

SYRIA

Agricultural Sector Assessment

Volume 5 Human Resources Annex

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Syria: Agricultural Sector Assessment

Volume 5: Human Resources and Agricultural Institutions Annex

CHAPTER X

AGRICULTURAL EXTENSION

By

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A great dam may be a complete success from the engineer's standpoint, a complete failure because the land it is designed to irrigate has soils incapable of successful irrigation. Or, again, the dam may be successful, the irrigation successful, yet it fails to benefit the people either because the hydrologist and the doctor have not worked together in control of disease, or, more likely, the sociologist's knowledge of organization of the people has not been used or understood. Every development project must be based on full detailed, cooperative and integral surveys: every aspect of the problem must be studied. It is vital to make haste slowly if lasting benefits are to be achieved.

L. Dudley Stamp
A History of Land Use in Arid Regions

...The character of the agricultural laborer should be treated as something absolute, like the climate and soil, and that, therefore, all the conclusions of the science of agriculture should be deduced not from the data of soil and climate only, but from the data of soil, climate and the given character of the laborer...

Count Leo Tolstoy
Anna Karenina

Preface: A Methodological Note on the Assessment of
Agricultural Information Flow in the Syrian
Arab Republic

The overall objective of the Agricultural Sector Assessment is to assemble a reliable and broad data base on the development of Syrian agriculture for use in the preparation of the fifth Five Year Plan (1981-1985). The present study describes the present state of the agricultural information system; that is, the system which has served to channel the communication of technical information concerning agriculture within the SAR.

The Agricultural Information System

Although this assessment stresses agricultural information that can be "extended" or communicated as part of rural development programs, information about nutrition, health and sanitation, family planning and literacy could also all be part of a comprehensive rural development scheme. These other elements should be considered in the design of a communications program for rural development in order to maximize any one program's impact on complex situations as well as to coordinate efforts efficiently.

Before moving to a description of the ways communications flow within the Syrian agricultural system, there are certain assumptions about the communication process which are implicit within the analysis which follows. In order to allow the reader to understand the basis of certain recommendations, these assumptions should be made explicit as follows:

1. Communications, in Part, Creates a Climate for Development.
This is to say, when information is accumulated in certain limited sectors of the population, the development process as a whole is hindered or uneven. It is only when technical data, especially agricultural information, reaches those who can utilize it that development can occur at a maximum rate.

2. Two-Way Communication is Superior to One-Way Communication.
The principal of feedback must be an integral part of any interaction between technicians and farmers in order that the effects of either's activities can be monitored and modified if necessary to improve effectiveness of both participants in the process of communication. The design of programs in agricultural improvement should take into consideration data on local environment and local practices to assure that national programs fit local needs. This modification carries with it the task of broadening the base of decision-making to include those who work the land.

3. Parallel Channels Improve the Chances of a Message Getting Through. In essence, this principle means that no single organization should be totally relied on for the purpose of structuring exchanges of information among farmers and governmental communicators such as extension agents. Repetition of a message through several channels and several sets of organizations is the best guarantee for success. A multiplicity of extension organizations is thus preferable to a single system. This multiplicity of channels increases the difficulties of coordination among the various organizations which channel messages.

4. Demonstration is the Most Effective Form of Communication. Extension agents who can and actually do perform the tasks they wish to teach will be the most successful communicators of agricultural information.

5. The Message Must Fit the Culture one Desires to Change. Quite simply stated, the message must be both available and understandable to those who are meant to receive it. Farmers have to learn the technical language of modern agriculture and extension agents have to fit their messages into the culture of the communities they serve.

6. Finally, The Message Must be Received by the Person for Whom it was Intended, the Person Whose Decision will Effect the Change. This principle concerns the ability of organizations to get their communicators "close" to the target audience. An extension service is effective to the extent that it gets its agents into the field to talk with farmers, distribute their pamphlets, show their movies, etc. Failure to do this renders ineffective all care taken at earlier levels and thus negates the entire communication process.

All of these elements are not recommendations, they are assumptions, part of an approach to communicating ideas in agriculture which will provide the basis for assessing alternatives for action within agricultural extension. It is evident that no system has been established in any country which simultaneously maximizes all these elements, but the statement of principle at the outset provides a ruler against which actual alternatives can be measured.

Approach Used in the Study of the Flow of Agricultural Information

This report describes the organizations which provide information within rural communities. It attempts to describe the relationships between farmers and national institutions. In order to get some insight into these interactions and exchanges, I went to the villages themselves wherever possible to look for evidence of government activity in the agricultural informational sphere. In addition, I looked for other sources of agricultural information as well. Any information which concerns new techniques for growing crops or new types of crops themselves was treated as "agricultural information" and traced to its source. In each case, however, I have

to study communication from the farmers' points of view, that is, to find the communicating institution in the village and trace its links to the government rather than the other way around, but this has not always been possible.

The exclusive use of this kind of methodology can produce an "inferential" assessment of the workings of the technical information system. Simply stated, only those organizations whose work could be identified in the villages I visited (Map 1 shows the approximate route of travel) are treated here. The shortage of data due to a lack of a village level survey at the time the report was written prevented the conclusion of this assessment from being able to be extended into village areas not visited. Such an approach may produce a report which appears lopsided or incomplete, in some cases stressing organizations which seem irrelevant to the point of view of the government, while other programs are ignored. If such a bias exists in this report, I hope that the damage is not irreparable.

It may be the case that some organizations and their programs were present in the field but were missed, due either to the limited nature of the study or the period of the year (February-March, 1979) when it was done. Although I admit this possibility and apologize at the outset to anyone whose programs I might have missed, I think that few field programs are not present in this report. Instead, the greater danger is that certain programs have been overemphasized. More time in the field might have provided a better balance.

What balance there is in this report is due to the time taken by farmers and public employees to answer my many questions. The patience and knowledge of Mr. Hisham Kayali, who accompanied me on many visits to offices and sat with me in many hot fields has contributed largely to any accuracy this report may have.

1. Introduction

The IDRB report entitled The Economic Development of Syria, written in 1955, reported on the condition of agricultural extension at that time and characterized the problem as follows,

In most underdeveloped countries, programs to improve agricultural practices founder because there is no organization and staff to work continuously with farmers, educating and assisting them and demonstrating to them the practical utility of better methods and techniques. In Syria, too, there exists no agricultural extension or educational service in that sense. To be sure, the various departments of the Ministry of Agriculture have representatives in the Mohafazat or provinces dealing with such subjects as agricultural production, veterinary matters, plant protection and the like. But the time of these men is largely monopolized by various administrative tasks such as the enforcement of government regulations, crop reporting, locust control and similar matters. They do not have the opportunity, and sometimes not even the inclination, to work with individual farmers. Their contacts with villages are brief, sporadic and infrequent (95).

It is the purpose of this report, nearly twenty-five years later, to assess programs to improve the agricultural practices at the village level in the Syrian Arab Republic, and to ascertain the nature of the communication which exists between farmers and the governmental agencies concerned with farmer activities and well-being. This report is therefore concerned primarily with the current state of the agricultural information system within the Syrian Arab Republic, particularly with reference to its direct effects on rural life.

The term "agricultural information" is meant to be a more neutral term than "extension." It not only refers to the education of farmers to better methods and techniques, but also to the data which are the product of governmental technicians monitoring the needs and priorities of local communities. It refers to agricultural techniques, farmer knowledge about those techniques, data about the local environment, both physical and biological, and to the effects of human action upon those features.

The term "system" implies that local actions and governmental actions are interrelated, and that the degree of interrelationship somehow affects the quality of the programs enacted. It also implies that the interrelationships between the various organizational elements within a system are continuous. Changes in any one element can, therefore, effect changes throughout the system. By maximizing our information about each element within the system and the relations between them, we can best predict the effects of changes at any given point.

Although this model does consider formal organizations, it places stress on the actual delivery of services as determined through field observation. Since the analysis is concerned primarily with system, implying a complex series of interrelationships, it is impossible to find an "objective point" from which to begin. Instead, one must arbitrarily select a reference point and work from there. Our reference point will be the local community, and we will be concerned with the delivery of services to the village and with the ability of organizations within the system to recognize the needs and concerns of farmers and pass them on to the agencies charged with delivering solutions. We are, therefore, concerned with the flow of information throughout the system and not merely with a uni-directional "delivery" to farmers.

2. The Place of the Farmer in The Agricultural Information System

Since the farmer is the primary target of most agricultural programs, some observers argue that the goal of the agricultural information system should be to change farmers' behavior in certain valued directions. This view misses the point. The farmer is not a target of the system, but is an integral part of it. To miss the potential value of his input into the system is to condemn efforts toward improving agriculture to dismal failure.

Although this observation may seem self-evident, many government officials at times take an extremely paternalistic attitude toward farmers and see information as having an essentially one-way flow. This "banking" style of communication means that once the technician, who has the technical capital (information), deposits this capital in the head of the farmer, his job is successfully finished. Communications research has shown, however, that only through exchange can a technician and farmer profitably interact.

The "banking" mentality of agricultural extensionists is well entrenched in most countries. This outlook is seldom threatened since little social science research has been undertaken in agricultural communities in Syria in recent years; thus there is no evidence that the "banking" style doesn't work. Aside from the studies of Sweet (1960) and Horton (1961)--now themselves quite dated--and the shorter analyses of Hinnebusch (1976) and Gattinara (1973), there have been no systematic and wide-ranging studies of agricultural communities in this country since the time of the French.

Because of the deficiencies in this area, we have little information about how farmers make decisions or even about their basic farming systems. Little is known about relations between peasants and landlords, pump owners and landowners, Bedouin and sedentary populations, and small owners and cooperatives. Many inventories

of physical resources have been done in Syria, but their linkages to program planning of extension have been minimal. Little systematic information exists, therefore, to inform agricultural planners of village realities which differ so much across the country and which should enlighten technical agencies about the means for best exchanging agricultural information with farmers. A variety of efforts for communicating with this unknown audience exist, however, as will be described in the following pages.

3. The Agricultural Information System And The Agricultural Engineer

The unifying element throughout the agricultural information system of the SAR is the agricultural engineer, or the muhandes ziraai. This term refers specifically to the holder of a B.S. degree in agriculture, generally from one of the Syrian universities.

According to Bakour (N.D.), 71 percent of the agricultural engineers registered in the Agricultural Engineering Syndicate in 1976 worked for State organizations. Of 3101 agricultural engineers registered in 1977 (see Table 1), 29.5 percent worked specifically for the Ministry of Agriculture and Agrarian Reform (MAAR), while the rest worked for other organizations concerned with agriculture (see Table 2 for a breakdown of State organizations hiring engineers).

The 29 percent which remain have been hired by the private sector or by international and regional organizations. According to Bakour, some of these engineers are employed outside of the SAR, while others have been offered jobs abroad, but have not received permission to leave their present positions. A certain number of B.S. holders are either not registered or are registered and work as private farmers or in other professions. There are no estimates of their numbers.

The multiplicity of roles played by these agricultural engineers is in sharp contrast to the similarity in their training. This homogeneous training (see the discussion of university curriculum in the Faculties of Agriculture in Shannon, 1979) leads to a similarity in outlook and purpose between those working at seemingly diverse occupations and at the same time it creates a series of informal linkages between offices which may appear to be organizationally distant when considering only government tables of organization.

TABLE 1: Agricultural Engineers Registered in Syndicates by Mohafaza, 1965-1977

Year	Total	Quneitra	Tartous	Dar'a	Sweida	Al-Rakka	Al-Hasakeh	Idleb	Dier-ez-zor	Lattakia	Hama	Homs	Aleppo	Damascus
1965	489	10	--	7	1	20	28	10	34	45	32	27	91	152
1966	---	--	--	--	--	--	--	--	--	--	--	--	--	--
1967	473	3	--	8	5	27	29	21	20	31	72	27	68	165
1968	707	4	8	13	7	20	33	45	6	57	81	43	178	190
1969	895	5	12	29	11	20	38	51	32	75	106	68	231	219
1970	1021	5	18	34	13	28	38	54	43	88	117	77	288	245
1971	1140	7	23	39	17	21	41	60	65	98	132	81	300	283
1972	1273	7	31	42	18	23	45	68	62	111	154	97	327	290
1973	1435	9	43	53	22	24	49	76	66	117	170	114	372	327
1974	1626	11	52	68	27	24	60	77	84	129	192	132	402	368
1975	1979	15	76	79	32	26	71	86	94	170	228	161	489	452
1976	1886	21	90	73	44	185	74	75	90	101	117	137	367	512
1977	3101	31	112	84	44	230	130	65	99	244	209	148	459	645

There were 601 engineers registered in various Mohafazat but not appointed until 1977.

Note: These figures include all agricultural engineers including those in the MAAR, Peasant Union and other government organizations, as well as those in private organizations, the armed forces and those who are unemployed. These figures therefore represent the entire potential labor pool through 1977.

Source: Statistical Abstract, 1978. Table 12/14, p. 622.

TABLE 2: Distribution of Agricultural Engineers According to Mohafaza and Department (1976)

Mohafaza	Directorate of AAR	Faculty of Agriculture	Intermediate Ag. Inst.	Secondary School	General Union of Peasant	Organizations (General) Grain, Poultry, Seed, Fodder, Cows, Fish	Tobacco Monopoly	Union of Food Industries	Cotton Board	Ag. Credit Bank	Direct. of Planning	Others-B	Euphrates Basin	State Farms	Total
Dama. City ^A															237
Damascus ^A															104
Aleppo	105	40	5	6	36	38	8	2	43	1	1	16	--	--	301
Al-Rakka	52	--	-	-	2	4	-	-	--	1	-	1	113	1	174
Deir-ez-zor	73	--	-	-	5	10	-	-	1	-	-	-	--	-	89
Al-Hasakeh	94	--	-	-	2	9	-	-	--	1	-	-	--	-	106
Homs	80	-	-	-	11	6	-	6	3	1	-	7	-	-	114
Tartous	54	-	-	-	11	23	2	4	-	-	-	1	-	-	75
Lattakia	93	28	2	-	3	10	23	2	-	-	1	1	-	-	167
Idleb	44	-	-	-	4	5 ^C	-	-	-	2	-	-	-	-	55
Hama	123	-	-	-	9	26	2	4	2	1	-	-	-	-	167
Dar'a	41	-	-	-	6	5	-	-	1	-	-	-	-	-	53
Sweida	36	-	-	-	1	4	-	1	-	-	-	-	-	-	42
Quneitra	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5

Derived from Bakour, N.D.

