

SYRIA

Agricultural Sector Assessment

Volume 5 Human Resources Annex

U.S. Department of Agriculture
in cooperation with the
U.S. Agency for International Development
and the
State Planning Commission
Syrian Arab Republic

Syria: Agricultural Sector Assessment

Volume 5: Human Resources and Agricultural Institutions Annex

CHAPTER III

RURAL CHANGE

By

A. Eugene Havens

TABLE OF CONTENTS

	<u>Page</u>
3.1 Summary: General Tendencies for Change in Villages	2
3.2 Changes in Control over Resources	5
Traditional Land Tenure Patterns	6
Agrarian Reform	7
Inheritance and Fragmentation	9
Service Cooperatives	10
GADEB - Controlled Farms	10
3.3 Technical Changes	17
3.4 Change in a Syrian Village - Mansourah	17
3.5 Jerjer: Rainfed Agriculture	25
3.6 Producer Resistance to Sugar Beet Production: Sugar Versus King Cotton	27
3.7 Cooperatives and the Planning of Agricultural Production	36

The present report deals with technology and the organization of work as a part of the overall human resource assessment in agriculture. The majority of the data presented in this draft are the result of some 14 days spent in rural villages interviewing direct producers and agricultural cooperative leaders. Also, raw data were provided by the Farming Systems Division of ICARDA, and I wish to thank them for their assistance in field work as well as sharing their rich data base with me which provided keen insights into dry land farming in the SAR. The French Institute for Arabic Studies also provided assistance in understanding Syrian society. Many SAR officials contributed to this report, particularly those of MAAR, State Planning Commission, the Peasant Union, the Cotton Marketing Organization, the GADEB and the Tractor Plant. Also, the patient assistance of my temporary Syrian counterparts made much of this research possible. Obviously, the mistakes are my own but any insights are due to this collegial collaboration.

3.1 Summary: General Tendencies of Change in Villages

Perhaps the most fundamental point that should be made at the outset is that village life and production activities are not stagnant. There are some basic and fundamental changes that are unfolding which are significantly affecting village life. I will summarize these changes under four headings: (a) the monetarization of social relations in the village, (b) the new bases for social differentiation, (c) the labor alternatives that present the appearance of labor shortages in agriculture, and (d) the mechanization of production.

3.1.1 Monetarization of Social Relations

Money has become the medium for exchange in most aspects of village life. In previous times, for example, labor exchanges were a prevalent form of accomplishing harvest. Today, most of the harvest is done with hired labor. The household previously was an autonomous unit, but today grows little of its needs, and is dependent on the purchase of food supplies in the village market, the town market and the food card.

What this observation signals is that decision-making strategies for distributing family labor basically attempt to maximize cash income. This doesn't imply that none of the products produced on the farm are consumed on the farm, but that this is now less frequent than it was in the past. The importance of a maximizing cash income strategy for the diffusion of new agricultural technology is that alternative income sources outside of agriculture are very salient. Thus, if a new technology involves a greater management and labor input, farmers evaluate it in terms

of how much cash income the new technology might produce versus male absence from the village working in Saudi Arabia, Turkey, Jordan, Venezuela, Argentina, United States or in construction, livestock projects or olive harvest in the SAR. Increased yields brought about by new technology or crops are attractive only if the presumed price for the commodity would produce a higher family income than working off-the-farm.

An example of how the maximization of cash income predominates decision strategies on how to distribute family labor is the persistence of the damman system in fruits, olives and vegetables. In many instances the product is sold on the trees or vines to the damman who is responsible for harvest and delivery to the souk. This agreement frees family labor to work in non-farm activities, frequently in Saudi Arabia or other neighboring countries. In the Ghouta, the income produced from this work is reinvested in land purchases exploited under rental agreements (See work of the French Institute).

In my village studies, I have found only one area in the Ghab (and not all Ghab areas) where most family labor is held at home producing cotton, sugar beets and vegetables because the villagers are convinced they can make high cash incomes from farm production. This dedication to farming stems from the high soil fertility, available water and a high demand for vegetables. The increase in sugar beet prices this year and the close location to the sugar beet factory also makes this an attractive income producer. In all other villages I have visited, most agricultural labor was performed by women and children with men being absent for long periods working off-farm. (See Jerjer Case Study below.)

3.1.2 New Bases for Social Differentiation

These increased family incomes seek new sources of investment. Almost invariably, the increased income is first directed toward improving the home, then towards buying more land and/or the opening of business and in educating sons. Thus, new bases for increasing the gap between high and low income groups within agriculture are present. The sons who can enter the University attain higher paying off-farm jobs and begin to manage farms from a distance, a process which may seriously affect future agricultural productivity. Increased land size, where this is possible, allows a potentially greater income and as long as the alternatives for off-farm work both in the SAR and in many other countries continues, it produces even greater incomes for many farm families. This increased income usually returns to the village in the form of a new home, a car or truck or motorcycle, and, as electrification progresses, in refrigerators, television sets and a new business.

One of the most striking aspects of rural villages is the tremendous amount of construction that is taking place and the high demand for improved services. The improved services demanded center around electrification and potable water. If these services are not provided, we can expect that the higher income families will migrate to urban areas seeking a better standard of living. The next Five Year Plan will need to take these new bases of social differentiation into account and the demand for improved services in the villages if equity and stemming rural-to-urban migration are important considerations. Otherwise, farming may become a less desired economic activity given that relatively high income-producing off-farm work is available. Also, as sons receive more education they may begin to attempt to maintain families in the village, manage the farm from a distance and work in urban occupations.

Planning is complicated by these rapid changes in that by the time the plan is finished most of the assumptions built into the plan may no longer be operative. A complex plan can be constructed to stimulate agricultural production but in many areas male labor may already be distributed outside of agriculture and responses to favorable prices may not occur or be delayed until men return to make the decisions.

3.1.3 Appearance of a Labor Shortage

The movement of labor power in and out of the SAR and between sectors of the SAR is essentially a male phenomenon. For many tasks, most agricultural labor is performed by women and children. This explains, in part, why some practices in agriculture persist because the male decision-maker is away. For example, pulling wheat at harvest time on dry land sandy soils is not a reflection of any hard cake of custom or resistance to mechanization, but because it is easier for women to pull wheat than to cut it with a sickle. And since tractor driving is a male job and is male supervised, it is only done when the men are in the village.

There is no absolute labor shortage in terms of low population numbers or a low growth rate. The labor shortage in agriculture is a consequence of the incapacity of planning to keep the available labor power on the farm or even in the country. Higher wage scales may change the flow of labor power out of agriculture but it will also increase cost of production and require either greater subsidies for urban consumers or higher real prices for wage foods. These choices involve difficult political decisions and inflationary tendencies.

3.1.4 Mechanization

When a labor shortage psychology gets built into a plan, it is easy to jump to mechanization as a solution. However, some observations should be made here. Mechanization has proceeded rather rapidly in the SAR (See Tables 7 and 8). Most seedbed preparation (ploughing and disking) is now done by tractor in those areas where land size and terrain permit mechanization. People don't really prefer to hand cultivate; they would prefer to reduce the drudgery of farm work. However, for further mechanization to be profitable it would require a change in irrigation practices and the land holding pattern. Land holdings are extremely fragmented in the SAR and any reconsolidation of them will be highly resisted. This tenure pattern is the single biggest obstacle to further mechanization.

These points represent my overall conclusions concerning change in the Syrian village. They will be demonstrated in the sections which follow and in a series of village case studies.

3.2 Changes in Control Over Resources

The two most critical natural resources in agriculture in the SAR are land and water. Since 1946, the struggle over the control of these resources largely defines the recent historical development pattern of Syria. Unfortunately, no systematic work on this struggle, particularly concerning the Syrian peasantry and its role in the State and society, has been performed since Weulersse's classic study in 1946. Seurat's recent work on the peasantry and the State will help to fill this gap when completed (Centre Francais du Etudes Arabe, Damascus). Since the rise to power of the Ba'th Party in 1963, significant changes in control over land and water resources and the role of the Fallaheen in Syrian development have occurred.

Fundamentally, the Ba'th has attempted to break the social and political power of the traditional, largely urban, elite by destroying its monopoly control over land and water markets and the rural labor force. In the process, it has mobilized and organized a peasant base of support and is attempting to integrate State and society by incorporating rural workers into production and distribution through a more equitable and rational distribution of power and resources.

The approach to accomplish these broad goals began with an agrarian reform to effectively eliminate the agrarian bourgeoisie from the power bloc and establish a cooperative form of agricultural production. We will briefly review the historical development of this process.

3.2.1 Traditional Land Tenure Patterns

The traditional land tenure patterns in the SAR are a complex set of property relations that mixed classical feudal grants (Zameh holdings) and freeholder rights that emerged as the feudal social organization began to break down. The Zameh holdings followed traditional feudal arrangements wherein a lord was given land grants and peasants performed direct labor on the land. In return for his labor, the peasant received small plots of land for family subsistence, usually located in different ecological niches so that a full range of subsistence needs could be fulfilled. This involved some irrigated lands, some pasture lands and some dryland cropping lands. These plots where peasant workers produced their subsistence needs slowly fragmented over the years as sons and daughters were held on the estate and as pressure on the land grew through population growth and migrant workers sought more permanent ties to the land. By the 1940s, peasants on feudal estates were providing corvée labor to the feudal lord, producing on their usufruct plots and producing on share plots as well as providing servant labor to the lord's family. Share plots usually returned between 15 and 25 percent of the crop to the peasant.

In addition to Zameh holdings, three types of freeholdings existed. The first type of holdings were large private holdings built up by purchases from villagers in times of distress. These purchases usually occurred when loans could not be repaid and when bad crop years prevented family subsistence. The usual pattern was to purchase the lands at a low price and retain the villager on the lands as a sharecropper. Then lands were expropriated and redistributed to the direct producers (Astila lands).

Small private holdings or freeholdings, existed under Mulk or Emiri ownership. Mulk ownership allowed both usufruct rights as well as the right to the soil; i.e., it could be sold. Emiri holdings provided only usufruct with the soil rights being reserved by the state.

Finally, there were Amlak Ame on State domain lands. Prior to the agrarian reform, State domain lands were held in trust for common use by the community. In addition to State domain lands, there are Wakf lands which are held by religious or charitable persons. Wakf lands are not covered by government audit which makes it difficult to judge the extent of holdings or how they are exploited.

