CHAPTER VI

RURAL SOCIAL SERVICES

By

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1. The Delivery of Social Services in Rural Syria

1.1 Social Services in Rural Development

Since independence, and particularly after 1963, the Syrian government has actively sought to spread social services and amenities to its rural citizens. This goal is repeated in each of the four Five Year Plans and in the Fourth is expressed as follows:

> . . . to reduce the differences between Mohafazat and between the city and the countryside within the same Mohafaza in the economic and social standing of citizens.

Along with concern for equity, dispersion of basic services is considered essential for achieving several broad policy aims. These merge into a general desire to avoid the type of polarized development so common in most developing countries--the overwhelming concentration of industry and services in one or two urban centers while stagnation and out-migration come to characterize the rest of the country. At its presently high levels, such migration is thought to be dysfunctional; it depletes the agricultural labor force of its most productive members and thus aggravates further what is already considered to be a serious agricultural labor shortage in several areas of the country.

In addition to concern over migration, support for policies to raise the skill, health and nutrition levels of the rural population and to more equitably distribute productive factors--mainly land--comes from the conviction that measures such as these enhance productivity. Accordingly, major Syrian rural development efforts --the agrarian reform and the Ghab and Euphrates River Basin Development Projects--combine either land redistribution and/or physical resettlement activities with the promotion of health, education, literacy and rural industry and handicraft programs.

Yet even if such comprehensively conceived measures could increase productivity and slow down rural-to-urban migration, problems with production will persist (see Havens) and migration from the countryside is likely to continue at a rather high level (see Williams). The rate of rural population growth can be expected to remain high while at the same time cultivation of the land has been extended to its limits in most areas of the country, except where irrigation possibilities have yet to be developed. Even where land redistribution has occurred, breakup of medium and small holdings through inheritance over one or two generations threatens to reduce them to a size no longer large enough to support holders and their families. Many facing this grim prospect are consequently being forced to seek nonagricultural sources of livelihood.

Many planners, both in Syria and elsewhere, advocate rural industrialization as one way to address this problem. According to a statement by the World Bank (1975), rural industry could:

> . . . provide employment, increase incomes, slow rural-urban migration, increase the supply of goods and services

to farmers at lower cost and generally stimulate further rural and regional development.

But resort to this or other employment promotion measures presumes that people have needed skills, or can acquire them. These needs add urgency to the provision of formal schooling and nonformal training for rural residents.

Nonformal sources of skills include the intergenerational transfer of know-how from father to son, apprenticeship and on-the-job training. Such training modes are relatively unstructured, the trainee remains close to the working situation, and State regulation and sanctions are limited or nonexistent.* Formal training is largely confined to schooling, basically a Government sponsored or controlled activity generally but not necessarily separated from the world of work, and one that is highly structured.

Whether the skills obtained nonformally or formally can be translated into a source of income and livelihood depends both on the access to means of production--land, tools, machinery, even an office--as well as on the recognition of skills as desirable by potential employers and clients. Such recognition can be informally granted through reputation within the community, in which case the sale of skills and mobility may be limited to that community. Recognition of skills can also be State encouraged through licensing or certification, which is the procedure used in the public school systems to certify certain skills on a national basis. While certification is now basically limited to formal school graduates and those completing Government training programs, it could conceivably be introduced to cover those obtaining skills from other sources.**

Skill acquisition whether from formal or nonformal sources is particularly vital for those in rural areas whose family-based agricultural income is insufficient either to support them in farming or to permit entry into self-employment through financing a business of one kind or another. As a channel into private or State sector employment, where this kind of initial capital accumulation is unnecessary, formal education opens up job opportunities for those who might otherwise have no other option but to work as casual laborers or in petty services.

This problem is especially relevant for females who are socially more restricted than males in being able to attain self-employed status. They tend to cluster in the unpaid family labor and employee categories, which together accounted in 1970 for 76 percent of the female labor force. Opportunities for women, if they have

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*This last feature is subject to change as the State intervenes with training outside the schools and imposes regulations and grants recognition through licenses or certificates to trainers and trainees.

**Traditional village midwives, for example.

the educational credentials, are relatively great in professional and technical occupations, within which they made up 30 percent of the total labor force in 1970. Another indication that formal education is important and becoming increasingly so for females is the fact that almost three times the proportion of working females have secondary education or higher than do their male counterparts (see Table 1).

TABLE 1: PROPORTION OF LABOR FORCE WITH SECONDARY OR POST-SECONDARY EDUCATION, BY SEX, 1970 AND 1976

Sex	1970	1976
Male	5.4	10.3
Female	9.5	27.2

SOURCE: Prepared from Statistical Abstract (1978).

As shown in Figure 1, female labor participation rates rise sharply for educated women, especially those with vocational or post-secondary certificates. It should be kept in mind, however, that because female labor participation is undercounted in unskilled work (particularly in agriculture where formal educational levels are low) the above figures probably overstate the actual proportion of working women with educational credentials.

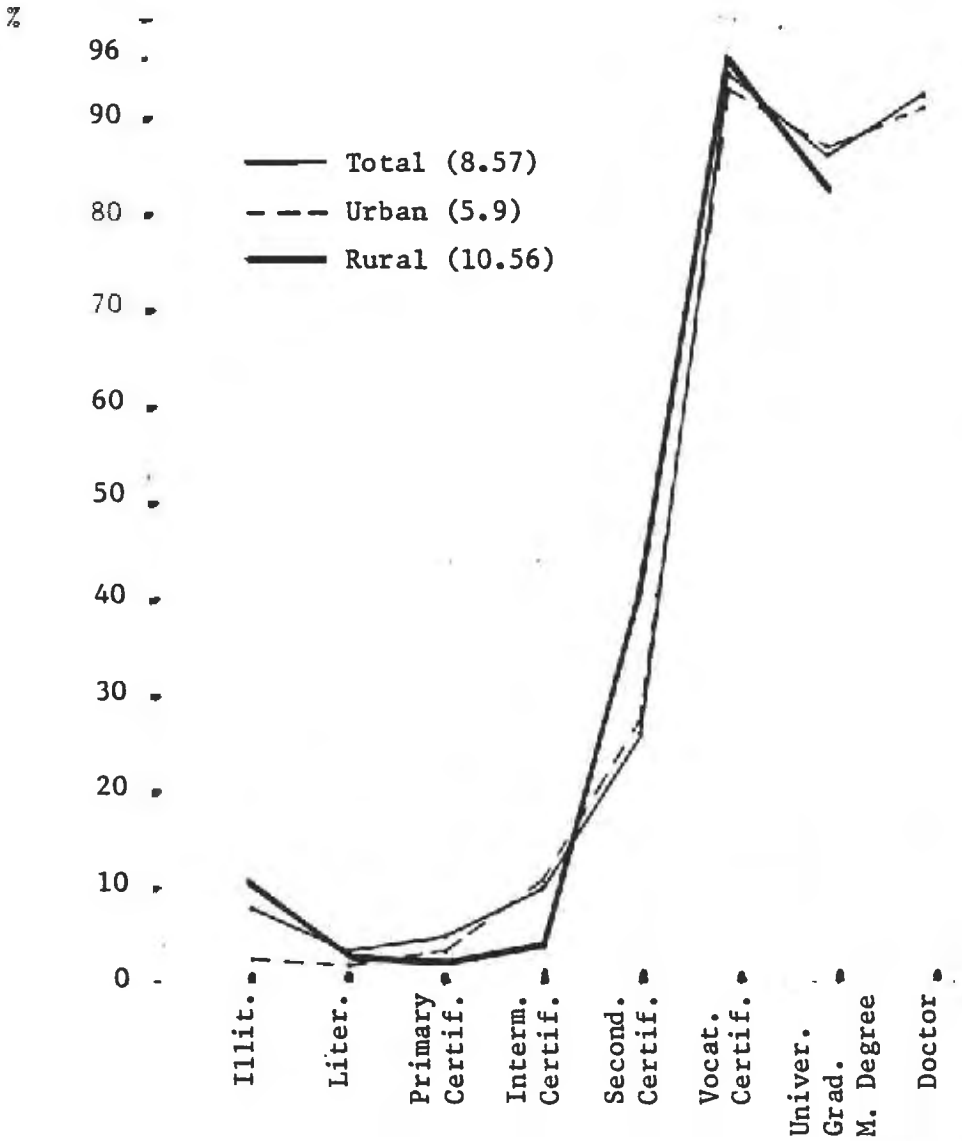
For these reasons and to meet the growing demand for skilled manpower nationally, it is critical to identify barriers to educational access and to develop policies to minimize or eliminate them, especially for residents of rural areas and females.* Such access barriers must also be reduced for other essential services, particularly health. As stated in a World Bank report, "one of the most important elements reinforcing rural poverty is that those most needing medical or health care are precisely those who are too poor or too remote from any facility to obtain it" (World Bank, Rural Development Sector Policy Statement, 1975, p. 26).

1.2 Special Problems Affecting Social Service Delivery

1.2.1 Unique Features of Social Services: Although the delivery of social and physical services faces some common problems, greater

*The Fourth Five Year Plan places special emphasis on the need "to attract women to productive work and increase their participation in manpower and pave the way for her to acquire the necessary abilities."

FIGURE 1: SYRIA 1970--FEMALE PARTICIPATION RATES (age 30 and over) ACCORDING TO LEVEL OF SCHOOLING



SOURCE: ILO, Manpower and Employment in Arab Countries: Some Critical Issues (Geneva: ILO, 1978), p. 58.

difficulties are often encountered in planning for the delivery of social services as compared to physical ones. Because of their high infrastructural costs and regional complexity, programs to provide potable water, electricity or roads are usually Government initiated and financed and are highly visible;* moreover, they require only a relatively passive stance by beneficiaries. Other physical service delivery, of agricultural production inputs, for example, is typically broken down into units deliverable to subgroups of the population such as farmers and is provided by commercially oriented agencies, such as the Agricultural Cooperative Bank, cooperatives or private companies.