A. Breakdowns not available

B. Includes General Organization of Peanuts,
Directorate of Education and Central Corps
of Inspection.

C. Includes Cotton Board.

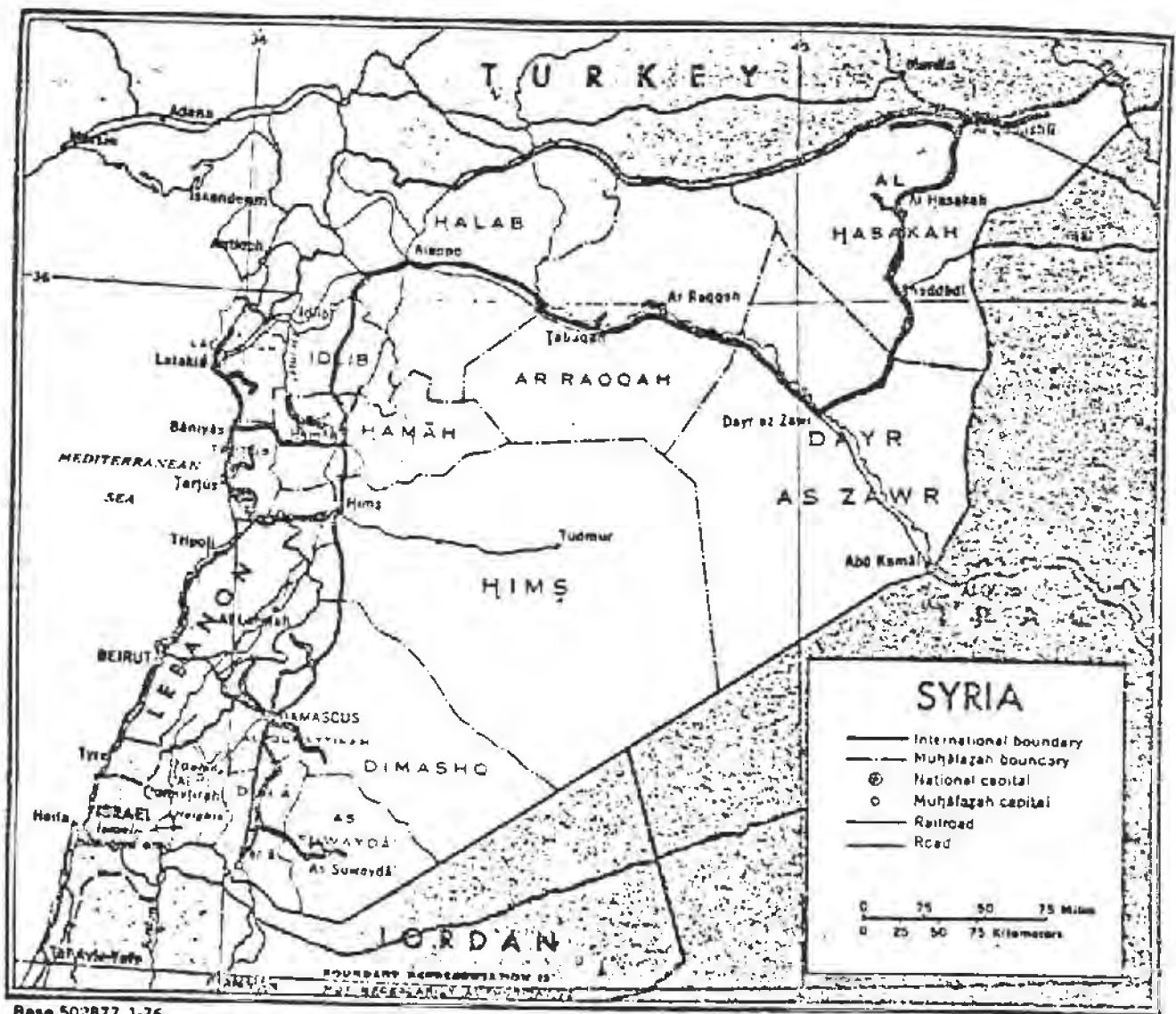
Although in recent years there has been relatively little formal agricultural extension done in the SAR, agricultural technical information is being disseminated through many of the organizations which hire agricultural engineers in the course of their involvement with farmers. This information is being transmitted directly by the engineers or members of their staffs, so a profile of these individuals will help us to establish the nature of some of the basic elements of the agricultural information system of Syria.

The average agricultural engineer appears to come from middle level farming or rural merchant families. However, despite the rural origins of many engineers and the importance of agriculture in the economy of Syria, agriculture is not generally a prospective university student's first choice for higher education², thus the agriculture schools generally contain students whose grades on the college entrance examination were too low to gain them entry to other higher status career courses. At the same time, the agricultural option is not the lowest status career choice, but falls roughly in the middle of the exam's qualifying scores. Some engineers say that although they hoped to enter college in fields other than agriculture, they did become interested in their field as time went along. All complained that the university textbooks were inadequate and not specifically related to agricultural problems in the SAR, and that they were not given enough practical training in agriculture. Recent graduates complain of overcrowding of facilities, the result, perhaps, of attempts to increase the numbers of agricultural engineers in the field without an adequate expansion of educational facilities.

A graduate engineer is faced with a limited number of options. The best paying jobs are with organizations abroad, with international and regional organizations operating in the SAR, or in the private sector. These jobs go to engineers with greater experience, advanced education or family and personal connections; they are seldom options for the newly graduated engineer. Rather, the graduate generally goes to work for the MAAR, the Peasant Union, one of the general commodity organizations, or leaves agriculture entirely to enter another field. The government is legally obliged to hire all graduates of agricultural colleges who desire to work, thus encouraging most graduates to work in the agricultural sector at least part-time.

Agricultural engineers who work for the MAAR generally begin in their own Mohafaza³, according to the policy of the MAAR. If they rise in rank or transfer to a more specialized department, engineers will often be moved to another Mohafaza. This policy presents both advantages and disadvantages. It is a good policy in the sense that the engineer begins in the agricultural area of greatest familiarity, close to family, which can improve morale. At the

MAP 1. AREA COVERED BY SURVEY OF AGRICULTURAL INFORMATION



Base 502877 1-76

same time, however, there is a tendency for engineers to work with farmers from their own ethnic community. This means that farmers from other social groups in multi-ethnic areas are ignored because they are unfamiliar, and the engineer has no access to their group. This is not a problem in areas of great social homogeneity, but in other places engineers seldom leave their established patterns of social interaction. A further danger of this policy is that engineers increase local ties and thus often become unwilling to leave the home community to take on a more challenging job at a higher level as his experience increases. Stability, therefore, takes precedence over ambition in many cases,⁴ particularly in the case of women who work as engineers.

There is also a similar pattern among lower level employees of the MAAR such as the agricultural assistants (musaed muhandes), the graduate of the Intermediate Institutes of Agriculture (2-year post-secondary schools), and the technicians (murakeb ziraai), graduates of the agricultural high schools. These types of employees are on separate tracks from each other and from the agricultural engineer. There is no way of rising from one level to the next. Moreover, even in the educational system there is limited mobility; only two or three graduates of the agricultural high schools can enter the university or intermediate institutes each year; the bulk of such graduates must enter the work force. Those who graduate from the intermediate institutes cannot enter the university, unless they leave Syria to do so. Completing the course of study at one of the lower levels does not mean that one can then enter training at a higher level. Thus, a technician or an assistant cannot progress upward to the next higher job through further study. Each job is on a different track. Regardless of how well any of these lower-level assistants perform, they are limited in their advancement in the State bureaucracies. This also means that an assistant or technician of great experience will make a considerably lower salary than a freshly graduated agricultural engineer. Such differences in status, pay and mobility cannot help but affect the morale of those in lower positions.

I have talked to several graduates of Syrian Agricultural Secondary Schools who are now agricultural engineers. All of them had to go either to Cairo or to Eastern Europe to get their advanced education, because there is no provision for these ambitious or talented individuals within the educational system of the SAR. Thus, they have to look outside for advancement which is costly to the individual and to the country since the SAR is taking a chance on losing their service to other groups outside.

Agricultural engineers also often feel their best opportunities for advancement lie outside the bureaucracy. The salary differential and opportunities for advancement are the primary reasons discussed for this, but the private companies and international agencies often provide the engineer with more challenging professional duties. Although the absolute numbers of engineers involved in the private

sector is not alarmingly great (29 percent), it should be remembered the selectivity of these organizations and the greater benefits offered probably indicate that many of the most dedicated and talented engineers, as well as assistants and technicians, are being wooed away from government service.

Low pay and lack of reward for good performance must also affect the quality of the work of those who remain in the government, as well as the frequency of their contact with farmers. Although there are some engineers who do their jobs and do them well, there are many who do little more than simply hang on. One is reminded of the statement made by the IBRD in 1955, that most "extension" matters have been in the hands of representatives of the MAAR who are not very effective since they have few opportunities and "sometimes not even the inclination" to visit with farmers.

To be fair, administrative duties do certainly cut into the time of the agricultural engineers, but many estimate these duties take up only 30 percent of their time. It is clear that increased attention must be paid to the needs of these key individuals--the agricultural engineer, the agricultural assistant and the agricultural technicians--if the quality of delivery of agricultural information is to improve.

Mr. Bakour (N.D.) has indicated that Syria needs a greater number of agricultural engineers. His feeling was echoed by those Mohafazat Agricultural Directors I was able to interview. Many of them stated that they had from 1/3 to 1/2 the number of engineers needed for effective programming.

The problem is not merely a question of numbers, however, for the engineers will continue to perform badly if they are inadequately trained and have poor morale. Improving the training and morale of those already in service will have, in the long run, a greater effect on the quality of information exchanges than simply and arbitrarily increasing the number of additional engineers trained in the current way and working under some version of the current system.

4. The Agricultural Information System and The Ministry of Agriculture and Agrarian Reform

A prime mover of technical agricultural information in the SAR is the Ministry of Agriculture and Agrarian Reform, but its effectiveness as a communicator is limited by its own organizational structure. (See Ch. VIII for a discussion of the MAAR organizational structure and formal division of responsibilities.)

The vertical organization of the MAAR follows the division of the country into administrative entities of increasing size and complexity. There are, then, county or Nahia level offices, district or Mantika offices, and province or Mohafaza offices. These are in turn supported by the Ministry itself in Damascus. The term "supported" should be noted, because it will become apparent that each Mohafaza level appears to have a certain degree of autonomy from the Central Ministry, largely planning and controlling their own operations and those of lower-level offices within their command.

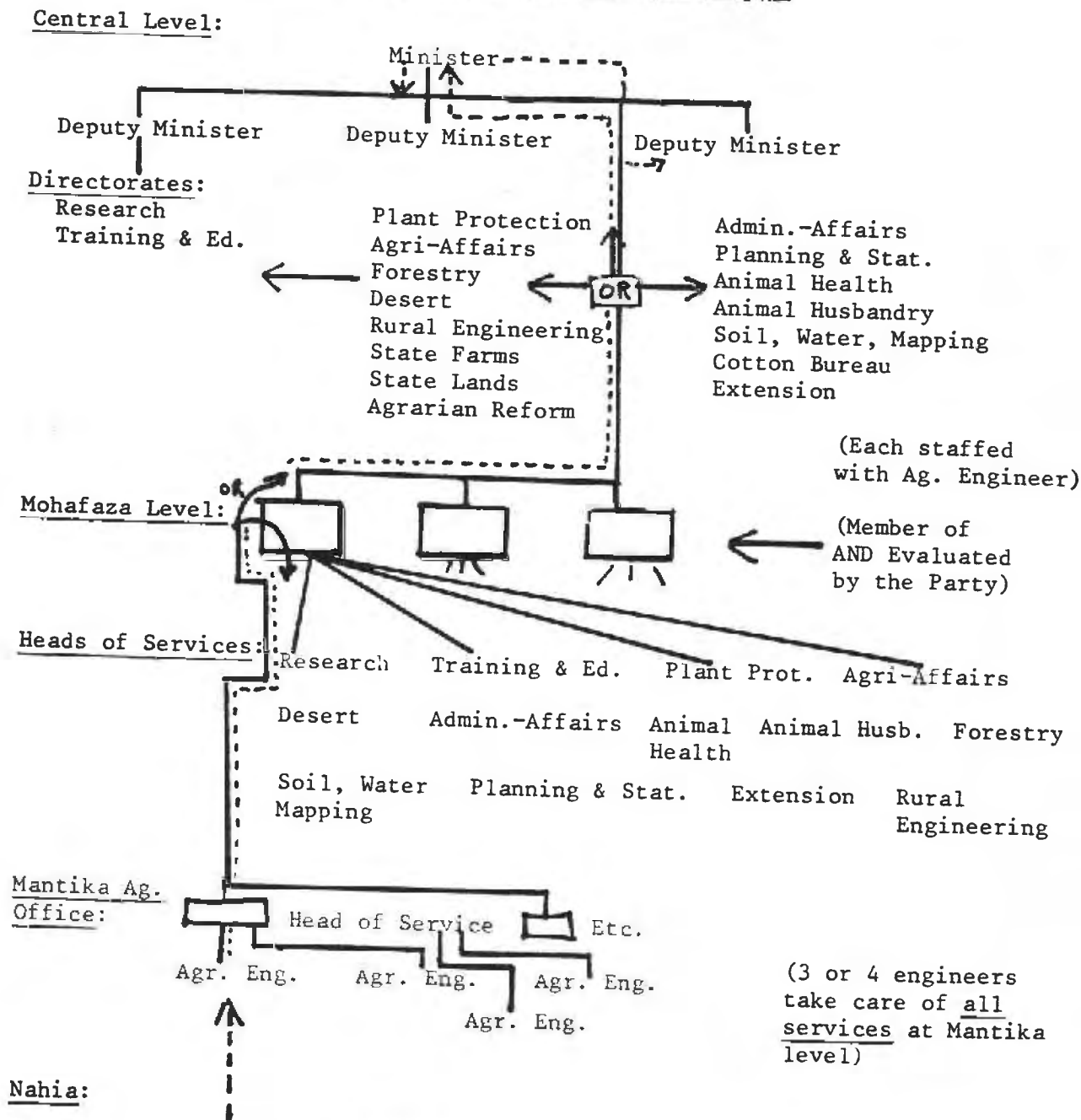
At the Ministerial level, there are special purpose Directorates for plant protection, animal husbandry, agricultural affairs and so on (see Figure 1 below). These act as an advisory cabinet for the Minister and each is overseen by one of three Deputy Ministers. Although these offices do a certain amount of programming and handle budgeting on a national level for many local-level programs, there is little direct communication between these offices and similar offices at lower government levels. In addition, these Ministerial Directorates often have to respond to programming ideas sent from the Mohafazat agricultural councils (made up of the Agricultural Director of each Mohafaza, head of the local party, the Head of the Confederation of Cooperatives, and so on), working them into the national plans. These programming "obligations" are passed to the Directors through the Minister's office. The importance of this pattern will become apparent.

Some ministry level Directors exert more control over local programming than others, but this is often less a product of an individual's skill than it is a question of whether or not that office's speciality is central to the local-level plan. Generally, offices whose concerns are somewhat peripheral to local interests have greater control of their programs throughout the system.

Each Mohafaza Agricultural Director exerts a great deal of control over provincial agricultural programming and thus over the type and amount of technical agricultural information distributed within a given area. Like the Minister, the Agricultural Director has a cabinet of specialists, called Service Heads, who represent the same special subject areas present in the Central Ministry (see Figure 1), with certain offices eliminated where geography demands (e.g., no desert office on the coastal plain, etc.). Each Head of Service has a staff of agricultural engineers as well as technicians and agricultural assistants, the mix determined largely by the local importance of the service and the availability of personnel.

Both the Minister and the Mohafazat Directors make programming decisions, and their decisions involve input from coordinating councils at the respective levels. These councils include other

FIGURE 1
Ministry of Agriculture and Agrarian Reform (MAAR)



Path of Problem (-----)

Path stops ideally at point where solution is found

Ag. engineers also in Coops, Ag. Bank, and Peasant's Union...
responsible in part to MAAR

Each Ag. Eng. has same educational level (B.Sc.) although
they differ in experience + length of service (ideally)
at each level, some have been setn abroad for training.

executives at the appropriate level, as well as party officials, cooperative and Peasant Union officials. Thus, there are many inputs available in programming.

The Mantika office is simpler. Here the executive is a Head of Service supported by several agricultural engineers who take responsibility for more than one service area at one time. The work of these engineers is further supported by a limited number of assistants and technicians (as available). The Mantika-level Head of Service reports to the Mohafaza Director of Agriculture who is his supervisor.

Finally, the Nahia-level office is the lowest level of organization of the MAAR. Ideally, this office has a single agricultural engineer as supervisor and a staff of lower level technicians and assistants as available, and its workers spend a great amount of time in the field. One such office I visited (in Lattakia) seemed quite successful and well received. It is apparent, however, that there are an insufficient number of these offices at the present time.

Each level in the MAAR organizational structure is linked to the next higher level, primarily by executive-to-executive ties. Thus, the Nahia office is linked to Mantika office only through the office chiefs. Similarly, linkages between the Mantika and Mohafaza, and the Mohafaza and Central Ministry are largely effected through their respective heads. This means that although the specialized departments at the Mohafaza and Mantika levels do in large part replicate the specialized offices of the Central Ministry, there are very few, if any, direct linkages between these offices at various levels except through the executive linkages. This decentralized structure permits program adaptation to local conditions, but it also limits the communication flow within each program, including extension, as well as the continuity of communications throughout the MAAR. The proper balance between program flexibility and "efficiency" is a continuing dilemma, and the balance which is achieved will affect communication processes within the MAAR and with farmer communities.