Semi-nomadic groups in the steppe also marked out territorial claims that were maintained via kinship and segmentary alliances to form larger cooperative groups that increased territorial claims. For full details of these tenure arrangements and how they have changed, see Manzardo's report.

According to Albos (Land and Agrarian Reform in Syria, Damascus, 1962, p. 38), land holdings in 1952 were distributed as follows:

<u>Size of Holding</u>	<u>Percent of Total Area</u>
Less than 1 hectare	1
1-5 hectares	5
6-10 hectares	7
11-25 ha.	17
26-50 ha.	11
51-100 ha.	10
101-500 ha.	24
501-1000 ha.	9
Over 1000 ha.	16
	<u>100%</u>

About 10 percent of all holders controlled about 50 percent of the land. In addition to the concentration of land ownership, these same large land owners largely controlled access to water and access to the market. Thus, monopoly control over land, water, labor and markets allowed large land owners to appropriate the bulk of agricultural surplus through a combination of ground rents, labor rents and money rents as well as controlling the credit supplies either directly or in alliance with merchants. The peasant movement to break this form of exploitation provided one of the major social forces for the Ba'th Party and its control of the State since 1963. Most of the lands held in the 100 and above hectare category have been expropriated.

3.2.2 Agrarian Reform

There is no intention here to provide a complete history of agrarian reform in the SAR since 1958, but only to summarize the reform legislation and to present the outcomes of land distribution. While agrarian reform began in 1958 when Syria was still united with Egypt, significant reform began in 1963. One of the major steps in Decree No. 88 of 1963 was to set ceilings on land ownership. These ceilings were as follows:

A. Irrigated Lands:

- 15 ha in the Ghouta
- 20 ha in the Mediterranean coastal area
- 25 ha in Btiha area and its surroundings
- 40 ha in irrigated areas with pumps
- 50 ha in irrigated areas with pumps or any other lifting devices (i.e., the Euphrates, Tigris, Khabur)
- 55 ha in irrigated areas from wells (i.e., Hasakeh, Rakka, and Deir-ez-zor Mohafazat in the northeast part of Syria)
- 45 ha in the remaining areas where irrigation is done via pumps or other lifting devices.

B. Rainfed Lands Planted in Olives and Pistachio for More Than Ten Years:

35 ha in the Lattakia Mohafaza

40 ha in the remaining Mohafazat with olives and pistachio.

C. Rainfed Areas:

80 ha in the areas where the annual average rainfall exceeds 500 mm.

120 ha in the areas where the range of rainfall is 350-500 mm

200 ha in the areas where the rainfall is less than 250 mm

300 ha in the Mohafazat of Al-Hasakeh, Al-Rakka and Deir-
ez-zor.

The intent of the law was to make an equitable distribution of the land based on economic value, the nature of crops and agro-climatic conditions. The land reform laws and decrees granted the owner the right to select his parcel of the land which he would retain after the reform; however, the reform agency would select the land to be granted to his immediate family. Furthermore, the law granted corporations and cooperatives the rights of land ownership which could exceed the ceilings of individuals if the lands were to be improved. Also the law granted scientific research organizations the rights of agricultural land ownership which could exceed the maximum allowable to individuals if it would serve the objectives of the reform.

The law explicitly stated that the compensation paid to owners for their expropriated lands was to be ten times the average rent for the previous period. This amount was to be amortized in a forty year period (item 10 of the Land Reform Law of 1961) and an interest paid on the unpaid principal of 1.5%.

The law also stipulated several criteria for selecting the beneficiaries of the land reform. The beneficiary must be an adult of a Syrian Nationality who has had farming as a profession or was a graduate of preparatory agricultural school or was a member of the Bedouin tribes who were enrolled in sedentarization programs. The beneficiaries' total land ownership must not exceed the legal limits. Priorities were given to the following:

- a. Active farmer and tenant
- b. Agricultural worker
- c. Large and poorer family
- d. Village outsiders

Table 1 shows the area of land expropriated under the agrarian reform and how it has been allocated. As can be seen, 1,401,300 hectares were expropriated of which 254,000 ha. have been allocated to cooperatives and Ministries and 466,100 ha. have been distributed to individual holders. Some 329,800 ha. were sold and 351,400 were still not distributed by 1975.

Table 2 shows that by 1977 how much land by Mohafaza is cultivated privately, by cooperatives or under public enterprises. For the SAR as a whole, 76 percent of land is cultivated privately. The largest concentration of private holding occurs in Al-Rakka, Al-Hasakeh, Lattakia, Hama and Aleppo.

Table 3 shows that in 1970, the bulk of land holders (93.64%) have land holdings of 30 ha. or less. Indeed, 50 percent of all holders have access to less than 5 ha. of land.

Table 4 compares the land distribution before the reform (1952) with post reform patterns (1970). Clearly, the reform reduced the preponderance of large holdings (more than 100 ha.) from 49 percent of the land area to around 18 percent. All holdings categories smaller than 50 ha. experienced some increase. The total "less than 5 ha." categories doubled in their importance, which signals the problem of land fragmentation, which occurred during this same period.

Thus, it seems clear that the agrarian reform has effectively produced a large number of land holders with relatively small plots of land.

3.2.3 Inheritance and Fragmentation

One of the most severe problems affecting changes in farming techniques and increased productivity is the small size of holdings and land fragmentation. Table 5 indicates that 72 percent of all holders have an average 3.16 ha. of land on four plots. We should keep in mind that these are average figures and it is possible to encounter holders of two ha. of land made up of 10 or more non-contiguous plots. These extremely small plots and basic irrigation techniques effectively prevent the use of most harvest mechanization techniques.

This fragmentation of land comes about principally through inheritance laws. Private lands held on Mulk tenure are inherited by Muslim law which gives each son a full share and each daughter one-half of the share given to sons. Emiri land is inherited under civil law which gives sons and daughters equal shares. In practically no families is the primogenitive inheritance system used. Indeed, Civil Law 59 of 1953 as well as religious sentiment prevents any modification of these inheritance patterns.

Families attempt to consolidate holdings by allowing one or more sons to farm all land and by increasing land holdings through marriages, especially between cousins. Also, rental arrangements still exist that contribute to land consolidation. Nevertheless, land fragmentation under private holding patterns are the greatest single obstacle to further mechanization of Syrian agriculture and to the use of most technologies which require relatively large, coterminous holdings.

3.2.4 Service Cooperatives

The SARG has developed programs designed to consolidate land holdings. The policy in this respect is that the cooperative system is a way to attain economies of scale while allowing holders to still identify with plots of land. Table 6 shows the growth of cooperatives from 1960 to 1976. More than half of all land holders are cooperative members. However, producer cooperatives have been slow to develop and most cooperatives are multi-service. Consequently, significant land consolidation has been delayed. The cooperative movement is discussed in greater detail in section 7 of this report.

3.2.5 GADEB-Managed Farms

In addition to producer cooperatives, the SARG has also experimented with State managed farms. The most significant area of such farming efforts are occurring in the Euphrates Basin. (For complete details of this project, see Owen's report.) This report will not cover the details about land reclamation and irrigation schemes of the Euphrates project but will focus on how work is organized on the GADEB-managed farms.

The basic organization of work on the GADEB-managed farms turns around a state-appointed manager, state-employed technicians, permanent workers and temporary workers. The manager assigns work tasks without much worker participation in how to distribute tasks. Permanent workers form a syndicate that presents grievances and provides one member to the 12 person production council. Other members of the council consist of the manager, engineers, a representative of the Party and accountants. Thus, major production decisions, labor norms and assignment of work tasks are largely decided with little worker control over these processes. The major power that workers exercise is the threat of strike, which can lead to the expulsion of the manager.

Worker's 1979 daily pay scales vary by age and sex in the following fashion:

<u>Age</u>	<u>Men</u>	<u>Women</u>
12-13	8.00 S.L.	7.00
14-15	10.00	9.50
16-17	11.00	10.00
18+	12.25	11.00

In addition to wages, permanent workers receive one-half dunum of land for private use, a house with two rooms, a kitchen and a bath for 7.00 S.L. per month. The worker also receives free medical treatment and his family receives full medical services at 50 percent of cost. Schools, nurses and social centers are located on the farm and all are free. Finally, families of permanent workers receive first priority for temporary work hiring. Since most

GADEB-managed farms currently employ more temporary workers than permanent workers, it is not uncommon for most families to have three members working most of the year.

If we calculate annual income on the basis of a permanent worker, his wife working as a temporary worker 200 days and his 16 year old daughter working 200 days, permanent worker family cash income would be 3822 S.L. for the male permanent worker, 2200 S.L. for his wife and 2000 S.L. for the 16 year old daughter. Total family cash income would be 8022 S.L. or an average of 668.50 S.L. per month. If we calculate the total cost of all subsidies (housing, medical and schools) plus home-produced goods on the one-half dunum plot at the value of 200 S.L. per month, the real family income per month is 868.50 S.L. If this is a reasonable calculation, annual family income would be 10,422 S.L. or more than a construction worker in Damascus who would average about 7,500 S.L. at 1979 wages. However, the construction worker's family income could be higher if two other family members were working. The family expenses would also be higher. The GADEB farm offers a fairly competitive family income.

Why, then, have the GADEB-managed farms had difficulty attracting permanent workers? The answer seems to lie in the perception that once you become a worker on a GADEB-managed farm, you are confined to that job for life. In reality, there are procedures for terminating work contracts. However, workers fear that the acceptance of such employment will reduce their mobility.

Mobility does tend to be reduced in two ways. First, leaving the job does require a bureaucratic procedure. Secondly, the tendency to reassign workers to the same task day after day does reduce worker training and upward mobility within the farm structure. However, courses are given for tractor drivers and equipment repair that is a form of labor mobility.

In my interviews with both workers and managers, the work process seems to be controlled in the following fashion:

- a. The manager decides who does each task.
- b. Each task is accompanied by a labor norm. For example, each worker should irrigate four dunums in an eight hour day. This seems to be low since on private farms a worker is expected to irrigate 10 dunums in a day. However, it was reported that this irrigation norm was seldom attained.
- c. Bonuses are given for exceeding the norm and fines are assessed for not attaining the norms. After the bonus system was established, the norms were exceeded. For example, for each additional dunum irrigated per day, a worker receives a 3 S.L. bonus.