Social services, health and education in particular, lack these features. A school or health clinic is usually not an impressive engineering achievement. Each facility has to be designed, nonetheless, to serve the entire population in a given area and not particular clients. Moreover, utilization of such services relies to a certain extent on client initiative in response to felt needs and capabilities. The schools and clinics are, at the same time, viewed by the State as of fundamental importance to the development of human resources and are for this reason subsidized and not commercially run. The problems of social service delivery for the State combine with widely varying patterns of human settlement--some highly centralized, others widely scattered--to produce special challenges for the design of such systems.

1.2.2 Fragmentation of Settlement: Among the factors that can limit service utilization, the problems of physical access are the most obvious ones, including the distance a person has to travel to get the service as well as the quality and costs of transportation (both direct and indirect). Eliminating or even minimizing these barriers to access throughout the country is problematic given the existence of 6,308 villages and an even greater number of sub-village units or mezr'aa, some 7,700.

As displayed in Table 2, fragmentation of settlement is especially severe in certain areas of the country, particularly in those characterized by arid or semi-arid conditions (for example, Al-Rakka and Deir-ez-zor). In Al-Hasakeh, even though the ratio of mezr'aa to villages is small, the number of mezr'aa is very large. Even greater difficulties are encountered in trying to extend services to semi or completely nomadic Bedouin groups in the steppe (see Manzardo).

Some efforts have been made to alter existing settlement patterns by encouraging relocation of people from small to larger

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*See Appendix 2.

TABLE 2: DISTRIBUTION OF VILLAGES AND MEZR'AA BY MOHAFAZAT, 1977

Mohafazat	Mezr'aa	Villages	No. of Mezr'aa per Village
Damascus City	--	--	--
Damascus	298	195	1.53
Aleppo	1,381	1,415	0.98
Homs	504	425	1.19
Hama	600	484	1.24
Lattakia	859	447	1.92
Deir-ez-zor	261	128	2.04
Idleb	475	405	1.17
Al-Hasakeh	1,682	1,637	1.03
Al-Rakka	988	251	3.94
Sweida	47	124	0.38
Dar'a	68	121	0.56
Tartous	372	512	0.73
Quneitra	147	163	0.90
TOTAL	7,682	6,308	1.22

SOURCE: Statistical Abstract (1978), p. 57.

rural settlements. Such relocation is being attempted in some of the reclaimed areas of the Euphrates River Basin.* A combination of positive and negative inducements (denial of services, restriction of pasture lands, etc.) has also been used to encourage Bedouin sedentarization (UNESCO:36). But on a nationwide basis, such relocation initiatives can only be expected to have a limited short-run impact on the problems of reducing access difficulties deriving from fragmented settlement patterns.

1.2.3 Pyramidal Nature of Education and Health Systems and Service Facility Location: Any effort to devise service facility location strategies for health and education is further complicated by the hierarchical organization of both the health and the educational systems in Syria; units are differentiated by capacity, type and sophistication of services provided, forming a pyramid, with fewer of the large, sophisticated facilities set on a base of many more numerous but more limited primary service units. While dictated in part by resource limitations, this structure is justified in the case of health by the assumption that at any given time relatively few people will require and seek expensive and sophisticated care. In education, limits in the need for certain highly skilled manpower categories underlie the structure.

Success of the system is gauged by the efficacy with which people are screened upward through successive levels. In health this means matching people who vary in the severity of their medical needs with appropriate service levels; in education there are the competing aims of selecting people by ability to fill needed manpower slots and the equity-inspired objective of opening access to the maximum number of people to levels at which skills or school certificates become marketable. For access to be meaningful, therefore, people with defined characteristics must be able to make use of several levels of the service hierarchy.

Location strategies must consequently determine optimal placement of facilities at each level as well as how to situate units so that they form complete service hierarchies within given areas, thereby providing the full range of services to any given population. On this issue there are two broad possible approaches:

1) The linkage of succeeding service system levels to corresponding levels of the administrative hierarchy--Nahia, Mantika, Mohafaza. Decisions would still have to be made though on whether to limit Nahia centers to middle-level facilities (middle schools, for example) or whether it would be more appropriate to build secondary school facilities at this level, at the Mantika level or only within the Mohafaza center.

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*GADEB officials hope that as more land is reclaimed and brought under irrigation, people will leave small villages typical of dry areas and resettle in new ones supplied with electricity, schools, etc.

2) Also possible would be the definition of regions within which to build complete service hierarchies, without reference to administrative level divisions. The Euphrates project is an example of this approach.

Whichever one of these alternatives is selected, a trade-off exists between the efficiency of locating facilities in the more populated centers and the difficulties posed for access to services for those living outside these centers. Since successive levels of administrative authority are roughly parallel to relative population sizes, many countries (including Syria) opt for a delivery system in which the more elaborately staffed and equipped permanent facilities are located in the higher level administrative centers, such as Mantika and Mohafaza centers. Smaller permanent facilities are placed in smaller sized settlements--Nahia centers or other villages.

Once a minimal physical or organizational presence has been established, service capacity can be extended in several ways. Mobile units may be set up to operate out of the main centers. Another alternative is to use existing infrastructure of buildings and personnel for a variety of purposes: for example, the use of primary schools and school teachers in adult literacy and in education, health and nutritional programs. Village cooperatives also provide a structural channel for the delivery of certain social services.

A further possibility which can be resorted to in combination with a delivery system either linked to the administrative hierarchy or one explicitly regional in orientation is to apply the central village concept. Villages with populations relatively large those in the surrounding area and centrally located in terms of road links to larger towns and administrative centers as focal points for the concentration of schools, medical facilities and rural industrial investment. Behind this strategy are the dual goals of first avoiding the ineffectual dispersion of investment, and second, to act as a brake on rural-urban migration by providing adequate services and job opportunities within the rural areas themselves. By locating middle or secondary level school facilities in such centers, access to education for villagers within commuting distance is enhanced since area families are no longer forced to relocate to town on a permanent or semi-permanent basis.

In Syria such a central village policy has been applied, though with the exception of areas under the GADEB's authority it has taken shape in an often uncoordinated and unsystematic way. A population size criterion of over 500 has generally been used to determine priority for the allocation of electric services, schools,

etc.* In the reclaimed areas of the Euphrates basin, to date three of the 15 planned communities established by GADEB occupy positions as central villages. Each serves 4 surrounding villages located no more than 7-8 km. away and each possesses social and cultural centers, clinics, literacy courses and middle schools. The pinnacle of the health service hierarchy in the area remains in the Mohafaza center of Rakka, where a hospital is located to meet the needs of seriously or chronically ill patients for whom the smaller clinics are inadequate. By 1982 plans for the Euphrates basin envision the establishment of 39 central villages and 121 branch villages with a total of 46,943 resident families (U.N. Studies on Development Problems of Western Asia, 1975, New York, 1977, p. 32). While considered to be appropriate where villages are of small to medium size, one GADEB official argued that because of the generally large populations of villages in the Mid-Euphrates there was no need to apply the whole strategy but simply to install high-level facilities such as secondary schools and hospitals in a few larger settlements.

As attractive as this central village concept may be theoretically, such centers inside and outside Syria have frequently failed to develop into viable attractive service delivery centers. Already rapidly expanding district or traditional market centers with good transportation links often overshadow the smaller artificially created centers. Also, a problem has been the inability of such centers to support a differentiated occupational and service structure in any way comparable to those in larger towns.

Syria's six Rural Development Centers represent a variant of this central village approach, the main idea being to concentrate essential services in one location to meet the needs of between 40-50,000 people in the surrounding area. These multi-service centers which provide agricultural extension, health care, literacy and rural industries are examined in detail in Section 3 of this report.

Preceding this case study, a more general picture of health and education services in the SAR is provided in the following Section 2. That section portrays the present distribution of health and educational facilities and personnel and suggests what this distribution implies for access in different areas of the country. In addition to published and unpublished statistical sources, data from the 1979 Agricultural Sector Assessment Village Survey (henceforth to be referred to as the "Village Survey") are drawn upon.

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*A lower limit is applied by the Fourth Five Year Plan for drinking water provision: pure water is to be made available to ". . . all villages with a population of not less than 150 in the Mohafazat of Deir-ez-zor, Al-Rakka and Al-Hasakeh and 200 in other Mohafazat" (p. 47).

The Village Survey is based on a national sample of 103 villages* chosen to represent the range of agro-ecological conditions prevailing in Syria.

2. Education and Health Delivery

2.1 The Structure of Social Service Delivery

The most striking feature of social service delivery in Syria is the multiplicity of governmental and semi-governmental bodies and popular organizations involved. Responsibility for providing any given service is divided sometimes by function, sometimes by clientele, and most often by a combination of both.

2.1.1 Formal Education: Ministries responsible for formal education include the Ministries of Education, Higher Education, Industry, Agriculture and Commerce. The Ministry of Education administers the primary, middle and high schools; other ministries provide the secondary level agricultural, vocational-technical and commercial schools. Post-secondary technical education provided by the two-year "Intermediate Institutes" is divided among several ministries. For example, the Ministry of the Euphrates Dam administers the Intermediate Institute of Land Reclamation in Rakka. Syria's three universities (and soon a fourth) are administered through the Ministry of Higher Education.