4.1 The Extension Directorate

The organizational structure of extension in Syria is being dramatically altered this year. The Directorate of Extension of the MAAR, created in December, 1978, is charged with,

working to achieve integration and systematic arrangements in the field of agricultural extension on all levels with government associations, institutions, and organizations concerned with agriculture and the improvement of production (Resolution No. 210/T, MAAR 27/12/1978. See Appendix for complete text).

At the time this assessment was made, however, there were few formal MAAR extension programs. Instead the Extension Directorate, which had just been transformed from an office in the Directorate of Agricultural Affairs, was in the process of restructuring itself to meet its new goals. The organization was studied, therefore, at a moment of transition. Figure 3 presents the model of the new organizational structure, and in Annex 4 I have presented a more detailed critique of the new extension program.

None of these offices or units are operational as of April, 1979. Some of the units, especially the "Association of Agricultural Extension" to be innovated in every Mohafaza, are not well defined. It is hoped that the fact that the institutional lines of the new Directorate have not yet solidified will permit some of the past lessons learned from the informal extension elements of the agricultural information systems to be applied to the structure and content of the formal one. The remainder of this report focuses on the system as it has been functioning in order to make more explicit these lessons, which are recognized by many engineers.

The present re-organization of extension follows various experiments with extension in Syria. Formal extension in Syria, according to Fort (N.D.) was introduced before World War II when extension agents from the American University in Beirut went to work in the Ghouta. After Syrian independence, the Ministry of Agriculture (formed in 1947) began courses in farm training in the Ghouta in 1948. By 1952 the Ministry had an Extension Section "confined to the information function" (ND:6); the section was further limited by the lack of personnel and unclear concepts of what extension or "guidance" (arshad) should be.

The 1958 union with Egypt brought a reorganization of the Ministry, and the Extension Service was made a full department. According to Fort, during 1960-61, 200 agriculture secondary school graduates were assigned as "extension agents" but none were assigned at the village level and few were assigned below the Mohafaza level (ND:9-10). It should be noted that the Rural Development Center system was started in this period. This idea will be discussed in section 4.4 below, and in Lemel (1979).

In 1962, the Ministry again reorganized. This time the extension service "tried to provide support in the field of extension to subject matter departments as each department attempted to carry on its own extension education work" (emphasis added). This experiment turned out to be an impractical solution because the manpower requirements for such a program were extremely difficult to satisfy (ND:13-14).

The period between 1958 and 1973 was significant for it saw the organization and operation of a major agricultural service in Syria. The organization of this service on the national level and on the Mohafaza level is shown in Figure 3 below.

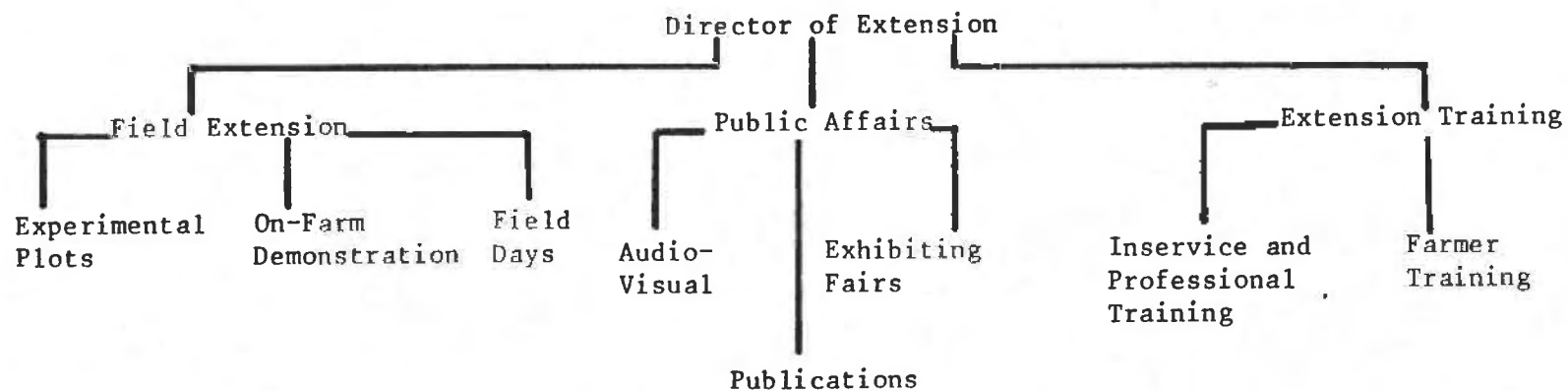


FIGURE 2: Present Structure of the Directorate of Extension - MAAR

The national ministry office appears to have laid stress on audio-visual techniques for extension (cf. Fort, ND:11), especially film and photos. Most significant, however, was the organization of the Governate (Mohafaza) level. Here for the first time one finds a true field level extension service.

According to El-Zoobi, there were during the early 1970s 50 Agriculture Extension Mobile Units. Each unit was supposed to include two agricultural college graduates, three secondary agricultural school graduates, and three laborers who, according to El-Zoobi,

worked with farmers side-by-side and face-to-face during production seasons (1971:161).

Although it is difficult to judge how close El-Zoobi's picture is to the actual system operating at the time, I was able to interview several members of the old extension units and found that they consist of one technician and only occasionally one agricultural year.

One of these engineers, now working for a different office, told me that the mobile unit personnel lived in trailers at the farm sites during the production season. His team at that time consisted of himself, an assistant and two technicians. Other teams were similarly constituted. Each team had a vehicle. Some teams were equipped with cinema projectors, sprayers, dusters, fertilizers and insecticides (1971:128).

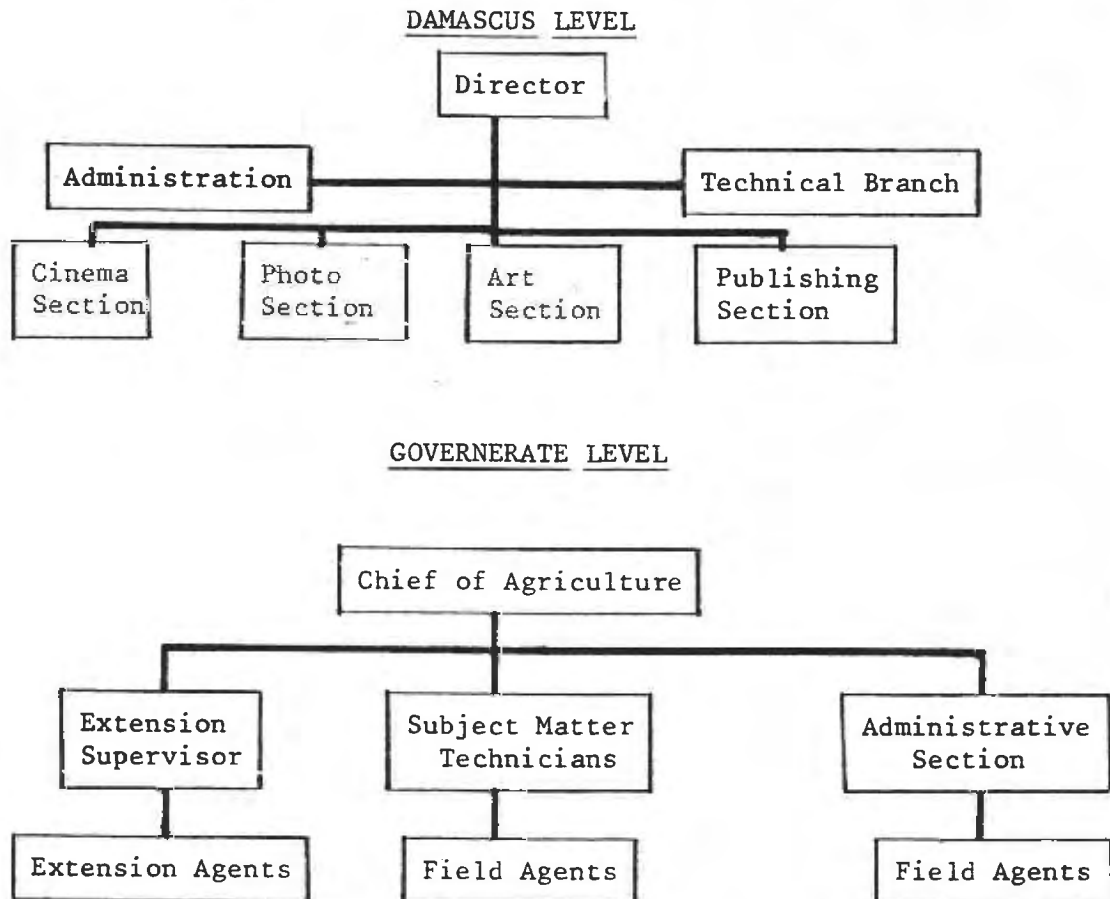
The individuals I interviewed agreed with El-Zoobi in stressing that these programs were geared to the seasonality of certain very important crops. Cotton, sugar beets and tobacco production were "fully supervised by mobile extension units" (1971:161). This fact, however, may have led Fort to observe that in 1964:

The service activities of the Ministry of Agriculture only strengthened the dependence of farmers and peasants to look to some higher authority to solve their problems. By carrying out service functions the Ministry prevents farmers and peasants from learning to perform the tasks themselves (ND:11).

Thus, although the government tried very hard to provide services and technical information transfer to farmers, their very zeal in "depositing" information may to some degree have prevented actual knowledge exchange from taking place.

All who were interviewed about this system, however, remembered it as being superior to any other system organized since. The reasons for this success which that program may have had are largely

FIGURE 3: The Organizational Structure for the Department of Extension in the Period 1958-1966



Source: Raymond E. Fort, "Agricultural Extension in Syria," Report No. 1, Damascus : The Ford Foundation, January, 1963: p. 20, reproduced in El-Zoobi, A.M., 1961:160.

due to the high degree of contact between farmers and extension agents. Agents had received some additional training, but mostly only two weeks in-service training, but were involved in projects which included more than simple technical transfer. Agents were also highly motivated by being involved in innovative social experiments--such as the organization of the cooperatives between 1955 and 1958 and also after 1961 (El-Zoobi, 1971:117; see also Shuman, 1965:8-33).

In 1973, however, the gradually expanding program in agricultural extension, whatever its strengths and weaknesses, was dramatically re-organized. From a national field-level agency, extension was transformed into a small office in the Agricultural Affairs Directorate of the MAAR with only 13 extension officers located around the country, one in each Mohafaza.

This unit has had some success, in spite of its small size, and aspects of this work were apparent at the time of this assessment. The public affairs section of the extension department, for example, has cooperated with the General Establishment for Cinema in producing five documentary films on various aspects of modern farm production. Six other films are now in the final editing phase with an ultimate target of sixteen films planned. According to Bakour, the office has sent 30 projectors to Mohafazat around the country. These have been giving an average of five showings per week during the summer and autumn seasons, when films can be shown outdoors at night (since there are few buildings in villages large enough to accomodate an audience for the films) (1978:50). Most of the Mohafazat offices I visited had working projectors. Few farmers I spoke to, however, had ever seen any of the Extension Department's films. Most Mohafazat centers had nationally made some of, which, agricultural engineers said, had little relevance to the Syrian situation.

Although the Office of Extension had at one time been involved in radio broadcasting, it no longer has a direct role in the program "The Farmer's Voice," which is broadcast each day in the late afternoon. The agricultural component of this program is now handled by some technically trained people, but most programming is done by the Peasant's Union and the State radio. Most farmers, however, find it difficult to listen to this program because it is broadcast at a time of day when most are still in the fields.

The publications unit of the public information section is one of the more successful units in the Directorate in terms of output. I found copies of their many pamphlets in nearly every office of the MAAR I visited. The major problem appeared to be one of distribution to farmers and getting the farmers to read and understand the publications.

One engineer said pamphlets were a dilemma to him. If he put them out at meetings "to let people know they were there," the farmers put them in their pockets and never read them. If he kept them in his office until somebody came to look for them, no one would know of their existence. The major use of the pamphlets appears to be in refreshing the memories of the engineers themselves, and to teach new techniques to those working in the office below them. It is hard to evaluate their effect on farmers, since questioning farmers as to whether they read pamphlets is unlikely to elicit a useful response, at least in the detail necessary to understand this rather complex situation. It is apparent that more study will have to be done to establish actual patterns of usage.

An experimental plots unit was also part of the extension system immediately before the present transition. This unit has been concerned with putting together technical packages for the demonstration plots which have been part of the duties of agricultural engineers at the Nahia level and some at the Mantika and even Mohafaza levels. These demonstrations stress new techniques and products such as seed varieties, fertilizer usage, insecticide usage and herbicides. The packages contain detailed instructions for the agricultural engineer, but there is little or no provision made to cover the cultivation of certain commodities throughout the entire country. Little modification is made on the local levels and instructions are automatically followed for the most part, whatever the result. The only decision made is whether or not to show the plots. The lack of adaptation of packages to local conditions limits the usefulness of the program, and although the attempt at broad coverage is commendable, the lack of local programming has a negative effect.

Farmers who participate in these programs supply land, labor and water for the demonstrations. The government supplies all inputs in the form of a package. The amount of help given to the farmer by agricultural engineers differs greatly from region to region, depending on the ambition and talents of the individual engineer. It is significant that every farmer I talked to seemed willing to have a demonstration plot on his land, in spite of the fact that he would get no compensation if the demonstration plot failed. Apparently the free inputs given to the farmer more than compensate him for the risk he perceives from trying the new techniques.

One farmer, for example, talked about a demonstration plot of watermelons grown on his land. The field was designated by the agricultural engineer; unfortunately it turned out to be too close to the road so that animals driven along the road got into the field and trampled the crop. Although the farmer lost his income from the field that year, he still seemed willing to have further demonstrations on his land.

One explanation for this continued participation of farmers appears to be in the way they are selected for these plots. We have mentioned that low-level agricultural engineers often serve their own Mohafaza, and that there was a tendency, because of this, for them to work within their own ethnic group. There are indications that this operates in the selection of fields for demonstration plots, with engineers often selecting members of their own kin groups to help in demonstration plots. Often an "easy-to-see" farm will be passed up for a "hard-to-find" farm of a kinsman, presumably because it is easier to get the kinsman to cooperate. Since the engineers' primary concern in these programs appears to be planting a specified number of plots each year, they often try to find the easiest means to satisfy quotas. More effort needs to be expended, therefore, in increasing the effectiveness of these programs by encouraging the engineers to more widely diffuse their information.

Agricultural engineers further indicate that they do not show plots which have failed, regardless of the reason. Although many people concerned with extension consider this ignoring of failures to be a good technique and feel that farmers must only be shown successful demonstrations, the practice has its negative aspects. The opportunity for both the farmer and the engineer to understand why the plot failed is often lost when this discussion and exchange of ideas does not occur. The "banker" must never appear to be wrong, even though the best farmers have failures and must doubt a program which never does.

4.2 The Mohafaza-Level Extension Office

The Agricultural Directorate of each Mohafaza has an agricultural engineer specifically assigned to extension activities. He is responsible for seeing that extension programs from the Ministry are carried out within the Mohafaza (screening of films, demonstration plots, distribution of plots, organization of meetings, etc.). In addition, the Extension Head of Section has a role in preparing certain elements of future programs in extension to be submitted to the Director and the Agriculture Council, later to be passed on to the Ministry. The Directorate and the Mohafaza Extension Office are largely separate, as we have mentioned before.

The Mohafazat offices also organize, in response to their program directives, a yearly cycle of meetings, film showings and demonstrations keyed to seasonal factors and local commodity specialties. I was unable to see these programs since it was not yet the season for them and because it was still too cold for outdoor meetings. The basis for village selection was difficult to ascertain, but often the programs appear to be held at the request of the Peasants' Union or the local cooperatives. While stimulated by the requests of local farmer organizations, the program within the local agricultural office is very much oriented to holding a certain number of meetings and satisfaction of quotas.

Very little if any inquiry appears to be done on its effects, and the appeal of the programs appears to vary depending on the special interests of individual staff members.