**TABLE 1: AREA OF LAND EXPROPRIATED ACCORDING TO AGRARIAN REFORM
ALLOCATION AND DISTRIBUTION BY MOHAFAZAT UP TO 1975 (1000 ha.)**

Mohafaza	Total Expropriated Lands					Allo- cated Lands	Excluded and Sold Lands			Distributed Lands		
	Total	Unculti- vated	Non- irri- gated	Irrigated & Planted to Trees	Non- Distributed Lands		Total	Non- Irri- gated	Irrigated & Planted to Trees	Total	Non- Irri- gated	Irrigated & Planted to Trees
Damascus	62.0	-	55.7	6.3	0.5	3.0	37.9	37.9	-	20.6	14.3	6.3
Aleppo	301.5	63.2	231.8	6.5	25.8	22.7	105.6	105.1	0.5	147.4	141.6	5.8
Homs	151.7	57.0	88.3	6.4	0.5	38.5	51.0	50.3	0.7	61.7	56.6	5.1
Hama	114.7	22.5	89.5	2.7	3.2	2.9	25.7	25.3	0.4	82.9	80.6	2.3
Lattakia	6.3	1.0	2.3	3.0	-	0.5	1.0	0.9	0.1	4.8	1.9	2.9
Deir-ez-zor	17.7	-	7.9	9.8	5.2	2.7	0.4	-	0.4	9.4	-	9.4
Idleb	83.7	18.6	61.2	3.9	9.9	17.8	2.2	2.2	-	53.8	49.9	3.9
Al-Hasakeh	466.6	3.2	454.0	9.4	306.1	139.6	6.1	4.3	1.8	14.8	7.3	7.5
Al-Rakka	166.4	18.4	131.2	16.8	0.2	25.7	91.1	88.9	2.2	49.4	34.9	14.5
Al-Sweida	3.1	-	3.1	-	-	0.0	0.7	0.7	-	2.4	2.4	-
Dar'a	8.6	-	8.3	0.3	-	0.1	3.6	3.6	-	4.9	4.6	0.3
Tartous	10.7	1.6	6.6	2.5	-	0.5	2.6	2.4	0.2	7.6	5.3	2.3
Quneitra	8.3	-	7.9	0.4	-	0.0	1.9	1.9	-	6.4	6.0	0.4
Total	1401.3	185.5	1147.8	68.0	351.4	254.0	329.8	323.5	6.3	466.1	405.4	60.7

Source: CBS, Statistical Abstract, 1978.

**TABLE 2: AREA CULTIVATED LANDS BY SECTOR (PUBLIC - COOPERATIVE - PRIVATE)
AND BY MOHAFAZAT 1977 (1000 ha.)**

Mohafaza	Cultivated Area				Cultivable Area			
	Total	Private	Cooper- ative	Public	Total	Private	Cooper- ative	Public
Damascus	125.0	82.1	42.2	0.7	206.0	112.3	93.0	0.7
Aleppo	841.0	660.9	179.6	0.5	1234.0	913.5	320.0	0.5
Homs	252.0	134.7	117.3	-	404.0	263.0	141.0	-
Hama	370.0	263.2	106.6	0.2	507.0	350.8	156.0	0.2
Lattakia	89.0	62.6	26.0	0.4	106.0	72.6	33.0	0.4
Deir-ez-zor	129.0	85.8	42.6	0.6	140.0	84.4	55.0	0.6
Idleb	308.0	227.1	80.9	-	341.0	209.0	132.0	-
Al-Hasakeh	907.0	767.6	104.4	35.0	1460.0	1278.0	147.0	35.0
Al-Rakka	468.0	435.4	25.9	6.7	711.0	649.3	55.0	6.7
Al-Sweida	83.0	45.8	37.2	-	199.0	133.0	66.0	-
Dar'a	152.0	112.3	39.2	0.5	271.0	205.5	65.0	0.5
Tartous	130.0	58.2	71.8	-	130.0	52.0	78.0	-
Quneitra	13.0	5.1	7.9	-	155.0	142.0	13.0	-
Total	3867.0	2940.8	881.6	44.6	5864.0	4465.4	1354.0	44.6

Source: CBS, Statistical Abstracts, 1978,

TABLE 3: DISTRIBUTION OF LAND HOLDERS AND HOLDINGS IN SIZE BY DUNUMS-1970

Area Classes in Dunum	No. of Holders	%	Cumulative % Holding Number	Area in Dunams	% of Area	Cumulative % Area
1 & less than 4	23716	5.98	5.98	50216	0.14	0.14
4 " " " 5	8383	2.11	8.09	33532	0.09	0.23
5 " " "10	37668	9.49	17.58	252171	0.68	0.91
10 " " "15	33221	8.37	25.95	377441	1.02	1.93
15 " " "20	24892	6.27	32.22	403266	1.09	3.02
20 " " "40	81785	20.61	52.83	2187983	5.90	8.92
40 " " "60	43369	10.93	63.76	2019441	5.44	14.36
60 " " "80	27329	6.89	70.65	1816048	4.90	19.26
80 " " "100	17695	4.53	75.18	1544825	4.17	23.43
100 " " "150	32801	8.26	83.44	3818775	10.30	33.73
150 " " "200	18954	4.78	88.22	3130453	2.44	42.17
200 " " "300	21528	5.42	93.64	4988669	13.45	55.62
300 " " "500	15221	3.84	97.48	5519921	14.88	70.50
500 " " "1000	6762	1.70	99.18	4313025	11.63	82.13
1000 " " "2000	2182	0.55	99.73	2783398	7.50	89.63
2000 " " "3000	521	0.13	99.86	1171276	3.15	92.78
3000 and more	566	0.14	100.00	2679629	7.22	100.00
TOTAL	396863	100.0		37090069	100.00	

Source: 1970 Agricultural Census.

TABLE 4: DISTRIBUTION OF LAND IN SYRIA BEFORE AND AFTER THE AGRARIAN REFORM

	% Of Area	
	1952	1970
Less than 2 ha.	1%	3%
2-5 ha.	5%	9%
6-10 ha.	7%	12%
11-25 ha.	17%	25%
26-50 ha.	11%	22%
51-100 ha.	10%	11%
101-500 ha.	24%	18%
501-1000 ha.	9%	
over 1000 ha.	16%	
TOTAL	100%	100%

Source: A.H. Abbas, "Land and Agrarian Reform in Syria", Mimeo, Damascus, 1967, p. 38

TABLE 5: DISTRIBUTION AND LAND FRAGMENTATION (FOR HOLDERS WITH AGRICULTURE AS THEIR MAIN OCCUPATION)

Area ha	Holdings		Gross Total Area		Parcels		Fragmentation Index*	Average Size per Parcel**
	No.	%	ha	%	No.	%		
Small under 10	294839	71.89	935504.5	21.39	1179035	65.12	4.0	.79
Medium 10-100	111170	27.11	2524284.8	57.72	610785	33.73	5.5	4.13
Large over 100	4121	1.00	913455.7	20.89	20869	1.15	5.06	44.33
TOTAL	410130	100.0	4373244.7	100.0	1810689	100.0		

Source: Recalculated from 1970 Agricultural Census

*Fragmentation Index = No. of Parcels / No. of Holdings.

**Average Size per Parcel = Gross Area / No. of Parcels.

TABLE 6: GROWTH IN COOPS AND MEMBERS BY YEAR AND MOHAFAZAT

Mohafaza	1960		1970		1976	
	Coops	Members	Coops	Members	Coops	Members
Damascus	22	2440	114	8193	236	25539
Dar'a	-	-	27	1203	130	7552
Al-Sweida	19	694	30	1053	123	10255
Quneitra	9	107	9	274	42	4843
Homs	31	3084	200	11004	359	19300
Hama	42	1975	235	22393	318	34855
Aleppo	32	-	382	19509	701	27606
Idleb	77	4271	170	11445	380	27117
Lattakia	24	1942	118	4504	360	13155
Tartous	10	432	106	8177	283	25772
Al-Rakka	1	315	85	5016	143	10235
Dier-ez-zor	5	1229	54	7770	89	32386
Al-Hasakeh	5	399	68	3151	321	17420
TOTALS	277	17925	1598	103689	3385	256036

Source: Bakkour: Supporting Policies and Services for Agrarian Reform Programme in Syria. Damascus, April 1978, Table 3.

It appears clear that workers on the GADEB-managed farms do not define their participation as workers who also manage the collective enterprise but, rather, in a traditional worker-management relationship. Managers complain that workers lack incentives and spend more time protecting their labor time than meeting production goals. Managers also fear workers' capacity to expel them from their jobs. Moreover, managers argue that workers are not technically skilled, lack interest in the farm enterprise and are too politicized. In brief, managers do not see the workers as a docile, easily controlled work force.

On the other hand, workers see managers as a boss and not as a fellow worker. Frequently, the manager is an agricultural engineer from Damascus who indeed is unfamiliar with the crops grown in the Euphrates Basin and is in the unenviable position of being held responsible by the GADEB administration for not meeting production goals.

These are not unusual problems for GADEB farms to encounter in their first years of life. These problems, therefore, should not be used as arguments against collectivization. Indeed, the potential for increased productivity and equitable distribution of surplus produced on them often exceeds the problems being encountered. Some recommendations are presented as long run strategies to overcome worker/management conflicts on the GADEB-managed farms.

1. Work tasks should be rotated and training courses provided so that all workers learn the full range of farm management and production problems.
2. GADEB farm workers should receive short courses on how to organize the work process and how to manage their resources.
3. Work councils should be established that allow worker participation initially in assigning work and gradually extended to the full range of production decisions.
4. The longer term goal should be a fully worker controlled production council instead of the current ratio of 11 technicians to one worker. This worker-controlled production council should eventually hire and fire managers.
5. As shown above, worker compensation on the GADEB farms is competitive with other sectors of agriculture and construction. The best way to dispel rumors about the work conditions on these farms is to build a satisfied work force that truly participates in the management of production and the distribution of surpluses. Workers should be fully informed about annual earnings, the share of earnings returned

to workers and should be allowed to recommend how surplus is distributed. This does not imply sacrificing macro-planning, but workers should be informed about these planning goals and asked to contribute to establishing them.

3.3 Technological Changes in Syrian Agriculture

The rate of technological change in Syrian agriculture has been rapid throughout the 1970s. Tables 7, 8 and 9 show the increase in the use of agricultural machinery and fertilizers from 1970 to 1977. For example, from 1970 to 1977 the number of tractors used has quadrupled (Table 7). Table 8 shows that over 3,000 new tractors are sold each year. Table 9 shows that fertilizer use has increased by more than 100,000 tons since 1970.