2.1.2 Adult and Literacy Education: Responsibility for adult education, training and literacy is dispersed to an even greater extent. In the campaign against illiteracy, extra-ministerial organizations like the Labor and Peasant's Unions and the Women's Federation are extensively involved. In 1977, the Peasant's Union alone conducted 682 literacy classes with 11,675 participants (Bakour:46). The Ministry of Labor and Social Affairs also conducts literacy classes in villages served by its six Rural Development Centers. In addition, large-scale rural development schemes --most notably those in the Ghab area and in the Euphrates basin-- also contain literacy and training components. Thirty-seven courses with 780 participants were provided by the General Administration for Development of the Euphrates Basin (GADEB) in 1977.

For the most part, such literacy courses are held in village schools and are run by village school teachers administratively tied to the Ministry of Education. In the case of GADEB, those hired are either already specially trained staff or GADEB staff sent to undergo a Ministry of Culture training course in Damascus.

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*The size of villages varied considerably: 13 percent had fewer than 200 registered residents; 12 percent, between 200 and 400 residents; 9 percent, between 400 and 600; 13 percent, between 600 and 800; 16 percent, between 800 and 1,400; 15 percent, between 1,400 and 2,000; 16 percent, between 2,000 and 4,000; 6 percent, more than 4,000.

Sometimes, the heads of social and cultural centers conduct the courses and are paid by GADEB for overtime. The Peasants', Labor and Women's Unions encourage members to participate in such courses.

In 1972, a framework for coordinating these disparate activities was established--the Higher Council for the Eradication of Illiteracy (Law 7, 1973). It is headed by the Prime Minister who is joined by the Ministers of Culture, Education, Higher Education, Finance, Planning, Agriculture, Local Administration and Defense and leaders of popular organizations such as the Peasants' Union.

2.1.3 Nonformal Skill Acquisition and Training: Almost by definition (see p. 2), nonformal skill acquisition lies outside the sphere of official government activity. Its importance is undiminished by this fact, however.

One of the impressive achievements in Syria over the last three decades or so is the degree of nonformal skill development that has occurred without state investments. With agriculture rapidly mechanizing (see Table 3), with producers and markets brought into increasingly close contact through an evermore elaborate system of roads and proliferation of vehicles (see Table 4) and with the growth in the number and size of towns, there has been an explosive demand for people possessing a wide variety of mechanical and artisan skills: welders, auto, truck and tractor repair, lathe operators, home appliance manufacturers and carpenters.

The response is evident even on the basis of casual observation in Syria's large towns and medium-sized Mantika centers. In these towns, there is a multitude of small industrial workshops in which it can be assumed that the majority of craftsmen are the products of nonformal training.*

TABLE 3: GROWTH IN AGRICULTURAL MECHANIZATION, 1971-1977

Machines	1971	1977	% Increase 1971-1977
Tractors	9,606	20,672	115
Water pumps	20,437	40,650	98
Combines, harvesters, threshers	1,368	2,254	65

SOURCE: Statistical Abstract (1978)

*Government-sponsored training in mechanical skills has also been impressive, largely through the Ministry of Industry training centers. However, skill acquisition outside of these institutes has undoubtedly been significant.

TABLE 4: GROWTH IN NUMBER OF TRANSPORT VEHICLES, 1948-1977

Vehicles	1948	1963	1977	% Increase 1948-1977
Autos	10,981	22,717	177,215	1,513
Buses	1,238	1,849	6,829	452
Pickups	0	1,474	34,523	--
Trucks	4,283	10,688	31,522	636

SOURCE: Statistical Abstract (1978)

Several Mantika centers in the Homs, Idleb and Aleppo areas have grown at a remarkable rate. For example, Ifreen in Aleppo has doubled in population to become a town of 25,000 within the last five years; such growth was preceded and accompanied by rapid agricultural mechanization in the area. In this and other towns numerous tractor and machine repair shops have sprung up to service the agricultural hinterland. For villagers wishing to provide sons with skills, nonformal training opportunities in Mantika or Nahia centers have the advantage of being relatively close to home villages.

According to 1977 figures there were 39,807 private manufacturing enterprises in Syria, 82 percent of them with less than three workers and 39 percent being single-worker establishments (Statistical Abstract, 1978, pp. 690-91). Most of the shops which can be observed in villages and cities have at least one or two youths at work while apparently learning the trades of their employers, or masters if involved in an apprenticeship arrangement. The scope of apprenticeship is probably undercounted at 3,474 in 1977 (Statistical Abstract, 1978, p. 313) due to the qualification "unpaid" used in describing this category. Many of those who are in effect learning skills are young wage earners or recipients of pay in-kind.*

The size of this informal training sector in manufacturing alone justifies a greater level of government attention and encouragement than has been given thus far. As argued by the author of an ILO study on Syria:

*"The traditional small-scale firms in the private sector are relatively more labor intensive (than large public and private ones) and make a noticeable contribution to the generation of skills through informal training . . ." (U.N. Studies on Development Problems in Countries of Western Asia, 1975, New York, 1977, p. 32).

> . . . an appropriate balance will have to be found between government-sponsored institutions and private apprenticeship or in-plant training and up-grading programs (ILO, Manpower and Employment in Arab Countries, p. 11).

While not explicitly a call for greater attention to nonformal training, the following aim enunciated in the Fourth Five Year Plan can be interpreted as a mandate to move in this direction:*

> To widen the spectrum of training places of various levels to enable them to satisfy the needs of development of qualified manpower and in particular such needs as are required in connection with the application of modern technology and its needs in new specialties (Fourth Plan, p. 261).

Possible areas of state action to further these aims with regard to small manufacturers might be to:

1) facilitate cooperative organization of producers and expand training programs as complements to their credit, input provision, quality control and marketing functions;
2) establish linkages between vocational technical schools and artisan manufacture and service establishments through the provision of night courses;
3) provide technical and management extension services, similar to those in agriculture, either through the cooperatives or through formal vocational schools;
4) facilitate certification through examination of practical skills to permit greater mobility for those trained nonformally, and provide a basis upon which credit for the establishment of businesses might be granted to qualified individuals.

As the public industrial sector expands, increasing attention will also have to be paid to on-the-job training.

2.1.4 Health: While the Ministry of Health carries the main responsibility for providing health services to rural areas through its Directorate of Rural Health, a host of other ministries and agencies is also significantly involved. A 1976 study of Health Manpower and Services in Syria came to the conclusion that:

> There is little evidence of an overall government strategy to guide the magnitude of public and private investments to extend health services . . . . [A multiplicity

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*The SAR has, according to one observer, begun ". . . to recognize the role of small-scale establishments in providing employment, informal training and potential recruits for the modern sector . . ." (U.N. Studies on Development Problems, p. 38).

> of public and private financing mechanisms is/ combined with a large number of ministries and quasi-governmental agencies . . . engaged in and providing services (FHC, p. 15).

The Ministry of Labor and Social Affairs was, according to the same report, acquiring:

> . . . a de facto role in national health policy formation, being involved in the construction of two hospitals--one in Damascus, the other in Aleppo as well as providing out-patient services at Ministry Offices.

The Ministry of Education has also been active in extending nutrition and health services to school children, particularly those in rural areas. Last year a supplementary school nutrition program was initiated on a limited basis to nine villages in Duma, Damascus, and will be extended in stages to cover all Mohafazat and 200,000 children by 1985. Daily rations of condensed milk (78 grams) and peanuts (50 grams) are provided to each child, a mix adopted from a similar program in Saudi Arabia. Teachers accompany distribution of the food with short talks on aspects of health and nutrition. Participating international organizations include UNICEF, FAO and WHO. The Ministry of Education and the State Planning Commission are charged with execution and planning, while the Ministry of Internal and Local Affairs determines where to set up these programs.

There is also a proposed program to build 50 school dispensaries by 1980 all over the country, with a target of 1 dispensary per 5,000 students. Each is to have a doctor, a medical assistant and a dentist for every 2 dispensaries.

The Ministry of Higher Education administers university-affiliated hospitals. One already exists at the University of Aleppo and another, a 640-bed facility, is being erected at the University of Damascus (Fourth Five Year Plan, p. 103).

As a response to the confusion and duplication created by the large number of authorities typically involved in the provision of health, education and other services, a series of inter-ministerial coordinating committees has been established--the Higher Council for Agriculture, Health, Planning and for the Eradication of Illiteracy, among others.* Also noteworthy has been the ever-increasing

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*Establishment of such a higher council is now being considered in the Euphrates area to coordinate the activities of the Ministry of the Dam with those of other ministries--Health, Education, Local Administration. It would be headed by the Minister of the Dam. The "Supreme Public Health Council, headed by the Secretary General of the Ministry of Health, is an advisory group of Syrian leaders which meets with the Secretary General to decide health policy. The Secretary General maintains liaison with other ministries such as the Ministry of Agriculture and Agrarian Reform (which supervises veterinary inspection of meat) and the Ministry of Education . . ." (Syncrisis, pp. 59-60).

complex surveys. The identified problems can then be addressed in specific programs.

If action is taken on one of the alternatives suggested in the analysis (those indicated in the heavily outlined boxes in the chart), the costs and the effects which are explicitly stated in the analysis are predictions of the changes that will occur when the implementation has been completed. The comparison of these predicted costs and effects with the actual costs and effects serves as an evaluation of the above procedures.

It is important to note that extensive, and therefore expensive, studies are in general not being advocated here. For example, only at certain points in the decision model would a consumption survey be done. The objective is to minimize expensive data gathering and analysis and try to focus what is gathered on specific issues facing the planner.

5.3 Control and Measurement of Food Contamination

Some types of food contamination are closely related to undernourishment (such as irrigation with raw sewage, etc.). These have been discussed above. Other types of food contaminations such as might occur in processed food and food contamination in the preparation of food in institutions (including restaurants, school lunch programs and industry) may not have their effects become evident in nutritional status but more likely in emergency medical care units.