The staff of the Mohafazat Directorates also determine programming for engineers doing extension in lower level offices. They have a program to determine the number of demonstration plots to be planted. The Mohafaza Extension Head can be called on by individual engineers within Mantika offices (through their Head of Section and the Agricultural Director) to help them solve extension problems. In most cases, however, extension work below the Mohafaza level appears to be largely nonexistent, except for that which is done incidental to administrative activities. This inactivity is in part the result of the reorganization now underway.

4.3 Extension and the Administrative Activities of the MAAR

The flow of technical information between farmer and technician in the Ministry can occur in ways not usually defined as part of an extension program. Such flows appear to be important in Syria. Although many farmers prefer to buy their inputs from the private sector, it is the well-used right of every farmer in Syria to obtain credit from the Agricultural Cooperative Bank. The process of obtaining credit involves the acquisition of a licence from the MAAR and a requisition for supplies.

The licence is obtained from a local agricultural engineer working for the MAAR. In most regions, the farmer (or group of farmers organized in a cooperative) in conjunction with planning agents, decides on the amount of land he will devote to each crop (see Havens' report for more detail on how licencing works). The agricultural engineer then goes to a set of standard tables produced by the Soils Directorate at Douma and determines the necessary inputs required for each crop and enters it onto the requisition. Both forms are then taken to the Mantika office for rechecking and signed by the Section Head.

Very seldom are local modifications of standard recommendations in amount or type of input made. The soil is very rarely tested. The tables used by the engineers apply to all land of a given stabilization area for a given crop in the entire country.⁵

Plant protection is by necessity more specific. On the whole, this seems to be one of the most active sections of the MAAR. If a farmer has problems with plant disease or insect pests, he goes to a Nahia or Mantika level agricultural engineer who tries to determine the nature of the problem. If a diagnosis cannot be made, an expert from a higher level is brought in. The recommendation for inputs has to be checked by the Mantika Section Head and the local Mantika level plant protection specialist.*

*Veterinary services are delivered directly to the farm, usually by an agricultural secondary school-trained technician.

Both agricultural inputs and plant protection chemicals are available privately, but the purchase price at the Agricultural Bank is usually lower than the private market price. In addition, the farmer does not have to pay for chemicals purchased from the Bank until after his harvest is sold. In spite of the many bureaucratic steps and time required, many farmers prefer to get their inputs in this way.

The double-checking of recommended dosages appears to be necessary (although it is often very cursorily done) because many of the field level technicians lack experience and their superiors expect them to make mistakes. It is also apparent that most of these offices are operating with one-third to one-half the needed number of agricultural engineers. This puts the bulk of this work onto the shoulders of senior-level engineers. Since most of the fertilizer distribution appears to be merely a simple calculation, a better way to utilize this level of personnel should be searched for.

The moments for establishing communication linkages between farmers and technicians are always limited. The procedure involving the licencing of production is a natural place to establish a relationship between farmers and agricultural engineers. Credit decisions are involved which can imply that the agricultural techniques of the individual farmer come under scrutiny; under such conditions the necessity for modification of those techniques can be assessed, programs planned and new techniques taught. This opportunity has been mostly lost except in the case of fruit tree production.

Although the licencing procedure appears to be a natural point of contact where technology transfer could take place, this function has not really materialized. Shortage of field personnel means there is little time to be devoted to modifying the national application norms toward local conditions. The shortage of personnel and of vehicles and the seasonal demand for their time also adds to the burden.

The cooperatives have simplified the procedure for the small farmer. By licencing all members of a cooperative at a single time, on a single form, some of the burden has been taken off of the engineers. However, the demand for those engineers falls within certain peak periods when all these inputs must be licenced and delivered. They therefore have little time to demonstrate new techniques to farmers during this most critical period. Likewise, even though the Bank keeps records of all transactions, no data have been collected on how the inputs are actually used. There are no estimates on how much fertilizer is sold by farmers for quick cash needed at the beginning of the season, and no indication of how much of these inputs are applied to other unlicensed crops. The process therefore adds nothing to the knowledge of either the farmer or the engineers.

4.4 Special MAAR Projects: Some Alternative Models for Information Exchange

The Fruit Tree Production Project:

The Fruit Tree Production Project has been applied in Hama (outside of the Ghab region--see section 6 below), Lattakia, Aleppo, Homs, Sweida and Dar'a Mohafazat, as well as Nabk Mantika of Damascus Mohafaza. This program has two specific aims: first to increase fruit tree production by increasing the amount of non-irrigated land under orchards in both the cooperative and private sectors, and to reclaim orchards presently growing on irrigated lands; and second, to improve management practices on land under orchard cultivation in these areas.

In this program, agricultural engineers of the MAAR survey village land and allocate new areas as orchard. Training courses are then given to local farmers (575 farmers have already been trained in Hama in 18 courses). Local agricultural officials are trained as well. The courses stress the latest techniques for planting, grafting, spraying and harvesting.

This training is followed with incentive programs, where farmers who utilize the techniques are given S.f. 20 per dunum (1 dunum = 1/10 hectare), in kind, of either insecticide or fertilizer. The management techniques of the farmers must be approved by a trained local agricultural engineer before these incentives can be obtained. Farmers are also given special prices on seedlings (S.f. 1 each instead of the retail price of S.f. 6 per seedling) and a low rental charge on the use of machinery. Loans are also made available through the Agricultural Cooperative Bank to encourage increased production.

Although only a few such programs are currently underway and only fruit tree production is involved, this type of program represents a new effort to combine information dissemination and incentives to encourage actual changes in agricultural practice. If this type of incentive program were to be utilized in other areas of production or combined with the licencing procedures discussed in section 3 above, there would be a better chance of actually modifying uneconomical agricultural techniques.

Rural Development:

According to Fort, the Rural Development Centers began as part of Syria's first Five Year Plan. They were designed in 1959 with the help of the Egyptians, based on their experience with their own Community Centers. These units are still in existence near Damascus, Dar'a, Sweida, Lattakia, Aleppo, Al-Hasakeh and Deir-ez-zor. Fort makes the following observations as to why the Egyptian concept might face difficulties in Syria; this is a summary of his points:

1. Density of Population: The population of Syria is less dense than Egypt and distances between villages are often great--a problem still relevant.
2. Level of Living: The level of living is higher in Syria than in Egypt. Many services performed by the Centers are available, and though costly are within economic means of Syrians.
3. Subject Matter Specialists: No provision was made for agricultural extension subject matter specialists, nor was the link between extension and research well-defined.
4. Boundaries: The independence of the Mohafazat Agricultural Directors created problems for organization beyond political boundaries.
5. Village-Level Workers: These extension units did not provide for village-level workers with a technical staff. The function of extension was left undefined. (ND:10-11).

The programs of these Centers continue to run, however, primarily under the control of the Ministry of Labor and Social Affairs. The program appears to be cut off from other major programs in other areas, although in the case of agriculture, the MAAR supplies the agricultural engineers and technicians. Most Centers appear to have a relatively small radius of effectiveness.

The advantage of this type of organization is that it places many types of services together in one place. This means that a villager can go to the Center to have help in solving many sorts of problems. The apparent failure has been in "extending" these multiple services into the villages by village-level workers. The idea of combined or integrated services is one which needs further consideration (see Lemel's report on the delivery of social services).

4.5 The General Marketing Organizations

The General Marketing Organizations are the government-owned corporations created for the purpose of buying, selling and sometimes processing certain commodities so as to maintain control over certain areas of the national economy. Some of these corporations are connected directly to the MAAR. The Directors of these general organizations report directly to the Minister. These are the General Organizations for Seed, Cattle, Fisheries, Poultry, Machinery and Feed. In addition, there is the Cotton Bureau, which is one of the Directorates of the MAAR itself. None of these organizations, however, has any role in training farmers, either in the use or the cultivation of their products. This means that technical recommendations

on production which these organizations possess is distributed by other agencies of the MAAR. None of them have direct control of the application of the recommendations in the field. In addition, these organizations do not have the means for monitoring the effects of the application of their recommendations.

In the case of cotton, for example, this gap results in great differences in sowing techniques from one place to the next. Experimenters make recommendations for growing cotton, but get little feedback about the successes and failures of their techniques within certain localities. Local engineers have few instructions about what to do in the case of failure, and the farmers get discouraged and abandon the new techniques. If the Cotton Bureau or other similar organizations had access to adequate feedback, the problems in these situations might be better solved. Again, the problem here is not so much one of a fund of knowledge as it one of communication.

4.6 The Ghab

The Ghab, an area of about 67,500 ha. of irrigable land located 35 km. west of Hama, is part of a massive drainage and land reclamation program which has been underway since the mid-1960s.

Lands drained under the Ghab program were considered State lands, and were to be either leased or allotted under the agrarian reform program. Since the area was traditionally poor and the peasants traditionally victims of usurious loan practices,⁶ means had to be devised to assure credit and the supply of needed inputs at reasonable prices. A regionally planned agriculture in conjunction with the organization of farmers in cooperatives was found to be a solution to many of the problems of the past.⁷

The task of overseeing the general operation of all agricultural programs in the Ghab is in the hands of the Ministry of Agriculture and Agrarian Reform. The day to day supervision of agricultural activities is done both through the Organization for the Exploitation of the Ghab, which is headed by the Minister of Agriculture in Damascus, and the Directorate of Agriculture of the Ghab, which is run by a General Director in Skelbieh. Aside from the difference of names, the two organizations appear to be made up largely of the same personnel. The difference is that the General Director makes routine decisions and oversees the licencing and daily administration, while policy decisions must be made through the Organization for the Exploitation of the Ghab when the Minister takes the reins.

Both organizations have six Directorates (as they are called in the Organization) or Departments (as they are called in the MAAR Directorate). As far as could be determined, the Section Heads are

the same in both.⁸ These six sections are: Administrative Affairs and Budget, Planning and Statistics, Husbandry Production, Rural Engineering, Plant Protection and Training and Extension.⁹

In addition to the six sections (all staffed by experienced agricultural engineers, many with higher degrees and training abroad), there are twelve Field Divisions, each headed by a fairly young agricultural engineer.

In 1969, UN/FAO said the following of the Ghab experience:

The extension services have been combined with the technical advisory services largely because, in practice, it is unlikely that separate qualified and experienced extension staff will be immediately available... It seems preferable to deploy and train the extension agents in a broader field of work initially, in positions where they can command authority (UN/FAO, 1969:195).

This combined responsibility essentially is still characteristic of the field section heads today, except for one thing: an extension and training department head now advises the field workers on extension matters through a monthly meeting, which includes the twelve Field Division Section Heads, the General Director and the Heads of Planning and Statistics, and Extension and Training.

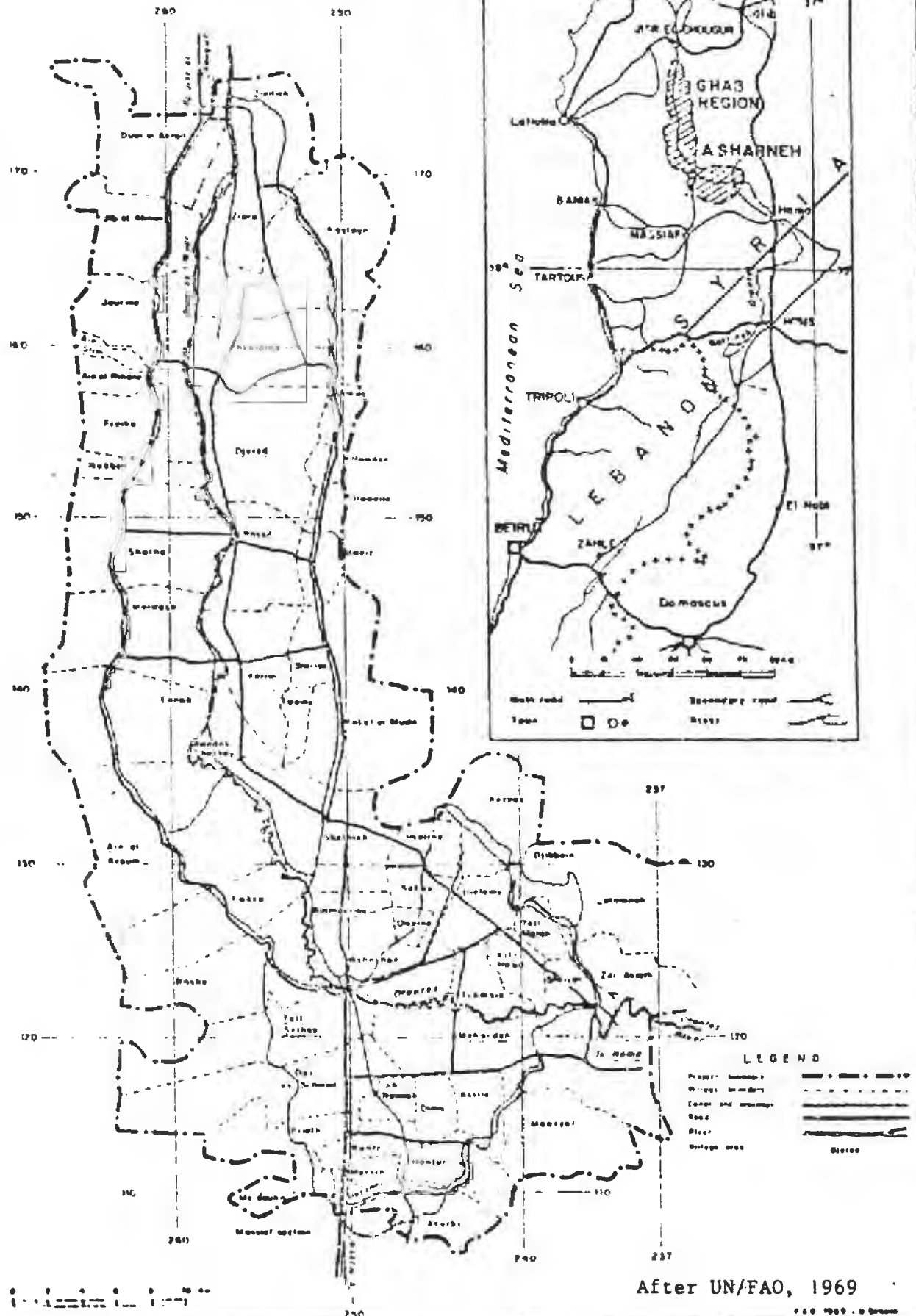
Each field section is theoretically to be made up of an agricultural engineer as section head, two younger agricultural engineers to work with him and three or four observers (technical secondary school graduates). Each unit is to have a car, a driver, and some laborers. Each team handles all agricultural matters within an area of 6,000 irrigated ha.

This ideal system, however, is plagued with chronic shortages of personnel. The actual state of affairs places field division strengths at one agricultural engineer (with about three years experience), two observers (secondary technical school graduates), and one laborer. As an example, one of the most active of these section heads spends about 70 percent of her time in the field and about 30 percent of her time in administration. She works a territory of about 10,000 ha., nearly twice the size of the ideal. She has a vehicle assigned to her for her work, but shortages in vehicles were noted in other areas.

Nearly all of the work of these section heads is overseen and rechecked by the General Director himself. However, his time is limited since there usually is a steady stream of farmers coming through for approvals of credit licencing slips and insecticide prescriptions. In addition to the Director's signature, farmers are also sent to the specialist in charge of the concerned department for his approval. The amount of time involved in paperwork for both the farmers and the staff is quite large.

SYRIA - GHAB PROJECT AREA

MAP 1.



In the Ghab area, according to the engineer in charge of extension, there are 24 demonstration plots for both summer and winter crops (maize, tomatoes, peanuts, safflowers, sunflowers, soya, wheat and cotton). Nine field days are held each year. Pamphlets are given to section heads for distribution. A movie projector is borrowed from Hama to show films several times each year.

The work of the MAAR is closely supported by the Peasant's Union and through them by the cooperatives. All agriculture in the Ghab is determined by the Plan of the Ghab which indicates which rotations will be utilized in which areas. Interviews with farmers indicate that there have been local experimental trials to support the preparation of the Plan. In one case, sugar beet trials were held on farmers' land. After these trials produced largely negative results, onions were selected for the Plan of the area instead.

