of import duty on certain dairy products.
 - (iv) Fixation of consumers' prices for milk, laban and labneh and of marking of containers.
- 5.2 The UN Special Fund project was revised and a summary was prepared for approaching the Government for its approval.
- 5.3 A beginning was made to prepare a map of Lebanon showing the production of cow milk, but could not be completed without the maps of the Cazas in Lebanon. These have been ordered from the Map Office and are expected shortly when the milk-map will be prepared.

الجمهورية اللبنانية

مكتب وزير الدولة لشؤون التنمية الإدارية
مركز مشاريع ودراسات القطاع العام

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- 6.1 Dr. Sultan Haidar kindly suggested that he would appreciate if I could extend my contract for a further period of approximately three months ending middle of June, 1969 including two weeks of preparation of the final Report. It would be on the same terms as the first contract. I have gladly agreed to it.
- 6.2 During the second period I would concentrate on: (1) the collection and presentation of data regarding sheep milk and cheese making operation; (2) sale of cheese; (3) work in connection with the starting up of the three milk chilling centres; (4) preparation of a milk-map for Lebanon and (5) further information UNICEF/FAO/WFP may need. I shall also attend to any new work given to me by Dr. Haidar, to the extent of time available.
- 6.3 The above aspects would be covered in Vol. II of my Report in due course.



(D.N. Khurody)

Beirut-Lebanon
17 March 1969.

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

DNK/jm