The extent of food contamination is not known for Syria. It is likely to be small but also is likely to increase with the increased uses of processed food and more advanced agricultural techniques. Greater use of pesticides, insecticides and fungicides in agriculture, more food processing plants, more technical preservation methods will require food inspection and quality control systems that protect the public from intoxication from such products.

At this time, we only suggest that food standards for purity be set and a monitoring system be designed and implemented as a pilot operation for a small set of selected foods.

5.4 Incorporation of Science-Based Planning Procedures into Health and Nutrition Planning

The lack of documentation of studies and analyses was the greatest difficulty for the assessment team. Apparently important decisions are being made without detailed analyses or diagnoses. Some examples of decisions for which no systematic studies or analyses could be uncovered were:

a) Decisions on price setting of basic food commodities. No documentation was found which analyzed the effect of the prices on nutrient consumption. No analysis was detected concerning effects of subsidized pricing systems on rural area consumption versus urban area consumption. While the

CBS survey is instructive, neither it nor any other study addresses the question of eating habits and food wastage. It is easy to observe, at least in the urban areas, a large wastage of bread but no analysis seems to exist which relates the amount of waste to the price (neither for bread nor for any of the other foods for which prices are controlled by the government). Even if for political reasons the decision is to keep the prices fixed at their present low values, the knowledge of the cost (monetary as well as wastage) of such a policy is valuable.

b) Decisions on the selections of food for lunch programs. There exist classical scientific methods for selecting optimum diets (by linear programming). No evidence was found that such analyses had been done for the SAR school program.

c) No studies were located on: (i) the relationship between livestock production and the quality and quantity of nutrients available for consumption at the family level; (ii) the relationship between health and sanitation programs and undernourishment (or morbidity and mortality); and (iii) the relationship between food storage and preservation programs and nutrient availability for the citizens.

Yet, decisions have been made in the past and will be made in the future (for the next Five Year Plan) on livestock production, health and sanitation, storage and preservation, and prices for basic food commodities. It appears as if the planning process consists all too often of the presentation of personal opinions in committee meetings, when more precisely knowing the costs and benefits of nutrition-related programs would be of great use to the decision-makers.

The general orientation of all the above recommendations is to emphasize techniques for making the planning process more efficient. By adopting such an orientation, it is hoped that a foundation would be laid for improving the planning process by comparing the predictions of the analyses which are carried out with the actual results of implementation of the decisions. The difference between predictions and results would then feed back into the implemented programs or into the analysis methods to determine where the errors have occurred. In effect, with properly designed analyses, it becomes possible to build the scientific learning model into the government function of planning. Of course, macroeconomic planning models currently attempt to build in the same learning process, but what seems not to be realized is that this scientific learning process can be built into all levels of planning, and especially into planning which affects the nutritional status of the people of Syria.

(an increase of 158 percent). Growth in the number of secondary level vocational/technical school instructors fell somewhere in between: 212.4 percent.

Because of differences in student-teacher ratios for primary, intermediate and general secondary, and secondary technical schools, respectively (see Table 6), teacher increases do not translate into equivalent levels of growth in student enrollments for each type of school. In the case of primary schools, which have the highest student-teacher ratio, enrollment increases at 110.2 percent nearly kept pace with teacher growth. Growth in the number of intermediate and general secondary students, 321 percent, was about three-fifths of the teacher expansion rate, and in the case of secondary technical schools student increases of 124.3 percent were only about one-half of teacher expansion.

TABLE 6: STUDENT-TEACHER RATIOS BY TYPE AND LEVEL OF SCHOOL, 1963-1977

School	Student-Teacher Ratio 1963	1971	1977
Primary	37.1	36.8	30.2
Intermediate and general secondary	21.0	23.4	17.0
Technical secondary	13.3	7.9	9.6

SOURCE: Statistical Abstract (1978)

While the decline in the student-teacher ratio for primary schools can be considered to be a favorable development, low ratios at the post-primary levels especially in technical secondary schools may indicate that these institutions are operating below capacity. In view of access difficulties to be outlined below, which are particularly severe for technical schools, the apparent underutilization of teaching staff potential may be partially explained by these access problems. Low student-teacher ratios may also be due to the fact that many vocational school instructors teach only part-time.

The desire to alter the balance at the secondary level between general and technical/vocational enrollments in favor of the latter is specified in the Fourth Five Year Plan with targets set for each planning period year. Between 1975 and 1980 the intention is to reduce the proportion of intermediate school graduates entering general secondary schools from 70 percent to 50 percent (Fourth Five Year Plan, pp. 33-34).

Despite marked growth, less so in agricultural than in commercial and industrial branches, and despite a measure to raise monthly stipends for vocational students from 50 S.L. to 100 S.L. as of 1977, little progress is evident in achieving these goals. The percentage of students in general secondary to the total at this level (including those in teacher training colleges) has remained rather stable--81.6 percent in 1975, 81.2 percent in 1976 and 81.5 percent in 1977 (calculated from Statistical Abstract, 1978). Furthermore, of the cohort of students in their first year of secondary studies in 1977, only 17.1 percent were enrolled in vocational/technical schools (excluding those in teacher training colleges since no single-year data are available for them).

Overall enrollment rates in 1975 by level were:

Primary	89%
Intermediate	55%
Secondary	32%
Higher	12%

Despite numerical increases, disparities in educational opportunity by region, by sex and between rural and urban areas persist. Girls from rural areas of the least urbanized Mohafazat are worst off:

> Enrollment of girls at primary and lower secondary levels vary from as low as 8 percent and 3 percent of total enrollments in rural Deir-ez-zor to 49 percent and 44 percent in Damascus City against the national averages of 39 and 31 percent respectively (World Bank Report).

2.2.2 Distribution of Educational Resources by Mohafazat: On the whole, the distribution of educational resources has been roughly proportional to population of the various Mohafazat, and the level of preexisting inter-Mohafaza imbalances has been reduced somewhat over the last fifteen years. Basically, this process has meant a gradual erosion of the preeminent position originally held by Damascus, a development that has been more evident at the primary than at the intermediate or secondary level: with 24.4 percent of the Syrian population, Damascus (1977 estimate) contained 22.9 percent of total primary and 27.7 percent of total secondary school teachers (Tables 7 and 8); also, while only 14.9 percent of new primary school teachers entering the field between 1971 and 1977 ended up in Damascus, almost twice the proportion of secondary school teachers did, 28.2 percent (see Tables 9 and 10).

The main beneficiaries of the growth and resource redistribution occurring between 1963 and 1977 were Lattakia/Tartous, Homs and Dar'a, both at the elementary and secondary levels, and Hama and Sweida, only at the secondary level (see Tables 11 and 12). These Mohafazat were beneficiaries of educational investment policies in the sense that they came to possess a larger share of total teachers than their respective shares of 1977 population.

TABLE 7: DISTRIBUTION OF PRIMARY SCHOOLS AND TEACHERS BY MOHAFAZAT, 1963-1977

Mohafazat	Population (%)		Schools (%)			Teachers (%)		
	1970	1977	1963	1971	1977	1963	1971	1977
Damascus	20.3	24.4	16.5	11.9	10.9	28.3	26.5	22.9
Aleppo[a]	29.9	30.2	24.8	30.2	34.7	27.0	25.6	26.9
Homs	9.6	8.5	9.4	8.8	8.0	8.8	9.5	9.7
Hama	8.6	8.1	8.3	10.3	9.2	7.8	8.4	10.0
Lattakia[b]	12.5	10.6	15.0	13.5	13.0	10.2	10.8	13.1
Deir-ez-zor	4.9	4.5	3.9	3.8	2.8	3.9	4.3	2.6
Al-Hasakeh	5.2	7.2	13.6	13.2	14.5	6.6	5.7	6.3
Sweida	3.0	2.2	4.3	3.6	2.8	3.2	3.4	3.1
Dar'a[c]	5.9	4.2	4.6	4.7	4.2	4.2	5.6	5.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a]Includes Idleb and Al-Rakka.

[b]Includes Tartous.

[c]Includes Quneitra.

NOTE: Consolidation of these Mohafazat was necessitated in order to enable use of tables prepared by Duncan for years 1963 and 1971 for which I had no data disaggregated by Mohafaza.

SOURCE: 1963, 1971: Statistics taken from D. A. Duncan, "Center and Periphery in Syria: A Political-Geographical Study," Ph.D. thesis, University of Michigan, 1977, p. 18.

1977: Unpublished statistics from CBS.

TABLE 3: DISTRIBUTION OF INTERMEDIATE AND SECONDARY SCHOOLS AND TEACHERS BY MOHAFAZAT, 1963-1977

Mohafazat	Population (%)		Schools (%)			Teachers (%)		
	1970	1977	1963	1971	1977	1963	1971	1977
Damascus	20.3	24.4	25.7	21.7	20.0	34.2	27.2	27.7
Aleppo[a]	29.9	30.2	24.7	21.7	24.9	25.2	22.0	21.8
Homs	9.6	8.5	11.7	12.0	10.6	9.1	11.3	9.7
Hama	8.6	8.1	8.3	9.6	10.9	7.2	9.1	7.6
Lattakia[b]	12.5	10.6	13.5	19.3	15.5	11.9	15.0	16.1
Deir-ez-zor	4.9	4.5	3.1	2.9	3.0	2.6	3.6	4.3
Al-Hasakeh	5.2	7.2	4.4	3.8	3.5	3.3	4.9	5.9
Sweida	3.0	2.2	3.1	2.5	2.5	3.0	2.8	1.6
Dar'a[c]	5.9	4.2	5.4	6.4	6.1	3.5	4.0	5.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a]Includes Idleb and Al-Rakka.