In support of the Plan, since many of the farmers in the area are small land holders and beneficiaries of the land reform, the Peasant's Union organizes courses principally in the techniques for required rotations: wheat, sugar beet (or onion) and cotton. The Peasant's Union also encourages farmers to grow these crops as part of the Plan, often in spite of marketing problems and labor shortages. There are, of course, instances of unhappiness among farmers for having to conform to the Plan.

One farmer, a cooperative member, said he makes S.f. 12,000 growing cotton on his land. He said he could make S.f. 36,000 growing melons, "We are obliged to grow unprofitable crops. We have no independence and have no role in the decisions made for the plan."

Many farmers in the Ghab are not members of the cooperatives and are very assertive of their independence. These farmers say that they are not invited to training sessions given by the MAAR. Many claim, however, that little that is taught in these courses would be new to them.

Certain problems observed in the Ghab are common in other areas as well. One problem is the amount of confidence farmers have in the MAAR people. Confidence, or lack of it, is fundamental to the communication of new ideas in agriculture and yet there are competing sources of information which tend to undermine confidence in public officials. An example of this competition occurred in the Ghab when a farmer came into the MAAR office with an insecticide prescription written by a field section head. It listed the chemical by its brand name. The plant protection officer crossed out the brand name and wrote in the generic name of the insecticide. He said it was because the brand name was not available at the Bank office at that time. The farmer refused to believe that the two chemicals were the same. Nothing could convince him, not even the word of the Director himself. He finally went storming out of the office feeling he had been cheated. The farmer had, it seems,

noticed many billboards in the vicinity erected by a chemical company listing the virtues of that particular brand. He also may have had personal contact with a company representative, since some farmers claim to have gotten their "extension" information from engineers working for private companies as well as from MAAR technicians.

When farmers were asked where they went for agricultural advice, it was apparent that the MAAR has made inroads in affecting the use of fertilizer and insecticide. Farmers are aware of new technologies and are interested in such things as herbicides, but find they have trouble getting information on how much to use and when.

In spite of these problems, the change in the Ghab is phenomenal. After reading the descriptions of the area written by Dodd (1934), one sees that great progress has been made in health, sanitation, agriculture, education, communications, and roads. The system of delivery of agricultural services seems better in the Ghab than elsewhere in the country, since there are a larger number of experienced engineers and other technicians in the area. Whatever shortcomings we have found in the Ghab only indicate that greater problems are present elsewhere.

4.7 State Farms

There are presently 13 State farms within the SAR concerned primarily with crop production. This accounts for 84,144 ha. of land or only about 0.45 percent of the national total of cultivated land (see Table 3). State farms are managed by agricultural engineers utilizing hired labor to handle all on-farm labor operations. The engineer is primarily an overseer, and he is concerned more with allocating and coordinating labor than with serving the training or guidance function he has to fill elsewhere in the MAAR system.

Some training programs do have to be created in order to permit efficient operations of the farms. In Al-Hasakeh Mohafaza, for example, I found training programs were given for those who would operate mechanical equipment (e.g., harvesters, tractors, etc.) for the farm. Since the equipment operators were hired, often at relatively low wages, there was little to keep them working on the farms after completing the courses. Many of these hired laborers leave the farms and go to work for private landholders.

Direct training is only one use of State farms for training purposes. Another case in Al-Hasakeh Mohafaza shows that State farms are used to demonstrate the utility of new techniques--a type of large-scale demonstration plot. On that farm, the new technique of aerial spraying of herbicides was first demonstrated to farmers in the Kamishli area. These demonstrations are usually side-effects of basic production objectives, however, and not a conscious attempt at the communication of new information.

Table 3. State Farms for Plant Production, 1977

Farm's Name	Loca- tion or Moha- faza	الحيوانات Animals		Area and Production										المساحة الاجمالية مكتر Total area (he)			
				المحاصيل Fruit		محاصيل Pastoral crops		محاصيل Industrial crops		محاصيل Vegetable		بقول Legumes			حبوب Cereals		
				انتاج Prod. (T)	مساحة Area (he)	انتاج Prod. (T)	مساحة Area (he)	انتاج Prod. (T)	مساحة Area (he)	انتاج Prod. (T)	مساحة Area (he)	انتاج Prod. (T)	مساحة Area (he)		انتاج Prod. (T)	مساحة Area (he)	
		أبقار Cows	أغنام Sheep and goats														
Daniascus State farm	Damas- cus	-	-	869	269	-	-	-	-	-	-	-	-	-	-	269	269
Deyleh State farm	Al- Hasakeh	-	-	-	-	-	-	20	-	-	-	163	2229	1043	15623	17872	37224
Derbasieh State farm	Al- Hasakeh	-	-	-	-	-	-	-	-	-	-	45	335	963	1555	1890	2000
Ras El-Ain Sta- te farm	Al- Hasakeh	-	-	-	-	-	-	-	-	-	-	-	-	3239	1448	1448	30663
Air Al-Zarka farm	Al- Hasakeh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	428
Al-Manajeer farm	Al- Hasakeh	-	-	-	-	-	-	219	153	-	-	-	-	671	400	553	639
Kamishly State farm	Al- Hasakeh	-	-	-	-	-	-	-	-	-	-	27	136	30	15	155	326
Sa'lo farm	Deir-az- Zor	-	-	45	210	21	55	58	139	18	-	-	-	75	145	290	859
Al Snial farm	Deir-az- Zor	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Al Rasheed farm	Al-Hasakeh	-	-	-	-	-	-	48	90	-	-	-	-	3643	6609	6699	11289
Abou Feras Al Hamadani farm	Aleppo	-	-	23	127	-	-	-	-	-	-	-	-	135	82	209	209
Al-Hourieh farm	Latakia	-	-	1778	204	-	-	3	5	-	-	-	-	18	16	225	238
Al-Rouf farm	Latakia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total		-	-	2671	648	210	21	325	326	139	18	220	2700	9230	8933	12646	84144

After Statistical Abstract
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5. The Ministry of the Euphrates Dam

The Ministry of the Euphrates is divided into the General Organization of the Euphrates Dam (GOED) and the General Administration for Development of the Euphrates Basin (GADEB), which together are concerned with all activities within this project area. GOED concentrates on the engineering aspects of the Dam itself, and thus does not concern us here. GADEB, however, is in charge of all agricultural and social projects within the Euphrates Basin--including running of pilot project farms, training programs, resettlement projects, and reclamation projects--from the building of irrigation networks down to the development of tourism. It is a massive undertaking which has been the subject of many evaluations and reports. Rather than cover the subject intensively, only the special "extension" features of this program which might account for its superior results will be noted. It should be indicated that many of the effects of this project may not be felt for many years.

1. The GADEB, unlike offices of the MAAR, is able to select engineers in lower-level jobs from any section of the country, not merely from Al-Rakka Mohafaza.¹⁰ It apparently can borrow personnel from the MAAR, even though it is independent of it. Interministerial transfers do take place, however, as in one case where an engineer in GADEB indicated that his next promotion would be to the MAAR in Damascus.

2. The GADEB is attempting to work out a coherent and all-inclusive development strategy or plan. This plan has made use of several innovative techniques, including some basic social research (cf. Gattinara, 1973) to determine local leadership patterns and organization, agricultural trials to determine the best crop rotations, and ecological studies to determine the nature of the larger milieu. These base-line studies are to be followed by activities which will monitor the effects of the Plan on physical, biological and social aspects of the area which will in time allow modifications in the Plan as it gets underway.

3. The GADEB maintains control of all social services within the pilot project areas and attempts to coordinate with relevant ministries outside of these areas (see Owen, 1979). As a result, there should be more integration of the services in this region than in other areas of Syria.

4. GADEB itself operates 15 large farms. Thus, "extension services" for individual farmers are not important. The emphasis is on on-the-job task supervision rather than on influencing the dependent decisions of numerous small farmers. Training is concentrated on managers, who in turn train their subordinates in the use of inputs on specific crops.

5. The Plan is organized in a step-wise fashion. What is learned at each stage is applied in the next phase of expansion. This means that the plan will take into account necessary modifications and training of personnel for the next phase while experimentation continues at an earlier stage.

The system does present a major liability, however, even given its goals. Much of the country's best planners and most effective engineers are being siphoned off by this project. This means that some of the most innovative planning is being done in one small region of the country, as important as it may be, while very real problems in other areas are being largely neglected. Many projects which have been underway for a good many years, such as those in the Ghab, for example, are now being somewhat neglected in order to permit the concentration of talented manpower necessary to coordinate the Euphrates Plan.

As in most countries, there is limited managerial manpower and infrastructure in the SAR, but much of the more developed of these resources appears to be concentrated in the Euphrates Project area. Table 2, for example, shows 113 agricultural engineers working in the Euphrates Basin in 1976. The number itself does not seem excessive, especially considering the enormity of the task, but the ability of the GADEB to pick its engineers from any department indicates that a good number of the best engineers are being concentrated on tasks in this area.

The Euphrates project must be seen as a high-risk venture, a social experiment, with great potential pay-offs. However, to succeed as an experiment means that more than just one area must be irrigated and production introduced. Special measures have to be in place to rapidly transfer what is learned in an experiment to other agencies or ministries, or else what is learned there will be lost through increased neglect of older projects and loss of personnel.

6. General Union of Peasants and Cooperatives

The General Union of Peasants is organizationally independent of the MAAR, but has a close working relationship with it. The Union has its own data gathering unit (within its agricultural affairs section) which provides needed information to regional and national coordinated planning councils which design agricultural policy at all levels. The Union provides the major input from the farmers themselves into higher policy-making councils. At the same time the Cooperative Law (see Ministry of Agrarian Reform Law No. 161 of 1958 and its Amendments, Law No. 88 of 1963) allows the Peasant's Union to draw technical personnel from all relevant departments including the MAAR to help them undertake their programs. The MAAR, therefore, pays many agricultural engineers who are working with union officials for the Peasant's Union. The two organizations, although independent, are closely intertwined.

The local manifestations of the Peasant's Union are the cooperatives. Of 3.867 million ha. of cultivated land in Syria, 0.881 million or about 23 percent is under the cooperative system (see Table 5). There were 3,452 cooperatives in 1977, with a membership of 267,265 farmers. This number is identical to the number of members in the Peasant's Union itself (see Table 6). The two organizational structures were merged in 1976, so that to be a member of a cooperative is to be a member of the Peasant's Union as well. Both are, therefore, composed of small landholders and recipients of land under the agrarian reform program. This is largely the audience the MAAR wishes to reach in technical and agricultural transfer programs. Larger farmers, those in the private sector and landless sharecroppers or hired laborers are not directly represented by this organization at present.

Given actual operations, membership in a cooperative brings certain specific advantages to the small landholder. First, a purchasing cooperative gives a member a somewhat better price on inputs obtained from the Agricultural Credit Bank. The actual difference in price, however, is often small. The second advantage is that the cooperative combines the cropping plans for all small holdings into a single agricultural plan. All inputs are bought together, and the licensing procedures of all small-holdings are handled at one time, on a single form. The small-holding cooperative member is freed then from the paperwork and trips to the Mohafaza center that are constantly part of the credit-seeking non-member's life. In some regions, the combining of smaller plots into a single agricultural plan permits the purchase and economic usage of agricultural machinery over the resulting large tracts of land. (See Haven's report for more on the cooperatives.)

Theoretically each cooperative or group of cooperatives has a full-time agricultural engineer working to help with the technical problems of coordination and advise on new techniques. In actuality, personnel shortages have forced three alternative systems to operate: (a) an agricultural engineer on the Nahia or Mantika level of the MAAR looks in on several cooperatives as part of his list of other duties; (b) a lower-level agricultural specialist (secondary school trained technician) lives on or near the cooperatives; or (c) a mid-level specialist (two-year level) is paid by the MAAR and tours six or seven cooperatives within an area on a regular basis.

It is important to note that the cooperatives and Peasant's Union have greatly improved the leverage of their members in obtaining services from the MAAR and other government agencies. One contributing factor is the fact that the head of the local Peasant's Union and the Agricultural Director of the MAAR are both invariably party members. The party structure presents yet another direct linkage to decision making which can be utilized when an individual needs certain services. Farmers indicated that this linkage usually gets results.

TABLE 5: Number, Area and Members of Cooperatives by Mohafaza, 1977.

Mohafaza	Total	Planted with Trees	Non-irrigated*	Irrigated	Number of Members	Number of Coop-atives.
Damascus	93	14	41	38	27821	244
Aleppo	320	25	282	13	31405	638
Homs	141	9	111	21	21496	360
Hama	156	6	106	44	34931	319
Lattakia	33	7	21	5	14257	265
Deir-ez-zor	55	0	-	55	23853	129
Idleb	132	25	102	5	27392	386
Al-Hasakeh	147	2	131	14	20988	349
Al-Rakka	55	0	40	15	10994	146
Sweida	66	5	61	-	11557	129
Dar'a	65	1	59	5	9246	132
Tartous	78	41	29	8	28154	291
Quneitra	13	2	10	1	5171	44
Total	1354	137	993	224	267265	3432

*Fallow land and pasture are included in non-irrigated areas.

Source: Statistical Abstract, 1978. Table 26/4, p. 228.

TABLE 6: Peasant Confederations, Federations, Unions
and Their Members--1976 and 1977

Mohafaza	Year	Members	Unions	Federations	Confederations
Damascus	1976	25539	239	7	2
	1977	27821	244	8	2
Aleppo	1976	27607	701	7	1
	1977	31405	638	8	1
Homs	1976	19300	359	6	1
	1977	21490	360	6	1
Hama	1976	34855	318	5	1
	1977	34931	319	5	1
Lattakia	1976	13155	260	4	1
	1977	14257	265	4	1
Deir-ez-zor	1976	32386	117	3	1
	1977	23853	129	3	1
Idleb	1976	27117	380	5	1
	1977	27392	386	5	1
Al-Hasakeh	1976	17420	321	4	1
	1977	20988	349	4	1
Al-Rakka	1976	10255	140	2	1
	1977	10994	146	2	1
Sweida	1976	10255	123	3	1
	1977	11557	129	3	1
Dar'a	1976	7552	130	2	1
	1977	9246	132	2	1
Tartous	1976	25772	283	5	1
	1977	28154	291	5	1
Quneitra	1976	4843	42	2	1
	1977	5171	44	2	1
<u>TOTAL:</u>	1976	256036	3413	55	14
	1977	267265	3432	57	14

Source: Statistical Abstract, 1978. Table 13/14 P. 623

Note: Peasant Federations are the collection of Unions operating at the Mantika level. Confederations are the collection of Federations operating at the Mohafaza level.

The Peasant's Union offers special training courses to members. Non-members can attend, although few do. There are two types of special courses available: short courses which accounted for 97 percent of the farmers trained in 1978 and involved 183 courses of six-day duration, and long courses (5) which last from 90 to 145 days (Peasant's Union personal communication). There are other courses as well (see Table 7) which help train the leadership of the organization (such as the course in rural leadership offered to Mohafazat chairmen of the Peasant's Union or the elected farmers, leadership courses offered to members of the Mohafazat Peasant's Union boards, etc.) as well as training programs for advisors (agricultural engineers, graduates of universities and graduates of agricultural vocational schools working in the Union). These courses largely concern policy issues and orient the trainee toward the goals of the Peasant's Union.

The longer courses are in accounting (to farmers with preparatory school certificates who are selected to keep the records of individual cooperatives) and in machinery (for those selected to drive and maintain the cooperatives' agricultural machinery).

The short courses for farmers are more varied in nature and are taught in Mohafazat centers throughout the country, as well as at the Peasant's Union Center in Damascus. These courses each have from 20-30 participants and include specialized training in insecticide usage, field crops, horticulture techniques and the like.

Farmers who take these courses are selected by the local cooperatives and are placed "under obligation" to go. Farmers are paid S.f. 8 per diem for meals (and are generally expected to return home each night) or S.f. 150 per month for long courses where they are expected to remain in the district center.