The SARG has established a number of state agencies to produce and diffuse new technology to agricultural producers. These include (1) the Seed Improvement Program, (2) Experimental Farms, (3) Extension Services, (4) the Peasant Union, (5) the Tractor Plant, and (6) the licensing program for agricultural production.

The licensing program, in effect, shifts some of the decision making on new technology away from the individual producer to the national planning process. Nevertheless, private producers still make the critical decision concerning whether or not to license their production. The case studies that follow will detail how technological change occurs in agriculture and some of the problems encountered in this process.

3.4 Change in a Syrian Village: Mansourah 1975-1979

Mansourah village is located about 20 km from Rakka on the new road to Aleppo. The Mansourah village was originally studied by Dr. Yahia Bakkour in 1975. In 1975, there were 161 families residing in Mansourah comprising 972 individuals. In 1979, there were 169 families comprising 1065 individuals. The change in the number of families is a partial expression of the changes that have affected Mansourah village during the last four years. Mansourah has changed from a rather typical rural village that was a commercial center for more distant villages wherein almost all income was generated from the sale of crops and livestock. It now is a thriving center for commercial activity, repair shops for tractors and cars, the administrative center for the regional Fodder District and in general is experiencing economic growth coming from multiple sources of income. In 1975, Mansourah had no electricity, potable water, schools or a health center. Today it has electricity and potable water, a full-time health center with a doctor and two nurses and two new schools: one primary and one middle school. Most sons of school age attend these schools and a few daughter are also attending—but very few.

Table 7: Agricultural Machines Used in Cultivation 1971-1977

Years	No. of Sprayers		Insecticides		No. of Fixed Threshers	Combined Harvester Threshers		Harvesters		Pulverizers Harrow & Disk Seeders		Plough Old Modern		Water Raining Pumps	Tractors 50 horse & more Less than 50 Horse	
	By Hand	By Motor	By Hand	By Motor		By Tractor	By Motor	By Animal	By Tractor							
1971	2099	1010	14967	7455	531	65	1368	-	52	1117	1929	83087	13210	29437	3283	6323
1972	1787	899	12095	6788	657	86	1294	2	49	1105	1660	107235	13620	29954	4705	5669
1973	2761	831	11815	7587	814	122	1587	23	77	1557	1656	116878	15117	32192	5857	5717
1974	2832	836	12737	17316	1102	87	1657	1	92	1782	1702	126710	17430	37591	6813	6051
1975	3031	1325	12614	8706	1367	57	1607	-	60	2012	1903	113743	20253	40416	9030	6273
1976	2866	1337	13632	9406	1448	58	2088	5	59	2486	2020	113483	23714	40500	12140	6463
1977	3222	1153		11735	1512	105	2254	23	48	2687	2087	108301	26310	40650	14227	6445

Source: CBS, Statistical Abstract, 1978

TABLE 8: NUMBER OF TRACTORS SOLD FOR AGRICULTURAL USE, 1971-1977

Years	Total	Over 30 H.P.	16-30 H.P.	Under 16 H.P.
1971	819	804	1	14
1972	283	283	-	-
1973	1330	1305	25	-
1974	1786	1783	3	-
1975	3881	3727	154	-
1976	3876	3765	111	-
1977	3042	3000	42	-

Source: CBS, Statistical Abstract, 1978.

TABLE 9: CHEMICAL FERTILIZERS USED IN AGRICULTURE 1971-1977

Years	Total	Compound Fertilizer	Potassium Fertilizer	Phosphatic Fertilizer	Nitrogen Fertilizer
1971	157025	26655	93	32657	97320
1972	162345	23130	697	25837	112681
1973	170585	23049	261	20614	126661
1974	144917	6284	799	19873	117961
1975	164642	6788	1825	35861	120168
1976	211084	10711	2082	39711	158580
1977	259360	5483	3299	65368	185210

Source: CBS, Statistical Abstract, 1978.

The in-migration of 15 new families to the village since 1975 was partially offset by seven families leaving the village. These family migration patterns are directly attributable to the Euphrates Dam and land reclamation projects. Seven of the new families previously resided on the flood plain and have now settled in Mansourah. They have obtained land by renting from the state or by receiving agrarian reform lands. The other in-migrant families are involved in a variety of economic activities: one family has a shop for tractor repair, another is a merchant, some herd livestock and some work as agricultural day laborers. The seven families that left Mansourah have moved to the state-managed farms in the region.

The major change in Mansourah agriculture is represented by the mechanization of seedbed preparation and cultivation and the digging of 80 wells in the lower steppes. Each well has three pumps and will irrigate between five and seven hectares. Thus some 500 additional ha. of irrigated agriculture activity has changed family income. Orchard crops and poplar trees are being planted in these areas along with some cotton once a windbreak is established.

Mechanization of agriculture is occurring. The ten tractors in the village are in heavy demand for plowing and cultivating and seeding cotton with the takbeaa system for seeding which involves planting of seeds through tubes mounted behind the plow. If tractors are not available for this operation, it is not uncommon to broadcast cotton seed. It is estimated that about 30 percent of cotton in Mansourah is planted by broadcasting; however, it is not the preferred method. One tractor is owned by the multipurpose cooperative in the village. Six tractors are owned by cooperative members and three tractors are owned by non-farmers who deal in custom work. There are two 50 horsepower tractors, two 82 horsepower tractors and six 70 horsepower tractors. The reported custom rate for plowing is five Syrian Pounds per dunum or 50 S.L. per ha. This rate is lower than in the Aleppo area where plowing can range from 60 - 90 S.L. per ha. There are no differences reported in tractor rental between the cooperative charge for tractor rental and the private fee. While the seedbed preparation, planting and some cultivation are mechanized, all cotton and sugar beets are harvested by hand. The basic limitation on mechanizing the harvest of crops are the small plot sizes and basin irrigation.

There are two private landowners who rent out 300 dunums of land to 25 different renters or about 12 dunums per renter. The basic central agreement is that the landowner provides irrigation, machinery, 60 percent of the seed and 60 percent of the fertilizer and takes 60 percent of the total product. The sharerenter provides all labor, 40 percent of seed and fertilizer. The landowner can obtain loans from the agricultural bank at the rate of 40 S.L. per dunum. He gives 16 S.L. per dunum to the sharerenter for the purchase of seed and fertilizer. The sharerenter must repay this to the landowner at harvest.

The major increase in farm size reflects the increase of cultivable land due to well irrigation. The 80 wells that have been dug have been financed from a variety of sources, but none by the agricultural bank. The basic sources of financing for the digging of wells and the purchase of pumps were savings, selling of goats and informal financing from friends and relatives. Also, some people financed the cost of their own wells by developing digging rigs and digging wells for others. There is some land concentration occurring along with well irrigation since most of the wells were dug by two families pooling their resources and then sharing the water. However, three farmers have two wells each which allows them to almost triple their cultivated land size. They also engage in informal labor sharing to provide labor for the new lands that are, in effect, a form of share renting but it is not so-called because this would require them to stop being cooperative members.

Table 10 summarizes the series of changes that have occurred since 1975. As indicated in the table, annual average income is now above 13,000 S.L. The holders interviewed agreed unanimously on how the additional income was allocated. The following list reflects their priorities for how to distribute their income:

1. Educate their sons
2. Building new houses or adding additional rooms
3. Buying a car or tractor
4. Increasing production with new inputs
5. Start a well-digging business or shop.

As we can see from this set of priorities, a considerable portion of the increased income in the village is directed toward improving the quality of life of the villagers. Increased consumption in the form of purchase of more foodstuffs, radios and television sets, educating sons and improving the home are the top priorities for expenditures. Consequently, increasing agricultural productivity ranks fourth on their list of priorities. But this must be considered within the framework of the SAR cooperative movement and provisioning of inputs through the agricultural bank in terms of the production licenses. It also must be considered in terms of the previous investment these producers have made in well irrigation. They have already increased their agricultural activity and now desire a better life style for the village. And they are creating that different life style. One should keep in mind that village life in this part of Syria is not isolated but villagers are well travelled. Indeed, 10 village male adults are currently working in Saudi Arabia and most males travel frequently to Iraq, Turkey, Aleppo and Damascus.

A key question is how long will villagers be able to reproduce their current levels of income. About 5000 S.L. per year of family income comes from off-farm work in other countries or in related

TABLE 10: CHANGE IN MANSOURAH VILLAGE, 1975-1979

Item	1975	1979
1. Schools	0	2
2. Number of Families	161	169
3. Total Population	972	1065
4. Percent Male	43.1	40.2
5. Major Crops	Cotton, Barley Wheat	Cotton, Sugar Beets, Wheat
6. Number of Wells	0	80
7. Average Annual Income	8525 S.L.	13,000 S.L.
8. Number of Well Pumps	0	240
9. Number of river pumps	No Information	Has Increased
10. % house made from mud and brick	96.7	49.0
11. Average size of land holding	5.2 ha.	7.0 ha.
12. Number of families leaving village since 1975	N/A	7
13. Number of new families in village since 1975	N/A	15
14. Principal source of income	livestock, crops	Livestock, crops wages
15. Number of Tractors	0	10

activities with the Euphrates project. Also, some income is derived from well digging and construction work. The construction boom has logical limits, and as they are reached alternative sources of family income will be more difficult to encounter. As life styles change, any decline in income can easily be translated into unrest which may have potential political implications.

The villagers' two basic complaints center around reclamation of their lands along the Euphrates and the growing of sugar beets. Since the resistance to sugar beet production is the subject of another section of this report, I will briefly mention it here simply to complete the changes in Mansourah village. Sugar beet production was incorporated into the fourth Five Year Plan and licencing began in 1978 in the Mansourah area. However, no extension service to explain sugar beet production was available. Basically, producers are not familiar with the cropping practices for sugar beets and - do not like to grow them. Given their lack of knowledge about sugar beet production, their yields are very low--less than 15 tons per hectare. With these low yields, cotton is a much better income producer. Also cotton can be picked by women and children whereas sugar beets are pulled by men. It is hard work and as long as alternative sources of employment are available for men, they will not work on sugar beet harvests. Thus, there appears to be a labor shortage but in reality it is a shortage produced by the nature of the work conditions and not a lack of available labor. The local cooperative members feel that since they are being forced to grow sugar beets, they should be subsidized for the losses they are taking by not growing cotton. They also feel that cotton provides more roughage and firewood as additional inputs to their livestock enterprises and household supplies.