[b]Includes Tartous.

[c]Includes Quneitra.

SOURCE: 1963, 1971: Statistics adapted from D. A. Duncan, "Center and Periphery in Syria: A Political-Geographical Study," Ph.D. thesis, University of Michigan, 1977, p. 194.

1977: Statistics from Statistical Abstract (1978).

TABLE 9: % DISTRIBUTION OF NEW PRIMARY SCHOOL TEACHERS, 1971-1977, BY MOHAFAZAT

Mohafazat	% of New Teachers
Damascus	14.9
Aleppo[a]	29.9
Homs	9.8
Hama	9.3
Lattakia[b]	16.7
Deir-ez-zor	3.2
Al-Hasakeh	7.4
Sweida	3.4
Dar'a[c]	5.4
TOTAL	100.0

[a]Includes Idleb and Al-Rakka.

[b]Includes Tartous.

[c]Includes Quneitra.

SOURCE: Based on Statistical Abstract (1978), p. 473.

TABLE 10: % DISTRIBUTION OF NEW INTERMEDIATE AND SECONDARY SCHOOL TEACHERS, 1971-1977, BY MOHAFAZAT

Mohafazat	% of New Teachers
Damascus	28.2
Aleppo[a]	21.6
Homs	7.8
Hama	6.2
Lattakia[b]	17.1
Deir-ez-zor	5.0
Al-Hasakeh	6.8
Sweida	0.6
Dar'a[c]	6.7
TOTAL	100.0

[a]Includes Idleb and Al-Rakka.

[b]Includes Tartous.

[c]Includes Quneitra.

SOURCE: Prepared on basis of Statistical Abstract (1978), p. 483.

TABLE 11: % INCREASE IN NUMBER OF PRIMARY SCHOOL TEACHERS, 1971-1977, BY MOHAFAZAT

Mohafazat	% Increase
Damascus	34.3
Aleppo[a]	71.5
Homs	63.3
Hama	67.6
Lattakia[b]	94.6
Deir-ez-zor	45.4
Al-Hasakeh	79.0
Sweida	61.2
Dar'a[c]	59.4
SYRIA	62.3

[a]Includes Idleb and Al-Rakka.

[b]Includes Tartous.

[c]Includes Quneitra.

SOURCE: Based on statistics from Statistical Abstract (1978), p. 473.

TABLE 12: % INCREASE IN NUMBER OF INTERMEDIATE AND SECONDARY SCHOOL TEACHERS, 1971-1977, BY MOHAFAZAT

Mohafazat	% Increase
Damascus	116.4
Aleppo[a]	110.3
Homs	77.7
Hama	76.6
Lattakia[b]	128.0
Deir-ez-zor	155.7
Al-Hasakeh	156.9
Sweida	24.7
Dar'a[c]	187.6
SYRIA TOTAL	114.5

[a]Includes Idleb and Al-Rakka.

[b]Includes Tartous.

[c]Includes Quneitra.

SOURCE: Prepared on basis of Statistical Abstract (1978), p. 485.

This was not the case in Deir-ez-zor and Al-Hasakeh, despite impressive rates of increase in these two Mohafazat.

Intermediate and secondary education budget allocations detailed in the Fourth Five Year Plan also favor Damascus, Lattakia, Tartous and Homs, replicating the actual pattern of growth observed up to 1977 (see Table 13). However, it appears that the actual gains of Dar'a, Hama and Sweida made until 1977 surpassed what might have been expected from budgetary allotments; the converse seems to be true for Aleppo. These inconsistencies may be due merely to the fact that the inter-Mohafaza balance observed in 1977 does not reflect the picture which may ultimately emerge in 1980, the end of the planning period.

Another way of looking at the relative emphasis given to post-elementary education in each of the Mohafazat is through the proportion of total educational expenditures going to these higher levels. Mohafazat in which this proportion exceeded the national average of 36.8 percent were: Damascus, with 73.9 percent; Lattakia, 56.1 percent; Tartous, 43.1 percent; and Hama, with 38.0 percent (see Table 14).

Budgetary allocations also indicate which Mohafazat were targetted for the greatest relative development of secondary vacational and technical education. In terms of inter-Mohafaza shares of total money devoted to this branch, allocations to Lattakia, Homs and Al-Rakka surpass their respective shares of the population (see Table 15).

Since each of these Mohafazat is the focus of other large development activities--the port and university in Lattakia, oil refineries in Homs and the Euphrates Dam in Al-Rakka--planned allocations represent an effort to produce needed manpower locally.

Mohafazat in which the ratio of vocational and technical education to total post-elementary allocations is highest are Lattakia with 53.3 percent, Sweida, 41.7 percent, Deir-ez-zor with 30.8 percent, Homs, 25.6 percent, and Dar'a, 22.2 percent, which are all significantly above the national average of 18.8 percent (see Table 16).

2.2.3 Implications for the Access of Rural Residents to Education: To assess what the rural access implications of these developments have been, reference must be made to the disposition of facilities and staff at each school level vis-à-vis service targets--villagers living in each of the Mohafazat. As explained in the introduction, absence of a school in a village raises the issue of physical access difficulties and other direct and indirect costs for rural families desiring to send their children to school.

Referring to Table 17 which depicts the proportion of villages without schools, we find that Mohafazat in which this proportion is high (more than 10 percent) are characterized by settlements of small average size (those with up to 800 residents). Similarly,

TABLE 13: % DISTRIBUTION OF BUDGETARY ALLOCATIONS FOR INTERMEDIATE AND SECONDARY EDUCATION, 1975-1980, BY MOHAFAZAT

Mohafazat	% Population (1976)	% Distribution
Damascus	24.4	36.7
Aleppo	10.5	18.4
Homs	8.5	10.6
Hama	8.1	6.6
Idleb	5.8	3.9
Lattakia	5.9	9.9
Tartous	4.7	5.4
Deir-ez-zor	4.5	3.7
Al-Hasakeh	7.2	3.7
Al-Rakka	3.8	2.6
Dar'a	3.9	2.4
Sweida	2.2	1.8
Quneitra	0.2	0.9
TOTAL	100.0	100.0

SOURCE: Prepared from data in Fourth Five Year Plan.

TABLE 14: % OF TOTAL EDUCATION BUDGET ALLOCATED TO INTERMEDIATE AND SECONDARY LEVELS,* 1975-1980, BY MOHAFAZAT

Mohafazat	% of Total Budget
Damascus	73.9
Aleppo	31.3
Homs	33.8
Hama	38.0
Idleb	30.5
Lattakia	56.1
Tartous	43.1
Deir-ez-zor	29.3
Al-Hasakeh	23.0
Al-Rakka	30.8
Dar'a	27.5
Sweida	28.8
Quneitra	33.3
SYRIA	36.8

*Includes both general and vocational-technical education.

SOURCE: Calculated on basis of figures in Fourth Five Year Plan.

TABLE 15: % DISTRIBUTION OF BUDGETARY ALLOCATIONS FOR VOCATIONAL AND TECHNICAL EDUCATION, 1975-1980, BY MOHAFAZAT

Mohafazat	% Population (1976)	% Distribution
Damascus	24.4	20.4
Aleppo	10.5	8.9
Homs	8.5	13.6
Hama	8.1	3.4
Idleb	5.8	1.4
Lattakia	5.9	21.8
Tartous	4.7	5.4
Deir-ez-zor	4.5	5.4
Al-Hasakeh	7.2	4.1
Al-Rakka	3.8	9.5
Dar'a	3.9	2.7
Sweida	2.2	3.4
Quneitra	0.2	--
TOTAL	100.0	100.0

SOURCE: Prepared from data in Fourth Five Year Plan.

TABLE 16: DISTRIBUTION OF MOHAFAZAT BY RATIO (%) OF VOCATIONAL AND TECHNICAL EDUCATION TO GENERAL INTERMEDIATE AND SECONDARY ALLOCATIONS, 1975-1980

Mohafazat	% Allocations
Damascus	9.7
Aleppo	8.2
Homs	25.6
Hama	8.9
Idleb	5.9
Lattakia	53.3
Tartous	19.0
Deir-ez-zor	30.8
Al-Hasakeh	21.4
Al-Rakka	1.4
Dar'a	22.2
Sweida	41.7
Quneitra	0.0
TOTAL	100.0

SOURCE: Prepared from budget data in Fourth Five Year Plan.

TABLE 17: PROPORTION OF VILLAGES WITHOUT SCHOOLS, AND AVERAGE VILLAGE SIZE BY MOHAFAZAT, 1977

Mohafazat	% Without School (%) [a]	Average Village Population [b]
Damascus	6.7	2,579
Aleppo	12.7	494
Homs	12.8	725
Hama	no information	855
Lattakia	16.4	541
Deir-ez-zor	19.2	1,812
Idleb	5.9	822
Al-Hasakeh	47.6	262
Al-Rakka	3.6	892
Sweida	3.9	976
Dar'a	0.0	2,173
Tartous	20.9	560
Quneitra	no information	122

SOURCE: (a) Unpublished statistics from CBS.
(b) Statistical Abstract (1978).

in all Mohafazat with larger villages (more than 800 residents), more than 90 percent of the villages have schools. The most extreme negative case is Al-Hasakeh: 47.6 percent of its villages are without any school facilities and average village size is the smallest of all Mohafazat (except Quneitra)--262 residents. Other Mohafazat sharing these joint features are Tartous, Lattakia and Aleppo. The only exception to this tendency is Deir-ez-zor, where despite large average village size the proportion without schools remains large.