This system of training farmers and aiding in the information exchange process has encountered several problems, however:

First, the difference in age and practical experience between the agricultural engineers who teach these courses and the farmers who take them is often significant. It is difficult for farmers to take instruction from younger teachers--especially in a society where age is often taken as a sign of increased wisdom.

Second, the technical level of these courses is not so high as it should be (see Bakour, 1978) and there is too little practical information given to the farmers to warrant his taking the time to go to the courses. Representatives of the Peasant's Union were very frank in admitting this problem and are now seeking ways to improve this state of affairs. This should be commended and encouraged. If the content of the courses and the quality of instruction are improved, farmers will be more easily attracted to come.

Finally, there is the problem of inadequate per diems. Although the budget is understandably limited in the area of training, a farmer sees his time as being worth S.f. 50 per day, according to a spokesman for the Peasant's Union, compared to the S.f. 8 he receives for attending a short course given in a Mohafaza center. Farmers' perceptions are that very frequently the technical information received does not compensate them for the lost revenue. It appears, however, that if the level of instruction improved, the balance might change and willing attendance could increase with little change in the per diem rate. Instead of focussing on methods of improving curriculum by means of more farmer participation in the design of courses, however, the present system is one of quotas, where each cooperative is obligated to register a certain given number of trainees to assure the filling of the courses given each year. Since farmers prefer not to attend the courses and use what influence they have to get out of going, only those with little or no local influence end up having to take the courses as the cooperative representative. Hence, even if the courses were first-rate, they are attended by many individuals least able to influence other farmers in the cooperative or to transfer what they have learned to these farmers. By improving the quality of instruction farmers could be increasingly attracted to these courses and, more importantly, influential farmers could be attracted with little change in budget. Table 8 presents some of the other programs available to farmers according to Bakour. Table 9 indicates the rate at which trainers and other individuals responsible for the farmer training programs are being produced.

The Peasant's Union is also trying to open some special stores within cooperatives in seven Mohafazat. For the time being, these stores will specialize in the sale of insecticides. Each shop is supposed to utilize the services of an agricultural engineer and an accountant. The purpose of the shops is to convince farmers to use insecticides properly. After more experience is gained, these shops will expand into other services and areas.

I was unable to visit one of these shops but even in theory their purpose is unclear. The shops are apparently designed to eliminate private middlemen who charge excessive prices. However, in areas where the ACB is active, such shops would be able to offer little that is not already offered by the Agricultural Cooperative Bank (see below), which is supposed to supply inputs, including insecticide, to members of the cooperatives, or by the agricultural engineer or similar workers already assigned to the cooperatives for technical assistance purposes. If these stores utilize additional resources to duplicate roles already fulfilled by existing institutions, it is a waste of already scarce personnel. Although I may have mis-understood the function of these shops, as stated it appears to too narrowly define the ways in which broadly-trained agricultural engineers are to be employed.

TABLE 7: Peasant's Union Training Plan for 1977

Training Plan	Number	Trainees No.	Trainees' Qualifications
Rural Leadership	1	13	Elected chairmen of the farmers Cooperative Union Mohafazat.
Elected Farmers Leadership in Mohafazat	3	60	Elected members of the board of Farmers Union in Mohafazat.
County Farmers' Leadership	10	190	Elected members of board of Farmers Units
General Farmers Union Officials	5	65	Graduates of different university departments working as directors in Farmers Union
Agronomists working in the Union	2	60	B.A. in Agriculture
Animal Husbandry	1	20	Graduates of agricultural vocational schools working in the Union
Ag. Advisors	15	340	Graduates of agricultural vocational schools working in the Union
Accountants	12	240	Farmers with preparatory school certificate working as accountants with coops
Administrators	11	330	Officials working as administrators
Farmers training on different subjects in each Mohafaza	187	3992*	Farmers
Rural Industry (Carpet weaving)	46	1150	Farmers and their families
TOTAL	293	6395	

*This figure is presumably the correct one, even though in the original report (in English) the figure given is 392 which is far too small.

TABLE 8: Training Programs Available to Farmers
in the SAR, 1976-1977

Office Delivering Program	Program Offered	No. of Farmers Trained	No. of Programs or Classes/year
MAAR: Education Directorate	Ag. & Veterinary secondary schools	1219	8 (1977)
Training Directorate	Training courses	1397	N.A. (1970)
		1842	" (1971)
		812	" (1972)
		2083	" (1973)
		2197	" (1974)
		1200	" (1975)
		1496	" (1976)
		---	" (1977)
Peasant's Union	(see Table 7)	6395	293 (1977)**
		3060	154 (1976)**
	Technical Training	3183	176 (1977)
		1100	73 (1974)
Min. of Labor and Social Affairs	Rural Industries Training	1717	55 (1976)
	Countryside Recreation Centers		
	(a) Rugs + Tricot	466	19 (1977)
	(b) Illiteracy	1284	55 (1977)
	(c) Home Economics	381	17 (1977)
Institute of Peasant Education:	(a) Central	Leadership	
		73	1 (1976)
		95	1 (1972)
	(b) Branch	124	1 (1968)
		Leadership	
		719	N.A. (1976)
		1767	" (1972)
Ministry of Euphrates Dam: (GADEB)	Literacy Peasant's Education Driver & Mechanics	185	" (1969)
		780	37 (1977)
		65	2 (1972-77)
		426	20 (1972-77)

**Planned, not actual figures.

Source: Y. Bakour, 1978 passim.; and Statistical Abstract, 1978, p.489 Table 19/10.

TABLE 9: Management and Trainer Training Programs, 1976-1977

Office Delivering Program	Program Offered	No. of Managers or Trainees	No. Of Programs (Year)
Ministry of Agriculture and Agrarian Reform	Management Trainee	2103	207 (1977)
Peasant's Union	" "	600	31 (1976)
Ministry of the Euphrates Dam	" **	1797	7 (1977)*

*Planned

**Includes drivers, mechanics and electricians

Source: Y. Bakour, 1978. passim.

7. General Organization for Tobacco

The General Organization for Tobacco, or the Tobacco Monopoly, is connected with the Ministry of Economy and External Trade, not the MAAR, and is responsible for all phases of the tobacco industry, including research into tobacco, the making of cigarettes, and the enforcement of tax regulations. For our concerns, however, it is the only such special organization which does not rely on the MAAR to transmit relevant technical information to farmers. The Tobacco Monopoly does its own extension work.

Concentrated largely in Lattakia and Tartous Mohafazat, the Tobacco Monopoly licences all tobacco agriculture. To get a licence, a farmer has to certify that he has certain types of soil on his land and his land must be within a specified area. He is given a licence and assigned to grow tobacco on a specified amount of land. Since tobacco is a highly profitable crop, most eligible farmers want to be licenced to grow it. The Monopoly restricts the amount of land which can be cultivated, however, which results in more farmers wanting to be licenced than can actually be accomodated.

The situation has proved helpful to those involved in spreading new agricultural techniques among farmers. One example of this is in the history of the diffusion of the use of plastic tunnels to protect tobacco seedlings before transplanting. According to the Tobacco Office in Tartous, the use of these tunnels reached 100 percent of the farmers within a year of introduction. This was accomplished by making licencing contingent upon use of the new technique and by handing the materials and instructions along with the licence and the seed.¹¹

8. The Agricultural Cooperative Bank

The Agricultural Cooperative Bank supplies Syrian Farmers with low-cost subsidized credit in both cash and kind. In addition to supplying financial credit, the Cooperative Bank directly supplies major inputs needed for agriculture at lower-than-market prices. Credit from the Bank is obtained through the licencing procedures outlined above in the section on administration. Although there is no guarantee that a farmer will use these inputs according to the instructions of the MAAR, there is a potential for a great deal of control over farmers' methods utilizing this link.

Farmers who were interviewed see the Agricultural Bank as a means of making possible changes in their agricultural practices. In one case, a farmer said that he converted from crop to orchard production by means of a pump bought, in part, with a loan from the Bank. The Bank's role in specialized programs, such as the fruit tree

intensification project described earlier in this report, shows that it is sometimes used by the MAAR in a coordinated manner, to supply inputs so as to encourage the use of certain production techniques. The fact that farmers have difficulties in getting credit for growing low priority crops in certain areas is generally enough to discourage the growing of these crops. The Bank must be seen therefore, as part of the agricultural information system and as a potential regulator, encouraging some types of agricultural decisions while discouraging others.

At the same time, some farmers prefer to remain outside of this system, and it appears common for farmers in some areas of the country to borrow money from relatives, neighbors, and other sources. In additions, farmers rely on the larger landlords or merchants for credit. Some wealthier farmers deal strictly in cash, and continue to buy their inputs from private merchants. The reasons for these transactions are complex and should be part of long-term studies of local economic practices.

9. International Agencies

International agencies attract many of the most able Syrian agricultural engineers away from government service by offering higher salaries and promising access to higher education and more challenging careers. Some of the programs are well designed, but unfortunately in most cases have only indirect effects on the delivery of services and in particular on the delivery of technical information to Syrian farmers.

Many of these organizations, such as FAO, are concerned with planning and advice to the government. Others, such as ACSAD and ICARDA are oriented toward research and the testing of new varieties or techniques within the SAR. Although both FAO and ACSAD have field projects, information on their "extension" activities is scant, and this report will not discuss them. ICARDA has given some consideration to the communication problem which deserves some analysis as a means by which interaction between farmers and government agricultural engineers can be increased to the mutual benefit of both.

ICARDA is doing a series of trials in various stabilization areas to compare the productivity of wheat varieties under varying conditions and cultivation techniques. What is unusual about this activity in the Syiran context is the kind of information being sought and the way in which information about technology is exchanged (cf. News from ICARDA, No. 1, March, 1978).

First, preliminary research is done to get basic data on the test area. This includes data on physical, biological and socio-economic factors which affect farming systems. Then the farming systems themselves are studied and defined. Trial programs called "Field Verification Trials" are established and are carried out in such a way as to maximize the participation of the farmer in both cultivation activities and in the evaluation process.

The farmer is involved in every operation of the "field verification trial." He sees new techniques performed by a technician and he has a chance to try them by himself. All activities are undertaken with the farmer present. The verificant trials are put in highly visible areas, and other farmers are encouraged to watch the techniques and participate if they choose. Their comments are always invited, and the engineer answers questions they might have. The plots themselves combine different varieties of seed (including the farmer's own seed) and utilize new cultivation techniques. These are grown in close proximity to the farmer's ordinary fields so that passersby and the farmer himself can compare the various types at any stage of growth. Special harvesters are used so that differences in yield can be noted. The opinions of farmers on each variety and on the cultivation methods are recorded and evaluated. Farmer's opinions are integrated into the program as far as possible and are taken seriously in further planning. This allows ICARDA to modify their programs in precisely definable ways to maximize future audience acceptance.

Other steps are then taken. The engineer in charge of the program knows enough about rural societies to be able to define what a socio-economically "average" farmer is like within his area. He is thus able to precisely determine, within local terms, what different types of farmers he is working with. Programs then can be modified to reach a specific audience within an area if that is desired.

What is significant about ICARDA's method is that it encourages two-way communication between agricultural engineers and farmers: the technician learn from farmers and teaches them at the same time. Most importantly, it gives both the farmer and the engineer tangible results which can lead to an improved basis for agricultural decisions. Although this technique is used here only for wheat trials, there is no reason why it cannot be modified for use with other crops as well. (cf. ICARDA Project Report, No. 1, November 1978).

The secret of ICARDA's success appears to be in their training program for the engineers carrying out the trials. This program attempts to change the attitude of the engineers to be more favorable about working directly with farmers. First, time is taken to improve the agricultural engineer's basic competence in practical agriculture (it should be recalled that engineers often feel that their formal education was weak in practical training). Apparently

this increases their confidence and consequently increases their willingness to participate in two-way interactions with farmers.

After the practical training comes the actual field verification trials. The engineer's first experience is monitored in order to maximize his own learning, but subsequently the trials are conducted to fulfill actual research goals. These trials help the engineer to gather data for planning and to organize his later tasks in an area. The routine nature of the trial gives him a reason to be in the area and an excuse to introduce himself around to farmers. The engineer's training allows him to gain a basic understanding of local social variables and the place of individual farmers within the local system, as well as helping him increase his understanding of local farmer needs. This technique should be considered as a first step by the MAAR for increasing the ability of field level engineers to approach their work in a thorough and systematic way. It is recommended that at least the staff of the MAAR Extension Directorate concerned with the new In-Service Training Unit undergo the ICARDA training program in order to gain insight into some of the excellent philosophies of this program and to help them modify elements of the program for their own use.

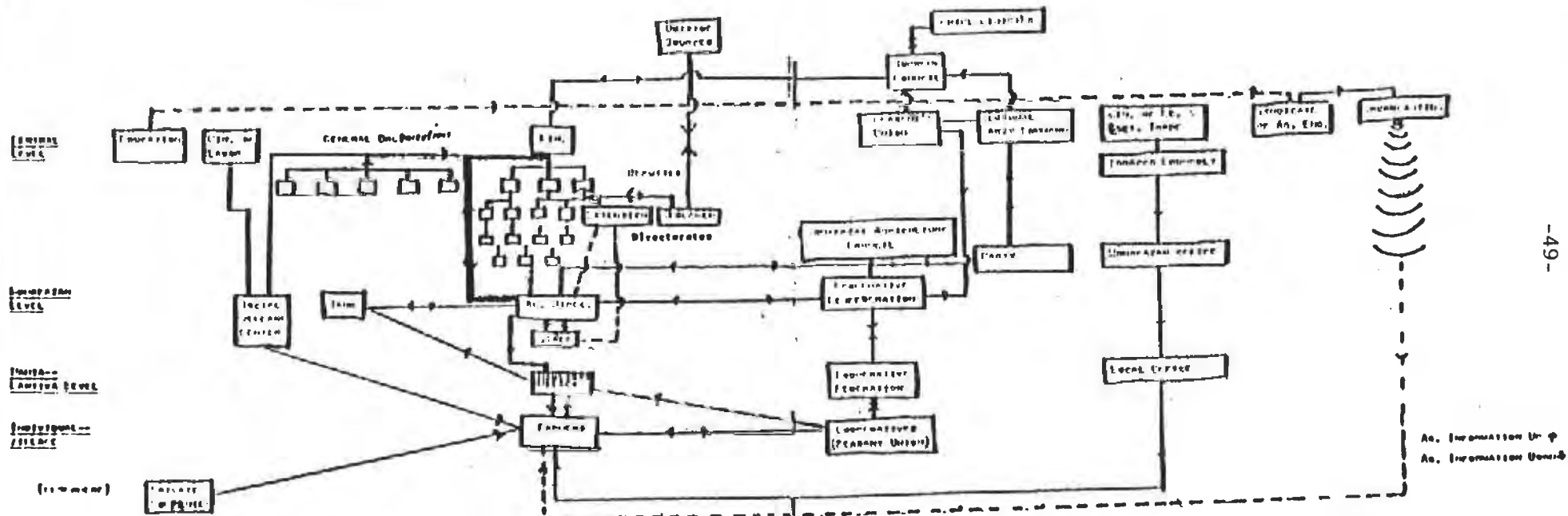
10. Summary and Recommendations

Figure 4 presents a schematic diagram of some of the organizations which we have discussed, and their interrelationships in terms of the direction of communications flow between them. Although the possibilities of changing established patterns of communication is always limited, close inspection of those patterns can suggest areas of programming which need to be strengthened.

We have noted, for example, that transmitting of information between organizational levels takes place only between the executive offices at each level. Thus the Head of Section for Extension at the Mohafaza level is supposed to communicate to the Extension Directorate only through the Mohafaza Agricultural Director. The Mohafaza Director will generally contact the National Directorates, such as Extension, through the Minister's office, unless the problem is of a minor kind. It is then up to the Minister to contact a Director to allocate the problem to one of his staff. Thus no special office has a continuous structure throughout the MAAR chain of command. Each service, on each geographic level, represents a "cabinet office" to the executive in charge at that level, creating a discontinuity between levels of government and regions at the same level.