Of course, sugar beet tops are a lot better roughage but only for a short period of time since they dry out quickly after they are cut. The cotton leaves stay fresher longer after harvest and can be grazed. More detail on sugar beet production and resistance to it are covered later in this report.

The other major concern of farmers is for their lands along the Euphrates. The Mansourah village lies within the 27,000 ha. of river bank land that should be reclaimed as a part of the Euphrates land reclamation project. Historically, the lands bordering on the river have been subdivided into many small plots with uneven land demarcation boundaries and hand leveling technology for basin irrigation. These private plots and their attendant technology makes it almost impossible to apply mechanization to agriculture. The land reclamation project involves leveling and the installation of cement canals to rationalize production all along the river bank. The land holding pattern in these areas is a complex mixture of state lands, private holdings and reformed units.

To accomplish full mechanization of production, land leveling and the placement of canals to replace pump irrigation should be arranged in such a fashion that crop rotations and mechanization can be applied on large land areas. GADEB has reclaimed only 3,400 ha. out of a total of 27,000 ha. A problem has been holder resistance to the collectivization of small plots. Each farmer wants his own parcel and to decide what to produce on it according to his own survival strategy. Rumors abound in the area that GADEB wants to take over all these lands and convert them to state farms.

Mansourah producers do not agree with the land reclamation project since they fear the loss of control over their holdings and production decisions that may not fit into their own survival schemes and income maximizing matrix. They are aware that GADEB will pay them for crop losses and income losses while the land is being leveled and canals are constructed. But they fear that the lands will not be given back.

In fact, final policy decision regarding reclaimed lands along the banks of the Euphrates has not been defined. But the broad policy guidelines seem to have been laid out. These turn around the following points: (1) respect the private holdings, (2) state land will not be redistributed, and (3) private holders must join cooperatives for servicing production. After the land has been reclaimed, the private holders will receive an equivalent amount of improved land in terms of value but they must develop a crop rotation that will permit all production to occur in a contiguous area. That is, all wheat would be in one area, all cotton in another and all sugar beets in still another. This sort of redistribution would permit collective mechanization of production.

The basic policy on the lands joining the Euphrates is to build confidence among holders via reimbursements during reclamation and the return of the land to each producer. It is hoped that experience with the service cooperatives will build into a collectivized production cooperative. However, the holders in Mansourah village have been totally opposed to land reclamation because they fear the loss of their land. So far the opposition has been so great that GADEB has not even begun baseline surveys.

This sort of village unity couched in terms of the protection of private property has significantly slowed GADEB reclamation projects along the Euphrates' banks. Indeed, the policy implications are so great that they have been passed all the way up to the national party directorate and so far no decision has been reached. In the meantime, land reclamation of these 27,000 ha. has been significantly slowed.

Another consideration has been financial. It is estimated by the President of the Confederation of Peasant Unions in Rakka that 60 million S.L. have been spent on reclaiming the 3,400 ha. completed. This becomes a 17,645 S.L. investment for each hectare, which is extremely difficult to recover in the immediate future. These financial considerations are probably the basic obstacle to defining a high level policy decision as to the reclaimed lands and their ownership. The political consideration of alienating a significant proportion of the peasant union will probably reduce any short term collectivization of agricultural production in this part of the Euphrates project. This, in part, accounts for the shifting of emphasis to state lands even though the costs of this decision (which involves pumping stations that will eventually absorb 80 percent of the total electrical energy produced by the Euphrates Dam) is extremely high.

3.5 Jerjer: Rainfed Agriculture

Jerjer (a pseudonym) is located in the Aleppo Mohafaza. The village consists of 85 farming households. Only one farming household is a traditional private holding: all other are beneficiaries of the agrarian reform. The principal economic activities in agriculture are livestock, barley and wheat. Most income is derived from livestock and off-farm work. The cooperative in the village is controlled by one of the larger land and livestock owners who also works on the committee to distribute cement. His son is the official tractor driver for the cooperative and the tractor is frequently used for family activities of the cooperative president. The size of land holdings in the village vary from two hectares to 45 ha. on several plots with each plot comprising about five dunums. Average family size is eight. Average monthly cash household expenditures on food and clothing are about 682 S.L. and about 200 S.L. per month on medical expenses. There are about 10,000 head of livestock in the village.

The main crops grown are wheat, barley, lentils and watermelon. In a very dry year, such as this year, barley is frequently pastured prior to heading. This year, for example, the barley that was threshed barely returned enough grain to recover what was seeded plus the straw for roughage. Seedbed preparation is performed by tractor either with the cooperative tractor or the rental of private tractors. There are eight privately owned tractors in the village. If fertilizer is used, it is almost always bought on the free market since in Zone Three and Four lands (low rainfall) nobody officially gets subsidized fertilizer from the agricultural bank since these lands are not licenced for crops. Fertilizer can be purchased (unsubsidized) from the agricultural bank, but the free market price is the same or only slightly higher. Free

market fertilizer bags are marked as having been produced in Romania, Turkey, Libya, Cyprus and Iraq. The Romanian and Iraqi fertilizer usually comes from farmers who have received fertilizer as part of their liscence and have sold it for a cash in-flow. The rest comes through the souk.

Harvesting is done with the sickle, since plots are very fragmented. Threshing is performed by the Jerjer. Every family has a jerjer and the threshing is done by women and children. The wheat, after being cut in the fields, is transported to the village by tractor at the cost of 15 S.L. per load.

The major economic activity in the village is livestock. From May to October, the livestock are around the village grazing crop residues. During September and October, cotton and sugar beet land is rented for grazing. From November to January most roughage is provided by stored wheat, barley and lentil straw or by purchase. From February to May the livestock are sent to badia range areas.

While the livestock are around the village and if the men are in the village, almost constant sale and purchase of livestock takes place. This is done as a means of improving herds and of shipping sheep out of Syria. This exportation is accomplished through a complicated scheme for getting Turkish sheep with tags not yet placed in their ears. The tags are then placed in the ears of local sheep which are sent to Turkey where they bring a higher price. All of this activity requires a rather sophisticated level of knowledge of the souk structure and good contacts with the right merchants. Any livestock grower that does not have these contacts will be hard pressed to make high profits even though the state-controlled slaughter program attempts to assure a reasonable rate of profit. The problem is that the assured rate of return is lower than the rate of profit that can be realized working through the souk. This dual market is one reason why the State slaughtering houses are working at about twenty percent of installed capacity.

This year many goats have replaced sheep in this area. Goat prices are one Syrian Pound higher per live kilo than sheep prices. The goats are largely shipped to Jordan.

Since wheat and barley are harvested in late May, most men leave the village for outside work during the summer, at least. The alternative sources of employment available in the Jerjer village are stone cutting which pays 1,000 S.L. per month, house construction in the area which pays about 800 S.L. per month, working in the State bureaucratic sector, or migrating for a few months to Saudi Arabia. They will return in September to pick up their families and pick olives until planting time for wheat and barley. Thus, for about five months of the year, the village is almost void of adult males!

This case study demonstrates how family labor is distributed so as to maximize cash income. It also demonstrates the structural impediments to further mechanization of crop production; i.e., land fragmentation and land holding patterns. Finally, it suggests that labor has several high paying alternatives to work on the farm.

3.6 Resistance to the Cultivation of Sugar Beets: Sugar Versus King Cotton

The general circumstances relating to the fourth Five Year Plan's target of 60,000 ha. of sugar beet production with an average yield of 30 tons per ha. by 1980 need to be briefly stated. Syria imported in 1976 roughly 140,000 tons of raw sugar at a cost of about 1.27 S.L. per kilogram. Raw sugar is processed in the Syrian mills, thus allowing them to operate about 300 days a year instead of the targeted 100 day during sugar beet harvest. While this provides employment year round for sugar mill workers, the importation of such a large quantity of raw sugar represents a strain on the SAR's balance of payments situation and also makes Syria highly dependent on the vicissitudes of the world market.

The SARG attempts to limit per capita consumption of sugar by providing 1.5 kilos of sugar a month per person on a subsidized system of food cards. The food card price for a kilo of sugar is 85 piasters while the free market price for a kilo of sugar is 1.90 S.L. as of May 1979. All families take advantage of their quotas on the subsidized food card system, but they also buy about 30 percent of their total family consumption on the free market. (This figure is based on interviews conducted during the first part of June in rural areas. I have no data on urban areas, but given the nature of income distribution and total imports plus national sugar beet production, this is probably a close estimate for a national average.) Apparently, the ration supplied quantity of sugar is not very successful in reducing per capita sugar consumption. Thus, Syria's need for greater sugar production or greater imports is self-evident.

This report will not treat the macro-economics of national sugar beet production versus importing raw sugar except to point out that Syria's ration price for processed sugar at 85 piasters is considerably lower than the retail price in neighboring countries which establishes favorable conditions for illegal traffic in sugar. This may have the effect of SARG subsidizing consumers in Beirut, Baghdad and Amman since illegal trade routes in sugar are well-established. Subsidized sugar is bought on the food card and sold to middle men who deal in contraband sugar. It is also possible that the balance of payments circumstances could be more easily improved by increasing cotton exports of raw fiber to known markets

and import sugar. Nevertheless, the decision has been taken to produce sugar beets nationally and four new sugar processing plants at a cost of about US\$50 million per plant are being installed and two of them are almost ready for operation. (Presumably, the plant in Meskeneh is operative but last year's tests were disappointing, so it really is not in a fully operative state.)

The question I will attempt to address is why the 1980 target of 60,000 ha. of sugar beet production with an average yield of 30 tons per ha. will not be reached. The reasons for the lack of attainment of the total production may be summarized as follows: (1) delays in the land reclamation projects in the middle Euphrates Basin that have only reclaimed 4,300 ha. of a programmed 27,000 ha. that were brought about by technical problems and producer resistance to collectivization, (2) labor recruitment and labor productivity problems on the state farms, (3) structural limitations to the further mechanization of sugar beet production, and (4) the almost total lack of sufficient knowledge about sugar beet production on the varying soil and water conditions in Syria and no effective extension of the available knowledge that does exist. Each of these problems will be briefly detailed.