Data from the Village Survey duplicate this pattern (see Table 18): of those 25 villages with less than 400 residents, 44 percent lack schools of any type; of those between 400-799, schools are absent in 9.1 percent of villages; and in the 56 villages with populations over 800, all have at least an elementary school.

TABLE 18: PROPORTION (%) OF VILLAGE SURVEY SAMPLE VILLAGES WITHOUT SCHOOLS, BY POPULATION SIZE GROUP

Population	Total (n)	Without (n)	Without (%)
0-399	25	11	44.0
400-799	22	2	9.1
800+	56	0	0
TOTAL	103	13	12.6

These data reflect the declared government aim of giving priority for the supply of basic services to larger villages with populations in excess of 500. But the fact that smaller villages are more prevalent in certain regions than in others (see Table 17) suggests that special policy measures need to be developed for such areas. A central village development strategy might be one possibility. Even where most villages have schools, Mohafazat and Manatik with large numbers of sub-village units (mezr'aa) per village confront special access problems which deserve attention. Such fragmentation is especially severe in Al-Hasakeh, Aleppo, Al-Rakka, Deir-ez-zor and Lattakia (see Table 19).

Intermediate level school facilities have been spread out to virtually all Manatik, most larger Nawahi centers, and some are now being located in larger villages as well. Among communities represented in the Village Survey sample (n = 103) no intermediate

TABLE 19: AVERAGE NUMBER OF VILLAGES PER MANTIKA AND NAHIA CENTER, BY MOHAFAZAT

Mohafazat	Villages per Mantika	Villages per Nahia
Damascus	24	9
Aleppo	177	57
Homs	85	30
Hama	121	30
Lattakia	112	34
Deir-ez-zor	64	16
Idleb	81	27
Al-Hasakeh	409	182
Al-Rakka	251	36
Sweida	62	18
Dar'a	121	15
Tartous	102	37
Quneitra	82	41

Calculated from the Statistical Abstract (1978)

level schools existed in settlements with less than 1,000 inhabitants. But for those with between 1,000-2,000 the proportion was 18.8; for those with 2,000-2,999, 33.3 percent; and for villages with over 3,000 residents it rose to 100 percent.

As Table 19 illustrates, restriction of facilities to Manatik and/or Nawahi centers creates different levels of access problems in each of the Mohafazat. While intermediate level schools are no longer basically confined to Mantika, Nowahi and Mohafaza centers, this is not the case for secondary schools.

One indication of access difficulties encountered by students who may want to continue their studies beyond the intermediate level is that attrition rates are highest between the middle and secondary levels, as evidenced in enrollment rates by level (see Section 2.2.1). While a number of factors may be responsible (including the immediate income needs of families, etc.), the break in enrollment rates between these levels may be attributed to difficulties in sending a child to a Mantika or Mohafaza center to continue his or her schooling, particularly if commuting is impracticable to such places. Access difficulties are even more serious for more specialized technical vocational schooling at the secondary and post-secondary levels, since facilities are largely restricted to Mohafaza centers. Data obtained from a survey (1979) of second year students attending the Intermediate Institute of Agriculture in Damascus suggest what the access implications of such restrictions may be: of 105 responding students, 22 percent were women all from nonfarm backgrounds, most from Damascus; of the men, only about 10 percent had farm backgrounds and 21 percent were from areas outside the city of Damascus--75 percent were already living and working in the city.

Further evidence of access barriers especially for secondary vocational and technical education comes from Village Survey data (see Table 20). Almost half of the villages are over 40 km. from the nearest school of this type. Where facilities are located only in the Mohafaza center, as is usually the case, serious transportation difficulties existed in terms of travel time and quality of road connections. Of the sample villages, 46 percent were within one hour's drive to the Mohafaza center, 31 percent between one to two hour's away, and 23 percent over two hour's away (Table 21). Furthermore, 28 percent of villages lacked stabilized road connections (see Table 22), and for 11 percent roads to the Mohafaza center were closed for one month or more out of the year (Table 23). Thirty-three percent of villages were over 10 km. away from the nearest public bus service to the Mohafaza center (see Table 24). These facts should be kept in mind as we move on to examine health care delivery where concentration of personnel and facilities in large urban centers is even more prevalent than it is in education.

2.2.4 Health: The Pattern of Growth: Health services, like education, have undergone tremendous expansion since 1963. Growth has not, however, sufficiently reduced the maldistribution of

TABLE 20: DISTRIBUTION OF VILLAGES BY DISTANCE TO THE NEAREST SCHOOL, BY TYPE

Distance (km.)	School		
	Intermediate (%)	Secondary (General) (%)	Secondary Vocational-Technical (%)
0	18.4	5.9	--
1-5	21.4	14.6	0.9
6-10	21.4	20.4	3.8
11-20	17.5	20.4	10.7
21-30	10.7	12.7	11.7
31-40	0.9	6.8	16.5
41-50	0.9	4.9	14.6
50+	5.8	10.7	33.0
No information	3.0	3.6	8.7
TOTAL	100.0	100.0	100.0

TABLE 21: DISTRIBUTION OF VILLAGE SURVEY COMMUNITIES BY CAR TRAVEL TIME TO THE MOHAFAZA CENTER

Travel Time (hours)	Villages (%)
Less than ½	10.0
½-1	36.0
1-1½	16.5
1½-2	14.5
More than 2	23.0
TOTAL	100.0 (n = 103)

TABLE 22: DISTRIBUTION OF SURVEY VILLAGES BY NUMBER OF STABILIZED ROADS LEADING TO THE VILLAGES

No. of Roads	Villages (%)
No roads	28.2
1 road	48.5
2 roads	16.5
3 roads	3.9
More than 3	2.9
TOTAL	100.0

TABLE 23: DISTRIBUTION OF VILLAGE SURVEY COMMUNITIES BY NUMBER OF DAYS ROAD TO MOHAFAZA CENTER IS CLOSED

No. of Days	% of Villages
0	63
Less than 7	14
8-14	5
15-30	8
31-45	1
46-60	2
More than 60	0
TOTAL	103

TABLE 24: DISTRIBUTION OF VILLAGES BY DISTANCE TO NEAREST PUBLIC BUS SERVICE TO THE MOHAFAZA CENTER

Distance (km.)	Villages (%)
0	45.6
1-5	12.6
6-10	8.7
11-20	11.7
21-30	5.8
31-40	2.9
41-50	2.9
50+	9.7
TOTAL	100.0

health personnel and facilities which has continued to favor urban areas, especially the largest ones--Damascus and Aleppo. With about three-fourths of health services in the private sector, the State has been unable to control the allocation, particularly of personnel across the country.

Doctors, the keystone of the health delivery structure, are free agents and, except for two years of compulsory rural service upon graduation, are able to set up practices wherever they desire. Their collective preference is clearly to practice in Damascus or Aleppo. Approximately three-fourths of doctors in Syria congregated in these two Mohafazat in 1977, and half of the nation's doctors live in Damascus and Aleppo Cities (see Table 25). Doctors in many other areas of the country (particularly in Homs, Hama and Lattakia) also tend to be attracted to urban centers, particularly to the centers of each Mohafaza, though the extent to which this is true varies. In the smaller, more rural Mohafazat which are not as dominated by large cities such as Damascus, Aleppo, Homs, Hama and Lattakia, doctors are less concentrated in the Mohafazat centers. However, because the total number of doctors tends also to be relatively small, the distributional impact remains minor.

Given the overwhelming urban concentration of doctors, progress indicated by a steady reduction in the population-to-doctor ratio in all areas of the country since 1963 (see Table 26) probably failed to benefit rural residents to the extent that one might otherwise have expected. However, the overall progress since 1963 in reducing the differences among Mohafazat, rural and urban, is noteworthy (see Figure 2). The range in patient:doctor ratios is from 1,250 in the Damascus Mohafaza to 7,909 in Sweida in 1977, whereas in 1963 the ratios were 2,541 and 22,091, respectively. Since 1971 less spectacular improvements have been achieved, although the general trend toward lowering the patient:doctor ratios has continued. Some areas of the country have been improving less than others and also still have the highest ratios, namely, Deir-ez-zor, Dar'a and Quneitra, Sweida and Al-Hasakeh. Al-Hasakeh had a higher ratio in 1977 than in 1973. All of these areas are still highly rural and would seem to require special rural health programs to get more doctors working among the rural villages.

There are obvious difficulties in getting more doctors to rural areas. Facilities in outlying areas have had mostly to rely on fresh medical school graduates performing their compulsory two-year obligation. Personnel recruitment and retention remain serious problems outside the major cities.*

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*Staff recruitment problems arose in the cases of hospitals built in Al-Rakka and Al-Hasakeh in 1976 (Syncrisis, p. 83). Similar problems were encountered in staffing 50 clinics constructed as part of a UNICEF-assisted program.

TABLE 25: DISTRIBUTION OF DOCTORS BY MOHAFAZAT AND PERCENTAGE OF DOCTORS LOCATED IN MOHAFAZA CENTERS, 1977

Mohafazat	Total Doctors in Mohafaza	% in Center
Damascus	892	81.4
Aleppo	700	92.1
Homs	135	80.0
Hama	100	64.0
Lattakia	101	79.0
Deir-ez-zor	39	56.4
Idleb	42	33.3
Al-Hasakeh	53	24.5
Al-Rakka	27	37.0
Sweida	24	33.3
Dar'a	33	27.3
Tartous	42	40.0
Quneitra	10	--
SYRIA	2,198	82.5

SOURCE: Unpublished statistics prepared by Central Bureau of Statistics.