Even more striking, however, is the great number of quasi-autonomous agencies which utilize the MAAR as their only means of transmitting information to local offices and farmers. Thus the General Organizations, for example, are only linked through the Minister's office to the Mohafazat offices, the Mantika offices

FIG. 4. AUTOMATIC INFORMATION SYSTEM OF THE TOWN AND COUNTRY -- POLICE



and to the farmers themselves. Likewise the farmers, the cooperatives, the Agricultural Cooperative Bank, the General Feed Organization (not shown), the Peasant's Union and the local agricultural engineers are only inter-linked through the Mantika Head of Service, the executive at this level.

Since we are concerned primarily with technical information, this means that a problem with a crop or production technique in one of the General Organizations would have to be transmitted to the Minister's office and from there, for example, to the Plant Protection Directorate. A problem with a crop within a certain Nahia might then be called to the attention of the agricultural engineer, who would then contact the Mantika Head of Service. If he thought the problem was important, he would contact his engineer concerned with plant protection. If no solution could be found at that level, the problem goes to the Mohafaza Director of Agriculture, who in turn contacts his plant pathology Head of Service. If he has no solution, he can call Damascus by radio, but a sample may have to be sent in. The link at last is made with the man who had received the new technique from the General Organization's researchers in the first place, and the solution is returned down the line to the farmer.

In this system, the linkages are present and the services are there, but as many farmers and local-level engineers noted, services often come too late to be of benefit. The information has not flowed swiftly enough in many instances.

The present system is based on preventing the limited resources of Syria from being unnecessarily overburdened. One doesn't use highly trained specialists for routine problems, so the Directors serve the function of "gatekeepers," allowing only severe problems to move up to the next higher level of expertise. Unfortunately, the Director, already overworked in his policy setting (on the Agricultural Council with the Peasant's Union and Party) and his administrative roles, becomes overloaded and cannot act effectively as a gatekeeper in all areas, as he is expected to do. Even with his assistant (whose job is concerned almost entirely with agricultural affairs), there comes a point where the system will simply no longer function. Strong direct linkages must be established between the specialized offices at various levels, both in programming (downward flow of information) and data collection or monitoring of program effects (upward flow of information). This would be the role of the executive as coordinator of efforts within a single level, yet would be a move towards increasing the number of parallel channels for information diffusion.

Other ways in which the number of parallel channels could be increased is through giving more power to the General Organizations for doing their own extension operations, or at least encouraging them to monitor the applications of their own research so that their programs can be modified to face the realities of applying programs in the field (as in the case of the Tobacco Monopoly).

In addition, the effect of radio as a parallel channel of communication could be increased with a few minor modifications and little rise in cost. These are: include the MAAR among the inputs for scripting (along with the Peasant's Union and the Syndicate of Agricultural Engineers); and change the time of broadcasting from late afternoon to early evening to catch farmers after they return to their homes from their fields.

The Peasant's Union training programs could also provide additional parallel channels for information diffusion. Their programs must be improved, however, both in terms of technical content and farmer incentives for coming. As long as farmers do not want to attend these programs they will have little effect. The desirability of the programs in repair and maintenance of agricultural vehicles show that increased technical relevance is often enough to increase course desirability without increased monetary incentives.

Finally, the Peasant's Union should begin to utilize the agricultural engineers on its staff in more field-level training programs, in addition to its classroom-style programs. These can be instituted as follow-up programs in cooperatives that have recently sent farmers to attend classes in the institute center. By sending an engineer or technician back with the trainee, the Peasant's Union would lend support to him in helping to convince others to utilize new methods. The short visit of the engineer (perhaps for one week) would allow the trainee enough support so that he could begin to talk about what he has learned.

The basic problem of rural services in Syria, however, remains one of attitude. There is an emphasis on what Felstehausen has called "narrow-spectrum" services, with "office-bound methods and symptomatic treatment." As in Colombia, the question is one of whether extension should treat merely individual and farm problems or infrastructural problems as well. He notes that

Extension agencies in most parts of the world have by tradition concentrated on biological, physical and personal factors. Infrastructural requirements have been left to local governments and community level action organizations. (1969:14).

Given the limited delivery of these services on the rural level in Syria, it seems unlikely that any purpose would be served by continued separation of this function.

In 1955, the IBRD made the following recommendation for extension in Syria,

The mission has given considerable thought to the problem of organizing effective work among the agricultural population in villages. Our conclusion is that this work would best be entrusted to a special

rural community development organization...The justification for a special organization rests primarily on the fact that a properly conceived village improvement program transcends the bounds of agriculture. Its principal task will always be to raise the standards of agriculture and animal husbandry, the source of livelihood of the villages... Standards of housing, health and sanitation, and adult education must be raised...The program the mission has in mind calls for the progressive introduction of rural community workers into the villages. His training should be primarily agricultural. The knowledge of the community worker need not be profound...In many respects he would be an intermediary between the villagers and the government services which can assist them. (96-97).

The conception of the agricultural engineers as rural development workers acting as an ally of rural populations in helping to organize the farmers to pressure for services and help them to work themselves for village improvement should be further explored in Syria. But it must be remembered that communication between farmers and agricultural engineers does not yet take place with any regularity or ease. Farmers interviewed appear to define their concerns as those of infrastructure: clinics, schools, lack of drinking water. Agricultural engineers see the problems still as merely a matter of bringing new technologies to local agriculture. The road that needs to be traveled between the two sets of concerns is a long one. The first step is to open the communication link between the two and create the action agencies that can effect integrated change in rural life.

ICARDA's approach to the problem is one of increasing the practical competence of the agricultural engineer in general agriculture as a first step. Their training moves away from the theoretical approach to the mechanics of seed bed preparation, machinery usage and so on. It is felt that as the engineers' competence is increased in this area, confidence will also increase, they will be willing to interact more often with farmers. It is too early to judge their success, but the idea appears to have merit.

Another step might be to improve the practical content of the general agricultural education received by most engineers and to provide in-service training to those in the field. This would call for farmer and ministerial support in university curriculum development, equipment purchase and instructors in the initial phase of the program. In-service training for engineers already graduated would require a revitalization of that section of the Extension Directorate, the development of a curriculum, purchase of support infrastructure and training of a staff. All of these would require outside support.

It would be hoped that both of these programs would utilize an initial methodology similar to that described for ICARDA's field trials which would:

1. Encourage the engineer to look at the sociological and economic characteristics of the community in which he works and utilize these in evaluating participation of farmers;
2. Encourage the engineer to experiment with local variations to determine which seeds and input mix best suit local needs;
3. Use these experiments as a means for contracting farmers and getting their ideas on needed technological changes, in addition to merely demonstrating new techniques. The newly developed techniques themselves could be made more relevant to the farmers' needs through this mutual interaction. More important, however, is that the engineer would have a more systematic approach toward understanding the farmers' needs, while the farmers could learn something about the scientific approach toward problems.

The ICARDA techniques represent a first step. It is an improvement over the rather non-directed approach which appears to exist today. Although agricultural engineers satisfy the quotas of work set in the programs, it is evident that they often have little interest in their work. The alternative approach suggested by ICARDA begins to point the way toward goals that would attract college-trained individuals toward occupations of national service and motivate them to work with farmers once they enter government service.

Taking the next step, from rural agricultural concerns to one of community development would require national support of a new type. Institutions like the MAAR would not be sufficient on a local level to provide all of the services necessary for this approach. What is needed is to integrate services at higher levels in rural communities and use the community worker to extend those services in the villages themselves.

There are organizations already in existence which provide some of these features. These are:

Social Welfare Centers: Which provide multiple services within rural areas. Although the program is limited, it shows that coordination between ministries can take place for the purpose of local delivery of services.

Cooperatives: Provide a means for organizing farmers at a level beyond their family concerns and traditional alliances. ¹²

Peasant's Union: Represents the interests of some farmers, acting sometimes as advocates for their interests in improving the quality of rural life.

Fruit Tree Production Project: Coordinates both training and supply, incentives and planning to produce a large-scale attempt at increasing fruit production within Syria. This program shows how coordination can be utilized to satisfy limited uniform goals.

Ministry of the Euphrates: Shows how services can be integrated and coordinated on the basis of geography to serve local concerns. There is no reason why this geographic approach toward integration could not be repeated, even within smaller localities.

Each of these provide models for a larger integration of services which could in turn provide the institutional support necessary for the local-level community worker. The ICARDA model would be used merely as a bridge between old and the new, helping the agricultural engineer to change his patterns of understanding to suit the new requirements. Institution building and modified training programs would provide new types of personnel to support the engineer as he then takes the next step toward a larger role. This first step requires the opening of farmer-engineer communication and that is where the initial concentration of effort must take place.

Finally, preliminary research into local communities and follow-up studies on the effects of government activities cannot merely be tacked onto existing bureaucracies. These procedures must be an integral part of all planning procedures. This is not being done in any of the organizations of the SARG with the possible exception of GADEB.

Al-Attar (1975) did a study of radio-listening habits of sugar beet farmers in Damascus Mohafaza, but this sort of research has not been continued in the MAAR. As a consequence, the "Voice of the Farmer" for example, has been broadcast for 15 years at a time when farmers can't listen to it. Research would have shown this fact. It hasn't been done.

Furrow planting of cotton does not work in some soils in the Ghab. Farmers do not utilize the technique in any areas because of this fact. Research would have shown this, and the program or technique could have been modified. It hasn't been done.

An attempt has been made to show how the field engineer can improve his interaction with the farmer. We have also tried to show ways in which the engineer can be utilized in some collection of localized data which can be of use to planners. If the agricultural engineer is used too much for this kind of work, however, he soon will lose efficiency in his regular duties within the community. Every government unit which interacts with communities must have the capacity to comprehend problems within those communities, and each agency must be able to monitor its own effect. The task is massive because it has been done so little in the past.

There is no substitute for basic socio-economic research carried out systematically by trained personnel. Ideally, Syria needs to embark on a program of encouraging social scientists from various

countries to do research as well as to help train students in the techniques of applied research. In order that Syria can benefit from this work, it is recommended that an Institute for Syrian Studies be started in connection with the university to act as a liaison and coordination unit for the carrying out of research on the social organization and other aspects of the lives of groups living within Syria. This program could be a home base, in initial years, for students sent abroad on scholarships and scholars coming from overseas. Eventually, however, it could be a center where most of the necessary basic social research could be carried on by locally trained scientists. The Institute would stress research connected with development problems and could develop a direct connection with the Planning Commission, so that needed information from any locality could be obtained for any special project. At the same time, the Institute could maintain an on-going series of research projects which would add to the public's knowledge about the living traditions within Syria, through scholarly and semi-popular publications.

Conclusions:

It has been necessary to explore a large number of institutions to carry out this analysis of the agricultural information system in the SAR. It is the purpose of this final section to summarize these observations and offer some recommendations to the government for:

1. Location of Agricultural Engineers Serving Extension Functions.

Field level agricultural engineers should continue to serve as often as possible in their own home areas, especially in areas where there is relative ethnic homogeneity. The advantage of utilizing a member of a community as an "extension agent" to overcome the natural reticence of some communities toward contacts with the outside far outweighs the disadvantages of that practice. In heterogeneous areas, however, means would have to be found to assure normal interaction between engineers and other communities of which they are not a part.

2. Preparation and Training of Field Personnel.

The training of agricultural engineers needs to be significantly re-oriented toward stressing the practical aspects of agriculture. Having practical experience will increase the engineers' competence in the field and in turn raise their confidence, thus increasing their ability for interaction with farmers. Increased interaction between farmers and engineers (and their staffs) improves the climate for communication which in turn improves the climate for development.

Interviews with field personnel of the MAAR indicate that they are operating with one-third to one-half the number of agricultural engineers necessary for present programs. It is therefore recommended that the number of engineers and supporting personnel be increased.

However, program effectiveness is not merely a question of numbers. Rather, the training of existing engineers needs to be improved, with the number of new engineers being slowly increased as new and useful slots can be opened for them.

3. Field Contacts with Farmers.

Programs such as the old (pre-1968) extension service, ICARDA, the Fruit Tree Production Program, the Tobacco Monopoly Program and programs in the Ghab have been successful partially as a result of their high degree of contact with farmers. Any extension program must follow these examples if it is to be successful. Personal communication, demonstrations and interaction have been shown within the Syrian context to be highly effective as a means of information exchange. Pamphlets, films, broadcasts, etc. can inform the farmer, but personal contact with trusted innovators and village leaders is a minimum necessity for actual changes in farming techniques to take place. The practice of having agricultural engineers and technicians serve in their own communities coupled with improved training of those engineers would increase the trustworthiness of these individuals. Stress in extension must continue to be laid at the field level rather than on a sophisticated media-oriented directorate.

4. Use of Multiple Communication Channels within the MAAR and with Farmers.

The executive level offices of the MAAR are apparently overutilized for transmitting agricultural information between levels and between departments in the agricultural sphere. There tends to exist serious communication overload at certain administrative points in the system. More channels of communication must be established between different levels of special purpose directorates within the MAAR and offices outside the MAAR must establish their own parallel linkages to farmers. These will both increase the chances of messages getting through and permit organizations to monitor their own effects by increasing two-way communication.

5. Decentralization and Adaptation of Programs.

Although the independence of the Agricultural Director at the Mohafaza level indicates a potential for decentralization of agricultural programming, our analyses of the licencing procedure, the extension directorate and other special programs of the MAAR show a heavy reliance on centrally planned programs and input recommendations which often do not sufficiently take into account local conditions. Local geographic conditions must be used to modify even the best centrally planned programs if such programs are to succeed on the local level.

6. Extension as a Specialized Function.

The recent decision to create a special organization for extension within the MAAR is to be highly commended.¹³ Attempts by special purpose organizations to organize their own extension services have failed to achieve significant results, at least in part because they necessitate great manpower requirements and they lower the efficiency of specialists in delivering services by giving them higher workloads not specifically relevant to their talents. Properly organized, an "extension service" could take localized problems into account, while concentrating on the specialized problem of information exchange. Other organizations could continue to communicate information to farmers in their commodity areas, but such communication delivery should be coordinated with the extension program of the MAAR.

7. Farmer Cooperatives within an Extension Strategy.

The multiplicity of channels for information exchange between farmers and technicians should be stressed in training as well as communication within and between departments (number 4 above). Thus in addition to the "extension service" of the MAAR, it is recommended that the extension and communication functions of the peasant's cooperatives should be improved. This is not to say that the Peasant's Union or cooperatives should be the sole source of technical information. The cooperatives, as we have shown, have a limited clientele and thus too much emphasis on extension delivery by these cooperatives would leave a great many farmers without a source of this necessary data. At the same time, farmers within the cooperative system find the Peasant's Union a credible source and an extension program would complement its other services. The Peasant's Union indicated that its training and extension programs would have to be greatly improved, especially in agricultural information content, before this could successfully take place.

8. Extension Coordinated with other MAAR Functions.

Combinations of regulation enforcement, extension and incentives seem to be the fastest means utilized in inducing change in agriculture. This has been demonstrated in both the Fruit Tree Production Project and in the Tobacco Monopoly's plastic tunnel program for seedlings.

9. Socio-Economic Research and Planning.

Although it would be inappropriate for this report to assess the reasons for success or failure for the GADEB, it appears that both the Euphrates Project and to a certain extent the Ghab Project have attempted to use socio-economic research into farming systems as a component of their planning process with feedback at every stage of growth concerning the effects of their programs. This kind of practice needs to be encouraged in other projects as well, both in planning and in monitoring the effects of projects. This can also be increased by encouraging socio-economic research programs in the universities and linking the gathering of data to the planning process.

Notes

1. A certain percentage of the number of registered engineers are presently in the Syrian armed forces under compulsory military service. It was impossible to determine the exact total, although estimates range from 1/3 to as high as 1/2 of the 1977 total. This should be taken into account in manpower estimates, but the effects are hard to assess.

2. I am told that the name "agricultural engineer" was invented to lend glamour to an otherwise unattractive position. There is no equivalent to this title in American agriculture.