3.6.1 Middle Euphrates Basin and Resistance to Collectivization of Sugar Beet Production

The land reclamation project of the middle Euphrates Basin encompassed 27,211 ha. of land along the river bank that have been farmed by river pump irrigation. The reclamation project calls for land levelling and the installation of surface irrigation canals. Some 3,735 ha. will be occupied by infrastructure when the project is completed, leaving a net of 23,476 reclaimed hectares. However, 45 villages existed in the area comprising 7,700 families for a total population of 51,145 inhabitants. Of these 7,700 families, 6,476 worked in agriculture with 2,678 families owning land that totalled 13,946 ha. The majority of these families (2,445) cultivated the land by themselves with no hired labor or rental agreements. Thus, the agrarian reform affected only 4,378 ha. of the total area which have been reclaimed plus an additional 2,708 ha. of state land. In brief, the middle Euphrates Basin area was a small holder area with 69.45 percent of the families possessing less than five ha. of land. The critical concern of these land holders was, and is, to retain their land in separate plots and to exploit them as they see fit. Holder resistance to the land reclamation project has been strong due to the fear of losing their lands.

Faced with this resistance, the reclamation project has been delayed awaiting a high level political decision concerning how to organize production on the reclaimed land. Moreover, technical problems have arisen. The soils in the basin are high in salinity and gypsum. Thus, high quantities of water must move through the lands to flush them of these minerals.

All of these factors have slowed reclamation in the basin area and given a higher priority to the middle Euphrates non-basin area for land reclamation. Given that the non-basin lands are higher than the lake area, a pumping station had to be constructed to lift lake water 90 meters to irrigate the non-basin lands. The pumping station is in operation and levelling and canal construction is underway.

In order to quiet rumors of forced collectivization and the takeover of private lands, the policy of GADEB has been to move slowly and return reclaimed lands to the holders. This has helped to build rapport but it has not hastened development of the project nor has it rationalized production on what are now extremely costly projects.

Current hopes are that the non-basin areas in the middle Euphrates will fulfill production quotas of sugar beets on new lands. If this is to happen, clear policy guidelines must be laid down that will assure the production of sugar beets on large tracts of land that can be fully mechanized. If not, holder resistance will continue and, in the absence of assurances that sugar beets are a profitable crop, avoidance mechanisms will quickly develop to prevent the attainment of production quotas.

3.6.2 Labor Recruitment and Labor Productivity on State Farms

The state farms in the GADEB area are divided into three regions that comprise 21,000 ha. which, in turn, are designed as 15 pilot farms and five research stations. So far, about 50 percent of the lands are in production of sugar beets (both autumn and summer beets), cotton, wheat, poplars, fruit trees and maize.

Due to the newness of the crops, the novelty of the idea of State managed farms, and the lack of experience with both cropping practices and labor relations, it has been difficult to recruit full-time workers. For example, the Rabiha pilot project has only 100 permanent workers and 225 women and 120 men day laborers for 1200 cultivated hectares. The seasonal workers perform the harder tasks so as to encourage the recruitment of permanent workers and build confidence in the collectivization of agricultural production. Experiments with bonuses and subsidies are underway to encourage worker recruitment but in the process both production norms and labor performance norms have been set too low. For example, the production norm for sugar beets for this year has been set at 20 tons per hectare--a full ten tons below the hoped for national average and probably twenty tons lower than a profitable production norm if investments are to be recoverable and a surplus produced.

The State farm located by the Meskenah sugar plant of 4,000 ha. has, as of June 1979, only 30 out of a projected 1,400 permanent workers. Production norms are low and labor productivity is only

average with serious labor shortages for the requirements of the 1,000 ha. of sugar beets that were planted in 1979. However, this area could be more fully mechanized if the knowledge was available to do so, thus reducing the labor requirements. (For further details, see Owen's report and section 3.5 of this report.)

3.6.3 Structural Limitations to Mechanization of Sugar Beet Production

The greatest single limitation to further mechanization of sugar beet production on state farms and larger private farms is the lack of an adequate seeder that will allow the planting of monogerm seed at a sufficient rate that will assure the optimal number of plants per hectare. The current seeders do not work well in heavy soils and plug constantly, thus reducing the plant count. Consequently, on both State farms I visited, polygerm seeds were being hand planted and then thinned. This increases the labor requirement tremendously. There is also a shortage of available pre-emergent weed killer and lack of knowledge about how to use it with heavy surface irrigation. It has been applied before irrigation and planting, thus being washed away before weed seeds start to germinate. One alternative is to irrigate and let the weeds germinate. Then an additional cultivation could kill the early weeds, break up the gypsum crust and planting should take place while the subsoil is wet and pre-emergent weed killers applied. Irrigation would follow after the beet crop has come up so that any subsequent gypsum layer would not prevent the beet from breaking through the crust. The exact procedure needs to be urgently established on the research farms. Also, the beet monogerm seed should be obtained and propagated through the Seed Improvement Program. This could significantly improve production on large fields.

The greatest deterrent to mechanization of sugar beet production on non-state farms (i.e., cooperatives) are small plot size and basin irrigation. As long as these two production forms are maintained, sugar beets will have to be thinned, weeded and harvested by hand. Producers do not resist mechanization, per se, but do resist giving up control of their own plots. This means the fragmentation and the scattering into extremely small plots of the sugar beet acreage. As long as these structural forms persist, mechanization of harvesting is effectively prevented.

3.6.4 Lack of Sufficient Knowledge about Sugar Beet Production

One of the most serious bottlenecks to increasing sugar beet production is the lack of sufficient information concerning the management of production of sugar beets specific to the climatic and soil conditions that vary so tremendously in Syria. Sugar beets are currently being grown on clay soils, silty loam soils, heavy gumbo soils, and sandy soils in areas of varying rainfall, wind and temperature. The successful crop management techniques specific to the multiple combination of these conditions are not developed

in Syria. For example, there is little information made available to the producer about the best plowing depth, timing and amount of irrigation, best planting time to assure maximum sugar content at the specified time of delivery to the factory (this delivery time is specified by contract and if not delivered at that time, the price is reduced) or optimal amounts of fertilizer to assure maximum yield. Indeed, the establishment of a single fertilizer rate for all fields in a given area is extremely counter-productive. Such a rate does not take into account the variability of soil and water conditions between plots.

An additional knowledge gap exists regarding the amount of labor required for sugar beet production. Any producer will tell you that sugar beets require much more labor than cotton. Yet Tables 11 and 12 demonstrate that the labor requirements are almost identical. This information should be widely diffused in the SAR.

Farmers, in the absence of specific information about sugar beet production, frequently transfer proven cultivation techniques from cotton to sugar beets. Unfortunately, these developed cotton production techniques are not appropriate for sugar beets (e.g., deep plowing and planting of cotton whereas sugar beets need shallow plowing right before planting). As a result of these inappropriate cultivation techniques, yields and sugar content are low and thus profits per hectare are low. This experience, coupled with technical problems at the Meskeneh plant last year that caused the beets delivered there to have to be transferred to Hama which reduced the sugar content at processing, have convinced sugar beet growers on small plots in the middle Euphrates and in some parts of the Ghab that sugar beet growing is not as profitable as cotton.

Table 13 shows that cost of production and returns to sugar beets on two cooperatives and a private farm. It should be noted that only hired labor was included as the labor component in these cost figures. However, the net return can be attributed to either capital or family labor once one knows the organization of production for each unit.

The Jaed village in the Ghab is a multi-purpose cooperative in an area of cotton, wheat, sunflower, corn, onion, peanuts and livestock production. The cooperative has 293 members who own a total of 657 hectares. The average income of the village is about 7,000 S.L. per family. Hardly any family members leave the village for other work. That is, family labor is essentially distributed to agricultural labor within the village while sons attend school and strive to enter the university. Consequently, most village labor is performed by women and female children. Bedouin labor and school children supplement village labor at peak harvest labor demands. The cooperative follows precisely the fertilizer rates, pesticide

TABLE 11: LABOR REQUIREMENTS FOR IRRIGATED SUGAR BEETS, PER HECTARE

Farm Operation	Man-Hours
Tractor Tillage	3
Spreading Manure	5
Tractor Disk Tillage	3
Spreading Chemical Fertilizer	2
Livestock Plowing	50
Preparing Land for Irrigation	28
Flooding	12
Planting	9
Irrigation	50
Re-Planting	16
Thinning	40
Hoeing and Weeding	90
Pest Control	16
Digging Beets	100
Cutting Tops, Loading, etc.	120
Guarding	8
TOTAL	562

Source: Schmid's report, Appendix Table 35.

TABLE 12: LABOR REQUIREMENTS FOR IRRIGATED COTTON, PER HECTARE

Farm Operation	Man-Hours
Tractor Tillage	12
Gathering Stalks	25
Furrowing	15
Irrigating	90
Planting	20
Thinning	25
Fertilizing	8
Hoeing and Weeding	120
Harvesting, Hauling, etc.	232
TOTAL	547

Source: Schmid's report, Appendix Table 47.

rate, seed rates for the seeds furnished by the contract for sugar beets. A parallel fertilizer market exists, if the producers desire to increase fertilizer amounts. However, the agricultural bank price is 42 S.L. / 50 kilos of 18-46 nitrogen phosphate while the parallel market rate is 50 or 60 S.L. / 50 kilos. Consequently the cooperative members only use the amounts provided by the contract.

As Table 13 indicates, the net return per hectare of sugar beets in this cooperative are 1,400 S.L. Most of these returns should be attributed to the cooperative labor input since no additional capital resources are added nor is careful management attention given to sugar beet production. Management attention is devoted to vegetables, cotton and livestock. The members suggest that cotton and vegetables are much more profitable and thus resist the growing of sugar beets. According to my calculations, cotton is returning 2,250 S.L. and vegetables are returning about 2,800 S.L. per hectare. (Note that the vegetable prices are not controlled at village and town markets. As new sugar factories require a proletarianized labor force, an active food market exists in the area and producers like to sell to this market.)

The private farm area is near Aleppo in the Zirbeh Mantika. The private grower has 80 ha. of sugar beets with sprinkler irrigation. Sprinkler irrigation is the best irrigation system for fully mechanized sugar beet production. It also requires about one-half the total water requirement of basin irrigation. Moreover, one worker can sprinkle irrigate 10 ha. per day while basin irrigation requires one worker per hectare. The private producers are importing seed from the United States and have imported three fully mechanized beet harvesters. They are conducting their own experiments concerning depth of plowing, irrigation rates and planting rates. They are using monogerm seed and have developed a drill that will not plug with the clay soil on which they are growing sugar beets.