TABLE 26: PATIENTS PER DOCTOR BY MOHAFAZA, 1963-1977

Mohafaza/Region	1963	1971	1977[d]
Damascus	2,541	1,726	1,250[e]
Aleppo[a]	6,239	4,996	2,941
Homs	8,891	4,235	3,264
Hama	8,911	8,167	3,843
Lattakia[b]	8,678	6,844	4,238
Deir-ez-zor	11,124	5,322	5,238
Al-Hasakeh	7,425	10,432	7,712
Sweida	22,091	11,577	7,909
Dar'a	15,074	8,971	8,024
SYRIA	5,494	3,788	2,515

[a]Includes Idleb and Al-Rakka.

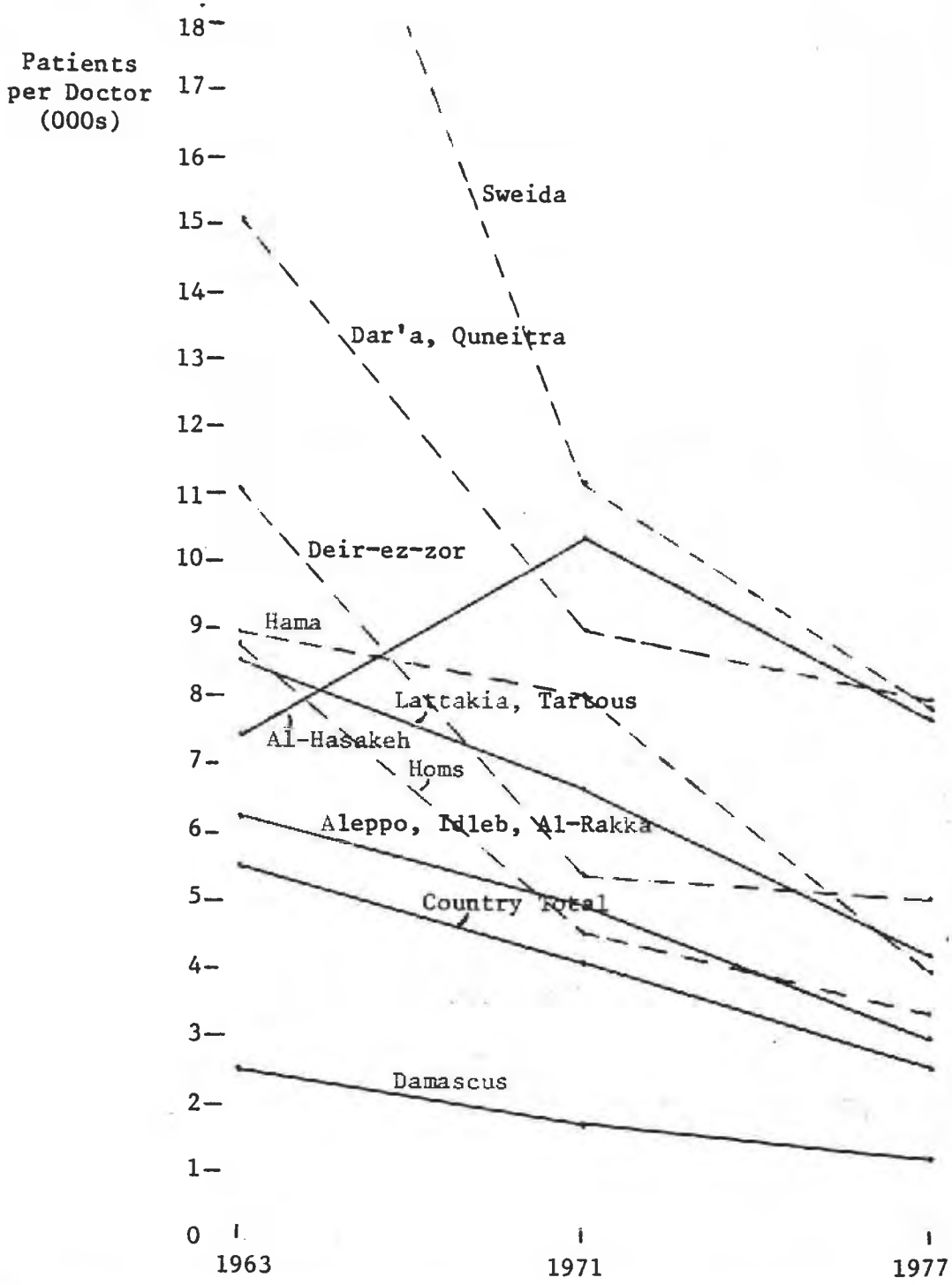
[b]Includes Tartous.

[c]Includes Quneitra.

[d]Based on Statistical Abstract (1978), p. 516.

[e]In Damascus City, 973 patients per doctor.

FIGURE 2: NUMBER OF PATIENTS PER DOCTOR IN 1963, 1971 AND 1977 IN VARIOUS REGIONS OF THE S.A.R.



Based on Statistical Abstract (1978)

The State does have greater authority over the location of hospitals and clinics than its doctors and these are consequently more evenly distributed. Government hospital expansion since 1963 has slightly reduced the preeminent position of Damascus to the particular benefit of Deir-ez-zor, Hama, Aleppo and Lattakia Mohafazat (see Table 27). The actual extent of such redistribution is more accurately reflected, however, by looking at relative hospital capacity measured by the number of hospital beds (see Tables 28 and 29). As of 1977, Damascus with 24.4 percent of the population still contained a disproportionate share of the country's total. Despite consistent gains in Homs, Hama and Lattakia/Tartous, these Mohafazat still had a smaller share of beds than their population warranted. The most notable deficit Mohafazat were Al-Hasakeh, Idleb, Al-Rakka and Tartous. In terms of hospital beds per 10,000 population, Damascus ranked first with 14, Aleppo and Sweida second with 12 (see Table 30).

2.2.5 Implications for Rural Access to Health Facilities: To more accurately assess the implications of these aggregate Mohafaza-level measures on service availability for rural people, such measures must be considered in conjunction with the degree of hospital and hospital bed dispersal within Mohafazat. Again, the picture is one of urban concentration. Two-thirds of all hospitals with about four-fifths (77.7 percent) of all beds are located in Mohafaza centers (see Table 31). Of the remainder, most are confined to Mantika centers, with the exceptions of two hospitals in Duma, Damascus, and one located in a Nahia center of Aleppo. Location and distribution of hospitals and hospital beds outside Mohafaza centers is given below in Table 32. Allocations for further hospital construction detailed in the Fourth Five Year Plan reveal that Mantika centers are to be favored in the next phase of expansion: 11 of 15 proposed new hospitals are to be located in such centers with the remainder designated for Nahia centers.

For people living in the countryside, health clinics are the facility with which they are most likely to come into contact. Compared to hospitals, the 300 health clinics are much more evenly spread out and are found in Mantika, Nahia centers and large villages.* A possible reflection of this fact is that 69 percent of communities represented in the Village Survey are 20 km. or less from the nearest clinic (see Table 33). Service load per clinic in terms of rural population and average number of villages served varies considerably from Mohafaza to Mohafaza, as Table 34 illustrates. In terms of future health program design priorities for clinic construction should be Dar'a-Quneitra, Tartous-Lattakia, Al-Hasakeh and Aleppo, where the number of villages per clinic is large.

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*According to the Fourth Five Year Plan, 81 new health centers are to be built "in centers of large Mohafazat as well as in medium and small ones, in Nahias and populous villages."

TABLE 27: DISTRIBUTION OF GOVERNMENT HOSPITALS, BY MOHAFAZAT, 1963-1977

Mohafazat	Hospitals[d] (%) 1963	1971	1977
Damascus	31.0	33.0	26.0
Aleppo[a]	31.0	27.0	29.0
Homs	4.0	3.0	3.0
Hama	4.0	6.0	6.5
Lattakia[b]	8.0	9.0	10.0
Deir-ez-zor	8.0	9.0	13.0
Al-Hasakeh	8.0	6.0	6.5
Sweida	4.0	3.0	3.0
Dar'a[c]	4.0	3.0	3.0
TOTAL	100.0	100.0	100.0

[a]Includes Idleb and Al-Rakka.

[b]Includes Tartous.

[c]Includes Quneitra.

[d]State hospitals, excluding sanatoriums, from Statistical Abstract (1978), p. 518.

SOURCE: 1963, 1971: Statistics from D. A. Duncan, "Center and Periphery in Syria: A Political-Geographical Study," Ph.D. thesis, University of Michigan, 1977, p. 206.

1977: Based on unpublished statistics from Central Bureau of Statistics.

TABLE 28: DISTRIBUTION OF GOVERNMENT HOSPITAL BEDS, BY MOHAFAZAT, 1963-1977

Mohafazat	Hospital Beds (%)			Hospital Beds/10,000		
	1963	1971	1977	1963	1971	1977
Damascus	50.4	52.6	47.2	17.5	19.0	16.0
Aleppo[a]	19.8	16.7	21.4	4.5	4.5	5.9
Homs	5.0	4.3	6.8	3.7	4.2	6.7
Hama	2.9	2.6	3.3	2.7	2.7	3.4
Lattakia[b]	5.6	8.5	8.3	3.3	6.5	6.5
Deir-ez-zor	10.0	7.7	7.4	13.1	13.9	13.8
Al-Hasakeh	2.2	1.4	1.2	2.8	1.5	1.3
Sweida	1.4	4.1	3.0	3.4	15.5	11.3
Dar'a[c]	2.4	1.9	1.5	4.0	4.3	3.0
SYRIA TOTAL	100.0	100.0	100.0	7.1	8.3	8.3

[a]Includes Idleb and Al-Rakka.

[b]Includes Tartous.

[c]Includes Quneitra.