3. There are exceptions to the rule that one is hired in his own Mohafaza, but these exceptions generally involve special purpose ministries, such as the Euphrates Ministry or offices outside of the MAAR. As one moves up the ladder, however, one is more likely to be assigned to a post in an area outside of one's own Mohafaza. This makes some engineers reluctant to strive for promotion.

4. An agricultural engineer is paid more to work outside of Damascus and other urban areas, generally 100-300 pounds more depending on level of experience and the degree of hardship encountered in the region. Some engineers would like to be promoted back to Damascus because of the attractions of life in the city, but literally cannot afford it; even with a promotion, moving to the city with its higher living costs would mean a net loss of income.

5. "Stabilization area" (or region) is a term used to define land use by the amount of rainfall. The primary use of land classification of this kind is to limit the kinds of production allowed in certain areas. Land type is taken into account, then, in the fertilizer licencing procedures. Stabilization areas are defined in the Statistical Abstract as follows:

First Stability Region: Annual rainfall is over 350 mm. and not less than 300 mm. in two-thirds of the considered years.

Second Stability Region: Rainfall rate ranges between 25-300 mm. and not less than 250 mm. in two-thirds of the considered years.

Third Stability Region: Rainfall rate is over 250 mm. and not less than this rate at the mid-considered years.

Fourth Stability Region: (Marginal) rainfall rate ranges between 200-250 mm. and not less than 200 mm. in 150 of the considered years.

Fifth Stability Region: Other lands not considered above.

6. "It has been mentioned that as much as 50 percent was charged in 1952 for loans granted in cotton cultivation" (UN/FAO, 1969:197).
7. "Alawi peasants of the Ghab region forced the government in 1969 to end a system of obtaining supplies from small entrepreneurs in Hama--a system that greatly indebted them to the Agricultural Bank in order to pay their debts to the businessmen. The government suppressed the uprising with force, but instituted cooperatives to correct the abuse" (Galvani, 1974:10).
8. One explanation for this double bureaucracy was that the Organization for the Exploitation of the Ghab was once independently financed. At that time, both agencies had separate staffs and only the Directorate was part of the MAAR. Today both are part of a single MAAR budget and financial constraints have caused them to trim their staffs.
9. At one time there was a cooperative directorate as well within this system; now, however, the cooperatives are run directly by the Peasant's Union in the area.
10. In addition to the Ministry of the Euphrates, there is also a MAAR Agricultural Directorate in Al-Rakka Mohafaza. This is run like all other Directorates and serves farmers outside of the Euphrates project area, but within the Mohafaza.
11. Very few agricultural engineers are employed by the Tobacco Monopoly. This is due to the fact that apparently a lot of hiring was done before many agricultural engineers were commonly available. The staff appears to be stable, remaining in their jobs for long periods. In spite of their lower qualifications, the "professional and technical" staff is said to be experienced and quite adequate for the job. When asked how these lesser-trained individuals handle plant protection problems, one official said, "The diseases of tobacco are well known and our plant protection man has been doing his job for many years. He doesn't have any degrees, but the job is pretty routine." The Tobacco Monopoly appears to be an independent kingdom, sealed off from the rest of the agriculture in Syria.
12. See Shawki Barghouti, 1976, for a discussion of the role of cooperatives in improving communications flow within agricultural areas.
13. See Appendix 1 for a copy of the legislation to reorganize the Extension Directorate. Here there is provision for monitoring of effects, but it is a separate office merely tacked on to an existing one. Ideally, every group should be monitoring its own effects and be reevaluating its activities accordingly.

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APPENDIX I: Text of Resolution Reorganizing The Extension
Section of the Ministry of Agriculture
and Agrarian Reform

(Unofficial Translation)

Syrian Arab Republic

Ministry of Agriculture and Agrarian Reform

Resolution No. 210/T

Minister of Agriculture and Agrarian Reform

On the basis of the regulations of Decree No. 2590

dated 1968 especially those of article 9,

On the basis of the regulations of Resolution No. 75/T
dated 1974

On the basis of the regulations of Resolution No. 32/T
dated 1972 and its amendments, and

according to the approval of the Presidency of the Ministers
Council No. 12698/1 dated 7/12/1978 and in compliance with
the commonweal requirements,

Resolves the following:

Article 1: A department called "Department of Agricultural Extension"
is to be created in the Ministry of Agriculture and Agrarian Reform, in addition to the other departments defined by Resolution No. 32/T dated 6/4/1972.

Article 2: The Department of Extension innovated by Article 1 of
this Resolution carries out the following tasks:

- a) to become acquainted with the barriers to increased production and development in the agricultural sector and through cooperation with the specialized departments, especially the Department of Agricultural Research and other departments working in agricultural research and the farmers organizations so as to find suitable solutions.
- b) Field participation through the launching of extension programs to qualify and prepare farmers to apply the plan of production and make use of the agricultural services rendered by the Ministry of Agriculture and Agrarian Reform and the other departments subject to it.
- c) Cooperation with the departments of agricultural research in order to put the results of research into practice using all available means.
- d) Cooperation with the departments responsible for monetary and corporeal financing, and with those responsible for securing the agricultural requirements and machines, so as to acquaint farmers with the ways of getting these requirements and machines and using them.

- e) Cooperation with the departments responsible for marketing the agricultural products as a means of acquainting farmers with the best ways and means of marketing their products and gaining the highest profits with the lowest costs.
- f) Participation with farmers organizations in choosing the pioneer individual and collective models of farming which are to be centers of radiating guidance for others.
- g) Working to transmit experiences and to introduce agricultural methods by establishing demonstration fields and trial plots, and by issuing magazines, pamphlets, posters, films, pictures and other means besides the participation in radio and television programs, organizing exhibitions, production competitions, symposia and through other ways and means of public communication according to principles and programs made for this purpose.
- h) Launching general and specific courses for those who work in the field of agricultural extension in cooperation with the concerned departments according to plans laid out for this purpose.
- i) Working to achieve integration and systematic arrangement in the field of agricultural extension on all levels with government associations, institutions, and organizations concerned with agriculture and the improvement of production.
- j) Participation in preparing applied programs that go with priorities of solving existing agricultural problems and their effect on the development of agricultural production.
- k) Proposing exploitation programs, projects and plans that will carry out this purpose aimed at supporting the quality and quantity of work prevailing in agricultural extension.

Article 3: The Department of Agricultural Extension will consist of the following sections and administrations:

- a) Field extension section consisting of the following administrations:
 - 1. administration of extensional units
 - 2. administration of fields
 - 3. administration of field days and symposia.
- b) Section of agricultural information, consisting of the following administrations:
 - 1. administration of audio-visual aids
 - 2. administration of publications
 - 3. administration of exhibitions and festivals
 - 4. administration of museums.

- c) Section of extension training, consisting of the following administrations:
 - 1. administration for training the extension system (staff) and
 - 2. administration for training farmers.
- d) Section of interior supervision and follow-up, consisting of the following branches:
 - 1. branch of evaluation and follow-up,
 - 2. branch of programs, and
 - 3. the office branch.

Article 4: An association called "The Association of Agricultural Extension" is to be innovated in every Mohafaza. It consists of the following administrations:

- a) administration of field extension, and
- b) administration of agricultural information.

Article 5: Units of extension are to be innovated in all Mohafazat in accordance with the requirements for carrying out the production plan and those of the agricultural services which execute this plan, and in accordance with the available potentialities.

Article 6: All regulations which contradict this Resolution are hereby abolished.

Article 7: This resolution is to be published and communicated to whom it may concern for execution.

Damascus: 27/12/1978

Minister of Agriculture and
Agrarian Reform

Engineer Ahmad Kabalan

Copies-----

(listing follows)

APPENDIX II:

The New Extension Mandate

A. The Definition of Extension

According to the Symposium in Agriculture held in Damascus in 1977, extension is defined as

an informal educational system that does not adopt the academic methods of a school in communicating information but rather that uses all possible means which will urge people to help themselves by learning things that they need to learn. It is, in other words, a constant educational process that depends for its development on progress in scientific research as well as in social progress, which fact makes of agricultural extension an active system that is meant to serve the objectives of development (Prime Minister's Office, 1977:64).

Those assigned to oversee the establishment of such a system in the SAR noted that responsibility for extension was given to the cooperatives and the State farms in the period after 1968 while the role of the MAAR was greatly diminished in this area. According to one point of view, the cooperatives and State farms failed as vehicles for training farmers in new, economically sound techniques and were unable to provide "pioneer models" which caused these enterprises to lag behind the private sector. By 1975, the agricultural sector produced only 18 percent of the national income compared to 34 percent in the late 1960s. One of the reasons for this lag was the inability of the public sector to convince farmers to utilize new techniques.

Proponents of this argument called for a re-evaluation of past policies and for an expansion once again of the role of the MAAR in extension activities. The goals of this extension activity would be to achieve the highest return on and improve agricultural production within the present economic framework (i.e., without overly rapid evolution toward collective forms of production). This concentration of extension would be shifted from the public to the private sector in the hopes of providing new models for private peasants who control 65 percent of the agricultural resources in the SAR. This policy emphasizes improvement in "what is" before pushing for "more advanced economic models." Also, the human factor is stressed as the major element of the extension process.

The proposal of this policy demonstrates a recognition on the part of members of SARG of the major point of this report, namely that communication needs to be re-established between agricultural policy planners and the farmers of the SAR. The first step in this process is the determination and recognition of existing conditions.

This implies travel to the field, research and, most importantly, interaction. The new policy stresses gaining the trust of the peasant. This can only be achieved after communication is established and will only be assured when the agricultural engineer is certain of his own ground and has useful knowledge to impart. This too is recognized in the new policy which discusses the need for strengthening agricultural programming. At the same time, the preference for cooperative production remains, but the primary goal is to increase agricultural production and not actively block any production form.

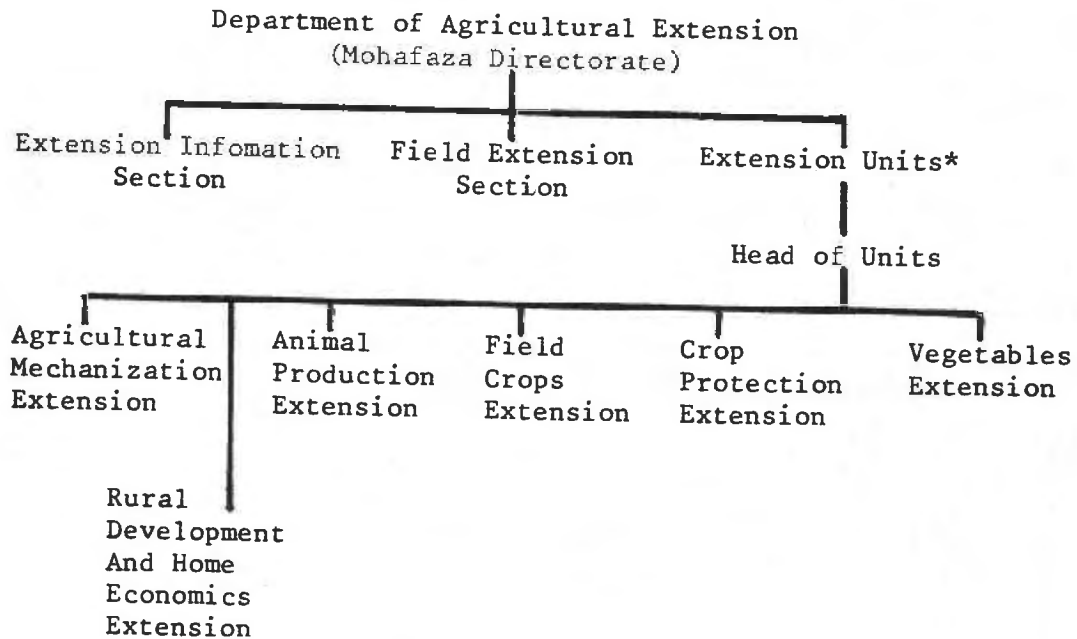
This is to be accomplished by emphasizing the following in extension programming:

1. Regrouping of cropped land for improved mechanization
2. Improvement in financing and distribution (and presumably education about this area)
3. Improvement in fertilizer usage and estimation of fertilizer needs
4. Increased crop protection
5. Improved programs in crop intensification and rotation
6. Improved irrigation methods
7. improved drainage methods
8. acquainting farmers with new organizations related to agriculture
9. rural development and home economics.

Crop production extension programs would stress wheat, barley, yellow and white corn, cotton, fodder plants and legumes, sugar beet, potatoes, fruit trees and vegetables, as well as animal production. Fishing and beekeeping would also be emphasized.

This program is to be organized to promote flexibility in that it can be expanded to add new personnel as they become available. The role of the extension organization at first is limited to training, programming, evaluation and supplying of supplementary media items. Field extension at the provincial level (Mohafaza) will be part of the immediate program. Regional (Mantika) efforts will be added as capabilities increase (after the next five year period). The national level structure is the one listed in Annex 1 to this report. At the provincial level the structure is as follows:

Proposed Mohafaza-Level Extension
Program Organization, 1979-1983



*Each unit with 5 technicians, plant protection specialist mechanic, training worker, fruit tree worker, husbandry worker, crop protection worker and driver.

B. Problems in the Proposed Framework for Extension, 1979-1983

Although the program envisioned has been greatly increased in scope and size, it represents no real change from policies tried earlier and discussed above. The new program, for example, engages extension at the wrong level. The structure of the new program stresses programming at the national and provincial levels where the tendencies always are to stress office work at the expense of field level work. Contacts with farmers will probably be minimal, thus making it difficult for extension agents either to affect farmer's behavior or learn about conditions. The programming of extension is still conceived of on a national level rather than reflecting local farmer needs. Knowledge is still something to be "deposited" and no interaction is envisioned. This is further stressed by the emphasis put on cinema, publications and other "packaged" information sources. These minimize actual contact time with farmers and reflect conditions which may not be specific to his problems. This type of presentation again reflects a bias toward an educational outlook which merely deposits information and does not develop capabilities.

Although the goals of this new program are worthy of being enacted, the actual program falls short of being able to deliver these goals. Establishing more localized regional programs only after five years could be a serious error, for it would establish a new office separate from the farmers, unaware of local needs and unable to respond.

C. Recommendations

The increase in the size of the extension program is to be lauded and the goals cannot be argued with. Are the means for achieving those goals adequate and is the philosophy behind farmer-technician interaction a productive one?

Elsewhere in this discussion I stress the need for increased interaction between farmers and the ministerial offices assigned to support them. I stress the need for a period of learning, of research into the needs of the village, of improving the agricultural engineer's grasp of practical agriculture and of increasing the farmers familiarity with the engineers. The specialization of extension into service functions (crop protection, animal husbandry, etc.), even for educational purposes, is a costly duplication. The extension agent, as we have pointed out, is best utilized to begin the interaction between farmers and government, to begin the process of tailoring the delivery of agricultural (and social) services to local needs. For this reason the priorities should be reversed. The extension agents should be placed at the field level (below the province) in the initial five-year period, utilizing existing specialists at the provincial level (crop protection, husbandry, etc.) as resource personnel. The agent must stress interactional modes (field days, test plots, on-farm experiments, etc.) both to involve the farmer and increase the knowledge of province level agricultural workers about local needs and conditions. His findings need to be presented, formally, to these workers as well. In essence, the agent becomes a go-between. For this reason, the agent must abandon, for the most part, films and other pre-packaged forms and begin to find answers to specific problems discovered in the course of his own familiarization with his assigned area. These answers come from other farmers, from the MAAR office, from publications, from the agent's own experience and from the University. The agent must be seen as the person with literacy, time, (hopefully) transportation and access to all areas where answers can be sought.

Resources in an extension program should be placed to maximize his contacts with farmers, specialized personnel and university personnel. He must therefore live in the field, but have access to reliable transport. He must be interested in local problems, rather than attempting to satisfy vague national goals. He must have support from above, but this support should be administrative and aimed at facilitating his access to specialist's information.

Given this point of view, and the established goals, stress should be local. Given limitations in personnel, it would be more effective to begin with a localized program in some areas, than have a province level program with offices covering all areas.