The private growers are producing beets with all hired labor. No family labor is directed to sugar beet production. They are investing significant amounts of capital in sprinkler irrigation and machinery. They clearly are responding to the SAR's pricing policy between cotton and sugar beets as part of the plan to divert 40,000 ha. of cotton to sugar beet production. Also, in this area the price per ton of sugar beets delivered to the factory is higher than the Ghab area (190 S.L. / ton versus 175 S.L. / ton in the Ghab) in order to encourage sugar beet production in the upper and middle Euphrates. They indicated that they will grow sugar beets over cotton as long as current price differentials and cotton varieties are maintained. For example, Aleppo 1 cotton variety is beginning to become susceptible to disease and does not produce as long and sturdy a fiber as the best world market prices demand. (Aleppo 40 that will be grown

on all farms by 1980 seems to have resolved this problem. Depending on the price policy and the performance of Aleppo 40, these private sugar beet growers may well switch back to cotton since their basic interest is profit and not SARG development goals.)

The returns per hectare in this area are averaging 2,350 S.L. this year. However, they anticipate increasing yields as they learn more about the crop and anticipate eventually attaining 70 tons per hectare. Since the large investment costs have been made, future returns could be significantly higher than cotton. For example, if they attain a 70 ton yield and input costs remain the same, return per hectare would be 7,100 S.L. Obviously, this is a return to capital for this type of farm. The source of this capital investment is accumulated wealth and commercial dealing and not credit from the Agricultural Bank.

The last area presented in Table 13 is Sif Safeh located in the middle Euphrates Basin area that has not yet been reclaimed. The area is river pump irrigated lands and non-irrigated lands in the badia. It is a multi-service cooperative that comprises 215 members and about 1,720 persons. The total population of the village is 2,918 which includes private farmers that are not cooperative members, tractor repair shops, village commerce and Bedouins. This year the cooperative has 573 dunums of sugar beets on 412 different plots, most of which are not contiguous.

As Table 13 indicates, sugar beets are not given any attention in this cooperative. They have planted the sugar beets because the plan called for them but have invested no cooperative or hired labor on thinning and weeding. The plots are choked with weeds and the stand is very uneven, broad spaces with no plants followed by spaces with way too many plants. Major income in the cooperative comes from vegetables, cotton and the 12,000 head of sheep and goats. As can be seen from Table 13, no return will be realized from sugar beets this year.

When asked why the lack of attention to the sugar beets, the following reasons were given:

1. they do not know how to grow beets and nobody has given them information
2. lack of interest because of low return
3. competing demands for labor and sugar beets have a high labor requirement
4. there is a new insect affecting beets and nobody knows how to control it
5. high price for goats this year (8 S.L. per live kilo versus 7 S.L. per live kilo for sheep) that are sold in Jordan and Saudi Arabia.

Clearly, in a village where the cooperative members have 12,000 head of goats and sheep, major attention will be given to livestock. Herein lies a problem involved in trying to obligate producers in mixed livestock and crop enterprises to grow sugar beets. Cotton not only produces seed cotton but it also produces leaves for livestock grazing and stalks for fuel for ovens. Of course, the sugar beet tops are good roughage but once they are cut they dry up very fast. Cotton on the other hand maintains its leaves after picking the bolls and can provide roughage over a much longer time. The producers in Sif Safeh insist that cotton is a much better roughage than sugar beet tops. Sugar beets would require a change in maintaining sheep and goats in the village and either roughage would have to be purchased or the sheep would have to go to the badia or to some other area. Going to the badia earlier would also require the purchase of roughage since pasturing can only be done at certain times.

This complex interrelationship between production decisions and alternatives between livestock and crops has been overlooked in the plans up to now. The decision to grow sugar beets brings into play the entire set of social relationships that are on-going in village life such as how to distribute family labor, the movement of people and livestock, the alternative labor markets that may produce a higher family income and the strong family attachment to the land and village life. It also involves the close interrelationship between different systems of production. Switching to sugar beets not only involves the direct producer but the movement of livestock between farmers and grazers, thus affecting income for a wide range of settled villagers and semi-nomadic groups.

There is no on-going training program in the universities that combines technical skills with social relationships. Thus, the technical knowledge that is attempted to be diffused is scoffed by these producers because they know how it affects the social relations. A training program that combines both technical skills, research skills and field practicum wherein students work in cooperatives and participate in the production process and thus learn about village structure and process is sorely needed. Such a program would not only produce better extension agents but would also produce better researchers and planners.

3.6.5 Summary of Resistances to Sugar Beet Production

1. Lack of detailed technical knowledge about sugar beet production on varying soil and water conditions.

2. Structural impediments to mechanization that turn around land tenure arrangements and basin irrigation. Land holdings are extremely fragmented in the agrarian reform lands. It is not uncommon for a producer to have about 20 ha. of land on 12 or more distinct plots (i.e., not contiguous). This scattering of plots has developed historically as a way of assuring year round production and, therefore, income. One or two plots of irrigated land, three plots in fallow, two plots of badia pasture, three plots of dry land crops is a very common occurrence. Such a land holding pattern mitigates against

mechanization. Basin irrigation involves planting sugar beets on the slopes of each furrow. Thus, lifting beets with a slicer is impossible with current equipment. As long as sugar beets are grown under these land tenure and water conditions, sugar beets will require hand planting and harvesting. If the target goal of 60,000 hectares of sugar beets was obtained, a potentially severe labor shortage could occur. Most agricultural hand labor is performed by women and children. Pulling sugar beets out of clay is an extremely difficult task. Men have many more profitable labor alternatives either in agriculture or in construction or outside of the SAR.

3. The cost of attaining the goal of 60,000 hectares of sugar beets with an average yield of 30 tons per hectare are extremely high. For example, the sugar beet factories would only operate 100 days a year since now raw sugar imports would be needed which currently allows 300 days a year operation. This 200 day idle capacity time is costly and the problem of maintaining a skilled labor force for plant operations are paramount. There are also political costs since I am convinced that mechanized sugar beet production on 60,000 hectares will require land reconsolidation, reclamation and collectivization (or else large private holders with hired labor). The wisdom of this plan should be seriously re-evaluated. It would probably be best to cut back on total hectares to somewhere around 30,000 and confine sugar beet production to fully mechanized State farms, collective producer cooperatives and larger, more consolidated holdings. The additional sugar requirement could be made up by importing raw sugar and thus allow the plants to operate about 225 days per year. However, this option would involve stopping the installation of the last two sugar plants. (Note that the parameters of sugar production and its consequences for other sectors could be specified by Penson's model.)

4. Introducing sugar beets on mixed crop and livestock units will continue to be resisted since sugar beet production does not fit into the ongoing system of production on these units. Producers on those units take decisions not in terms of returns per hectare but in terms of returns to the entire enterprise. Alternative uses of family labor will provide greater return on these units than sugar beets can provide even though they are profitable on a per hectare basis.

3.7 Cooperatives and the Planning of Agricultural Production

The general and strategic aims of the fourth Five Year Plan place a heavy emphasis on the agricultural sector. These aims turn around a balanced agricultural-industrial economy, the development and protection of agricultural resources and to exploit these resources fully, to achieve self-sufficiency in foodstuffs and garments, to provide full employment, to raise levels of living and to accomplish all of this in an equitable fashion. The main economic form for the plan for agricultural production is the cooperative.

TABLE 13: COSTS OF PRODUCTION AND RETURN ON SUGAR BEETS IN THREE DISTINCT TYPES OF ENTERPRISES WITHOUT INCLUDING FAMILY OR COOP LABOR

Cost per Hectare and Task	Jaed Village Coop in the Ghab	Private Farmer Zirbeh, Aleppo	Sif Safeh Euphrates River Basin GADEB
1. Plowing	200	200	200
2. Planting	50	50	50
3. Thinning-Weeding	1000	500 ^c	0 ^h
4. Seeds	70	270 ^d	70
5. Fertilizer	380	950 ^e	380
6. Insecticides/Pre-emergent weed	60	200	60
7. Irrigation	50 ^a	2100 ^f	800
8. Harvest	650	1200	2000 ⁱ
9. Transportation	<u>390</u>	<u>830</u>	<u>200</u>
10. Total Cost	3850 S.L.	6200 S.L.	3760 S.L.
11. Gross Profit	5250 ^b S.L.	8550 ^g S.L.	3800 ^j S.L.
12. Return	1400 S.L.	2350 S.L.	40 S.L.

- a. Jaed village suffers from a high water table, only spot irrigation
- b. 30 tons/ha. at 170 S.L./ton at Jisr Alshugour
- c. Private farmer uses monogerm seed and pre-emergent weed killer thus no thinning cost and little weeding
- d. Uses imported seed at 45 S.L./kilo
- e. Uses greater amount of fertilizer bought on free market
- f. Sprinkler irrigation. This cost includes amortisation of original investment for sprinklers which is estimated at 3,000 S.L. /ha.
- g. 45 tons/ha. at 190 S.L./ton at Meskenah
- h. No labor was hired for thinning or weeding. Personal observation of plots revealed poor stands in places and crowding in other spots and extremely weedy.
- i. Due to many alternatives for labor in the Euphrates area, they had to pay 20 S.L. /day to obtain workers for sugar beet harvest.

Specifically, the plan states, "to ensure gradual and voluntary replacement of the individual formula by the cooperative formula in the sectors of agriculture, professions, housing, domestic trade and transport at higher than previous rates." While the number of cooperatives and cooperative members have increased under the plan, cooperative forms of production have not been forthcoming. Since cooperative forms of production may be seen as an agricultural innovation, this final section of my report will look at the resistance to the adoption of the cooperative form of production.

Over the past several years, the notion has been popularized that cooperative farming is the most rational, efficient, and equitable manner to reorganize agriculture in societies experiencing agrarian reforms. The demise of the traditional landlord systems under the pressure of peasant movements has proceeded apace in a number of societies and has raised the basic policy question, what system of land tenure should take its place?

The SARG has answered this question in terms of planning and cooperative farming while respecting individual claims to the land. The basic problem with this approach is that it attempts to manage dilemmas which may be unmanageable. To have a plan carried-out requires social control and control often requires limitations on the decisions of private producers about what to produce and how to produce on their own parcels of land. The hoped-for solution to this contradiction has been to convince cooperative members of the viability of cooperative production via the provisioning through multipurpose service cooperatives of key agricultural inputs. The Party would add to this action the dimension of an educational program for producers that would establish collective production as a dominant ideology and the careful and subtle use of State power to attain compliance. Progress, however, has been slow given that only six production cooperatives have been established up to the present.

Since 1974, the cooperative organization and the Peasant Union have been merged under Legislation No. 21. Table 14 shows the growth of the Peasant Union and membership in 1977. This merger was intended to further the cooperative movement under the following structures:

1. Formation of multipurpose service cooperatives at the village level (in some cases the cooperative cuts across more than one village but usually not).
2. Common associations at the District level.

3. Specialized Cooperative Associations. For example, today there are 58 Livestock Breeding Cooperatives and a limited number of Machinery Cooperatives. However, about 90 per cent of all cooperatives are multi-purpose service cooperatives.

One of the hope-for goals of the fusion of the cooperatives with the Peasant Union was to further the idea of production cooperatives. As stated above, this has resulted in only six production cooperatives in the entire country. We will suggest at the end of this section some of the reasons for why this complex change in the organization of production has not come about and some possible alternatives to increase producer willingness to change their form of production from individual plots to the collectivization of the production process.

3.7.1 The Peasant Union as a Form of Control

One of the basic functions of the Peasant Union is to assure producer agreement and compliance with the production licencing system. This form of control is exercised in the following fashion:

1. A general plan specifying hectares of production for each licenced crop and an average rate of fertilizer to be used, seeding rate, pesticide use and production output yield target is sent from the Mohafaza Peasant Union organization to each village cooperative.
2. Usually the proposed plan arrives in June and agreement is reached on the plan by September. However, there are instances wherein dissident members of the cooperatives refuse to agree and the approval of the plan is delayed. In one of the villages I visited, the plan for 1979 was not agreed upon until December which created problems for many producers since the inputs arrived late and not all of the fertilizer was still available at the Agricultural Cooperative Bank.
3. Upon agreeing with the plan, a licence is issued to the cooperative. Based on the licence, the cooperative can receive fertilizer, seeds, pesticides and some cash from the Agricultural Cooperative Bank. The amount of cash varies by the crop included in the plan, but in most cases the cash loan is about 400 S.L. per hectare licenced. This amount of cash has to last the entire production cycle (sometimes it is paid at two different times) or be supplemented by family savings, off-farm sources of income of the informal credit system (See John Hopkin report, Table IX.3). The poorer producer that can not find off-farm work and has no savings is penalized by this system if he desires to increase output by buying additional fertilizer unless he can obtain credit from a merchant or friend.

TABLE 14: PEASANT UNION, FEDERATIONS AND CONFEDERATIONS BY MOHAFAZAT IN 1977

Mohafaza	Members	Unions	Federations	Confederations
Damascus	27821	244	8	2
Aleppo	31405	638	8	1
Homs	21496	360	6	1
Hama	34931	319	5	1
Lattakia	14257	265	4	1
Deir-ez-zor	23853	129	3	1
Idleb	27392	386	5	1
Al-Hasakeh	20988	349	4	1
Al-Rakka	10994	146	2	1
Sweida	11557	129	3	1
Dar'a	9246	132	2	1
Tartous	28154	291	5	1
Quneitra	<u>5171</u>	<u>49</u>	<u>2</u>	<u>1</u>
TOTAL	267265	3432	57	14

Source: CBS, Statistical Abstract, 1978.

4. Each cooperative member has to produce so many dunums of each crop specified in the plan in such a fashion that the assigned production for the cooperative is attained.

5. If a crop is planted and does not give a good stand and there is still time to plant another crop, the plan can be modified. Plan modification is frequent on some crops. For example, sugar beets are planted before the normal planting time for cotton. If the sugar beet seeds fail to germinate, it is not uncommon to modify the plan to produce cotton. Some ingenious devices have been used to assure that sugar beet seed do not germinate properly.

6. However, if the cooperative/Peasant Union leadership decides that a given producer is deliberately not following the plan, his land can be taken over for one crop cycle. The cooperative members work the land according to the plan. When the crop is sold, the cooperative repays the agricultural bank, pays the cooperative members for their labor and gives to the owner 50 percent of the profits. When this occurs, the cooperative strives to maximize profits so as to convince the recalcitrant member that he can make a good income by following the plan.

7. All licenced crops are collected at harvest by the cooperative and sold through the specified marketing organization. Each member is reimbursed according to weight delivered and not quality. Quality is judged on the entire cooperative production. This is particularly important on crops like cotton and sugar beets where bonuses exist to try and encourage good management techniques on the part of all members.

3.7.2 The Peasant Union as a Vehicle for Creating Class Consciousness

One of the major aspects of the Party is to work through the Peasant Union to "strengthen class consciousness and implant national socialist struggle among its members" (Bakkour, 1978). In practice, this is supposed to be accomplished via the youth organizations, the women's organizations, and the literacy program for adults. Another important program for youth is the public elementary school compulsory education system.

However, up to now there are only six producer cooperatives in the entire SAR. This fact does not indicate that the tendency is not toward producer cooperatives but, rather, indicates that the movement is proceeding at a slow pace. My interviews with agricultural producers that have been beneficiaries of the agrarian reform indicate that they still have a deep involvement with private property.

For example, in interviewing cooperative members who have received land under the agrarian reform, they insist on these major points:

1. The direct producer knows what and how to produce on his own land.
2. The plan is too general and doesn't take into account the material conditions of production that vary from plot-to-plot (water level and availability, type of soil, drainage and rainfall).
3. The direct producer should plan and not the Ministry of Agriculture and Agrarian Reform.
4. Collectivizing their plots will destroy worker initiatives.

Whether right or wrong, this is what the agricultural producers say.

Based on these statements and given the resistance to the middle Euphrates Basin land reclamation and the labor recruitment problems on the State farms, it would appear that collectivization of agricultural production under producer cooperatives will be a long process. It may even require a generational change if left to voluntary reforms.

The Peasant Union is aware of these resistances and is developing ways of overcoming them in some areas. For example, in Al-Rakka Mohafaza, the Peasant Union organized a field day in Rakka the last week in May to visit two farms growing sugar beets. The union leadership carefully selected a well-managed crop and a poor field. After visiting the two plots, they conducted a seminar on why the difference between the two plots. The well-managed plot owner received an award of a transistor radio and tools.

The same union also organized a visit to the Homs sugar beet factory and the Ghab sugar beet producers. The visit was arranged for forty people. The union carefully selected 20 good producers and 20 poor producers to make the trip. The hope was that the 20 poor producers would be encouraged to increase productivity.

These are slow and careful steps that may produce some payoff in terms of raising the consciousness of the agricultural producers. But it is also difficult to reproduce on a national scale to such an extent that voluntary participation in land collectivization programs will increase rapidly. But as the vice-president of the Peasant Union in Rakka said, "The first year of school is always the most difficult. We are still in the first year."

3.7.3 Some Tentative Conclusions and Recommendations

My observations on Syrian agriculture lead me to the following tentative conclusions:

1. The social relations of village life are becoming monetized. Thus, the maximization of family cash income is the key decision-making criterion for the distribution of family labor.

2. In many areas, most agricultural labor is provided by women and children, with adult men working at least part of the year off-the-farm.
3. There are a wide range of alternative sources of income for many rural residents both inside and outside of Syria.
4. Working off-the-farm for a high cash income is sometimes preferred to increased agricultural productivity.
5. This creates labor scarcity in agriculture during certain times of the year.
6. Mechanization could reduce the demand for labor in agriculture but it cannot proceed further without changing land holding patterns and finding an alternative to small plots with basin irrigation.
7. There is still effective rural resistance to producer cooperatives and State farms. As long as workers have employment alternatives, labor recruitment for State farms will be difficult.
8. The combination of these factors make the rural sector of the SAR very dynamic and increase the problems of planning. Many times the conditions have changed by the time the plan is constructed. Decisions about labor availability, wage rates as a form of incentive to keep labor power on the farm, price incentives to increase production and productivity have to be based on known facts. By the time these facts are gathered and analyzed and ready to be used as a basis for planning, labor and savings have already been distributed in another fashion.
9. This dynamic is unclear in terms of what direction it is moving toward, but it seems to involve,
 - a. the sale of labor power outside of agriculture with the income earned returning to the village in the form of new houses, purchase of cars and tractors, the establishment of small businesses, and the purchase of more land when this is possible;
 - b. creating conditions that make it desirable to establish a farming enterprise (in terms of what to produce and how to produce it) that can be managed at a distance so that family labor can be distributed off-the-farm (e.g., fruit trees, dry land wheat, purchase of non-reformed land and exploiting through share rental arrangements) wherever possible; and

- c. establishing the basis for even greater social differentiation (increasing the gap between rich and poor brought about by unequal capacity to respond to these off-farm work alternatives) in the village instead of equalizing income and opportunities.
10. This dynamic is hard to incorporate in a five year plan but it has to be recognized as part of Syrian reality if it is to be controlled. The plan could place limits on this differentiation process.

Some tentative overall recommendations may be stated as follows:

1. Give more and earlier participation to direct producers in the formation of production goals. Instead of allowing producers to react to the plan, allow them to participate in overall production goals and how to attain them.
2. The national production needs should still determine the parameters of the plan and producers should be assisted in developing a clearer understanding of national and international constraints on the planning process.
3. This could increase understanding of the overall political economy and bring about awareness of the need to collectivize if this continues to be one of the planning goals.
4. Retain labor power in agriculture by increasing wage and other incentives on the State farms, and increased prices for agricultural commodities insofar as this does not critically increase the urban wage food bill, and improved social services to rural villagers. In effect, this calls for reducing the amount of surplus transferred out of agriculture in the short run, but long run increases in productivity and participation in the planning of the production process could establish a new social basis for future growth.
5. Recognize that the rural producers do not resist mechanization per se but do resist a change in land holding patterns which effectively limit the mechanization of harvest. Careful attention to the need for greater national and collective consciousness must be established if this is to be accomplished voluntarily.
6. An alternative to the above-mentioned recommendations is to privatize the agricultural lands except on the land reclamation projects. This would increase the social differentiation process, work against equity and the goals of socialism.