SOURCE: 1963, 1971: Data adapted from D. A. Duncan, "Center and Periphery in Syria: A Political-Geographical Study," Ph.D. thesis, University of Michigan, 1977, p. 210.

1977: Unpublished data from Central Bureau of Statistics.

TABLE 29: DISTRIBUTION OF HOSPITAL BEDS, BY MOHAFAZAT, 1977

Mohafazat	Population (%)	Private and State[a] Hospital Beds (%)	State Hospital Beds[a]
Damascus	24.4	37.3	39.7
Aleppo	20.6	27.0	23.5
Homs	8.5	8.7	6.4
Hama	8.1	4.8	4.5
Lattakia	5.9	5.3	5.9
Deir-ez-zor	4.5	4.0	5.0
Idleb	5.8	2.4	2.9
Al-Hasakeh	7.2	2.3	3.0
Al-Rakka	3.8	1.5	1.2
Sweida	2.2	2.7	3.5
Dar'a	3.9	2.0	2.5
Tartous	4.7	1.8	2.1
Quneitra	0.3	--	0.0
TOTAL	100.0	100.0	100.0

[a]Based on Statistical Abstract (1978).

TABLE 30: HOSPITAL BEDS* PER 10,000 POPULATION, BY MOHAFAZAT, 1977

Mohafazat	Government Hospital Beds	Government and Private Hospital Beds
Damascus	12	14
Aleppo	8	12
Homs	6	10
Hama	4	6
Lattakia	7	8
Deir-ez-zor	8	9
Idleb	4	4
Al-Hasakeh	3	3
Al-Rakka	2	4
Sweida	12	12
Dar'a	5	5
Tartous	3	3
Quneitra	0	0

*Rounded to nearest whole number.

SOURCE: Calculated on the basis of Statistical Abstract (1978) figures for 1977 population estimates (p. 103) and hospital beds (p. 518).

TABLE 31: PERCENTAGE OF HOSPITAL BEDS, GOVERNMENT AND PRIVATE, IN MOHAFAZA CENTERS, 1977

Mohafazat	Percentage
Damascus	75.8
Aleppo	82.7
Homs	100.0
Hama	63.4
Lattakia	100.0
Deir-ez-zor	64.9
Idleb	100.0
Al-Hasakeh	33.3
Al-Rakka	100.0
Sweida	100.0
Dar'a	100.0
Tartous	24.8
Quneitra	--
SYRIA	77.7

SOURCE: Unpublished statistics supplied by Central Bureau of Statistics.

TABLE 32: DISTRIBUTION AND LOCATION OF HOSPITALS AND HOSPITAL BEDS OUTSIDE MOHAFAZA CENTERS, 1977

Mohafazat	Mantika	No. of Hospitals	No. of Beds	% of Beds
Damascus	Duma	3	696	49.6
	Al-Nabek	1	50	3.6
Aleppo	Jabal Saman	1	210	15.0
Hama	Salmieh	1	15	1.1
Deir-ez-zor	Abou Kemal	1	50	3.6
	Mayadin	1	120	8.6
Al-Hasakeh	Al-Kamishli	1	50	3.6
Tartous	Al-Karmous	1	212	15.1
TOTAL		10	1,403	100.0

SOURCE: Unpublished statistics supplied by Central Bureau of Statistics.

TABLE 33: % DISTRIBUTION OF VILLAGE SURVEY COMMUNITIES BY DISTANCE TO NEAREST CLINIC

Distance (km.)	Percentage
0	4.9
1-5	15.7
6-10	18.6
11-20	29.4
21-30	12.7
31-40	5.9
41-50	2.9
50+	9.8

SOURCE: Village Survey (1979)

TABLE 34: RURAL POPULATION AND VILLAGES PER CLINIC, BY MOHAFAZAT, 1977

Mohafazat	Population per Clinic	Average Villages per Clinic
Damascus	17,344	7
Aleppo	21,344	43
Homs	14,714	20
Hama	18,818	22
Lattakia	22,000	41
Deir-ez-zor	16,571	9
Idleb	15,136	18
Al-Hasakeh	25,235	96
Al-Rakka	16,000	18
Sweida	12,444	7
Dar'a	65,750	30
Tartous	28,700	51
Quneitra	--	163

SOURCE: Number of clinics and villages from unpublished statistics from Central Bureau of Statistics; population based on estimates for 1977 from Statistical Abstract (1978), p. 103.

The cost of delivering health care to dispersed rural areas is substantial as is the delivery of education, literacy training and agricultural extension. An alternative to having each Ministry establish its own separate service outpost in rural areas is to combine such service delivery systems into a single facility in each area. The Rural Development Centers (RDCs) represent Syria's main effort to do so. The experience with this strategy and its implications for the design of future rural social service delivery systems is explored in the following section.

3. Social Service Delivery through the Rural Development Centers

Rural Development Centers (RDCs) were introduced into Syria in 1959. The union with Egypt a year earlier paved the way for this development, since Egypt had adopted this approach in association with its own agrarian reform efforts in the early part of the same decade. This was a time when the community development approach was enjoying its heyday among international development circles, an approach which was based on a perception of development as a multifaceted rather than a unidimensional problem. Eqypt's community development centers and those eventually introduced into Syria embodied this view by creating multiservice centers. Each center is designed to reach 40-50,000 rural people in order to provide agricultural extension services, health and literacy training. In addition, some centers provide training in carpet-, rug-weaving and sweater-making.

Six such centers now exist in Syria, with a seventh presently under construction in Al-Hasakeh Mohafaza (see Table 35). This number is substantially less than the original goal of at least one center in each Mohafaza. Reserve budgetary allocations for additional centers are set aside in the Fourth Five Year Plan, but

TABLE 35: LOCATION OF RURAL DEVELOPMENT CENTERS

Name of Center	Location (Mohafazat)
Harran al-Awamid	Damascus
Ifreen	Aleppo
Joubet Bourghal	Lattakia
Mayadin	Deir-ez-zor
Nawa	Dar'a
Salkhad	Sweida

the use of these funds has been postponed and probably will not be spent. The hesitancy to allocate further resources to RDCs derives from difficulties which the centers have experienced. Understanding the reasons for the inability of such centers to fulfill original expectations is critical for the development of alternative social service delivery programs in the future.

The RDC program has been implemented on a limited scale, but at the same time the efforts expended have been serious and extensive. With the exceptions of the Joubet Bourghal and Harran al-Awamid centers, RDCs are located in Nahia or Mantika centers. Spread across six Mohafazat, they collectively cover much of the broad spectrum of conditions prevailing in Syria. Although not spanning the full spectrum, enough variety exists to suggest certain implications that go beyond the operation of the centers themselves. This is particularly true in terms of the issue of how appropriate it may be to apply a central village concept in the design of a social service delivery system under different socio-ecological conditions. The purpose of this section is to analyze those implications.

3.1 Structure of the RDCs

Each center consists of four units: a health unit, an agricultural unit, a social unit, and a construction unit. Construction units originally were intended to organize community self-help building efforts of roads, schools and other local projects that are now inactive in all the centers. A description of the other units, which are active, is provided in the following sections.

3.1.1 Health Units: The health units are mainly geared to provide out-patient care, particularly for maternity and early childhood cases. Units have up to 15 beds primarily used for natal and post-natal care. Pharmacies existed in all the RDCs visited, with medicines prescribed being free of charge. On the whole, the orientation of RDC clinics is curative. Preventive care is confined to inoculation services with a special effort being made to reach villagers who might find it difficult to come to the center for direct attention. Between 1 and 3 vehicles (land-rovers) are provided for this purpose. Personnel consists of between 1 and 3 doctors, 1 and 2 nurses, midwives and sometimes a dentist. Added to these are between 1 and 4 health visitors who go to the homes of expectant mothers to give pre-natal advice. Post-natal follow-up visits are made and mothers are encouraged to periodically bring their infants to the center for monitoring. The clinics are open daily from 8:00 a.m. to 2:00 p.m. with an average number of 30 to 55 patients seen during these hours among the centers. Doctors spend between 2 and 3 days per week away from the RDC traveling to surrounding villages.

As for their place in the overall health care delivery system, the health unit clinics occupy an intermediate hierarchical position. Above them are the more elaborately equipped and staffed hospitals designed to deal with emergencies or chronic cases.

These are to be found in Mohafaza centers. Dispensaries and other clinics may be present in other Mantika, Nahia centers or other large villages. RDC clinics are specifically intended to extend medical services to villages without any permanent medical facility. For this system to work, it is necessary for the RDCs to have an effective mobile capacity. It is also necessary for villagers to have transport and communication links with the RDC or other sources of health service, particularly in emergency cases.

People resort to a variety of transport means. In some areas many would come to the center by tractor. Proximity to a village with a police station equipped with a telephone also proved to be important since the telephone could be used to alert vehicles to transport patients either to the RDC or to the Mohafaza center hospital. Under the best of circumstances a trip to the hospital would take two hours in the case of the mountainous Joubet Bourghal center area, while in Nawa a patient could be brought to the hospital in Dar'a, the Mohafaza center, within thirty minutes to one hour. In the latter case, villagers were said to be no more than 5 km. from the nearest phone, while in Joubet the initial alert for a vehicle could be difficult if not impossible due to absence of phone connections and the problem of going even a small distance on the rough mountain roads in the area--a problem exacerbated in the winter. Under the extreme conditions in Joubet, installation of radio communications and the use of helicopters would seem to be the only way to reach isolated settlements, given present conditions.

In general, a number of problems have plagued the RDCs' health units which apply as well to rural health care generally. Retaining staff has been difficult in the least developed areas with the most need for health care. As a result of limited resources, there has been an overemphasis on curative care. Preventive programs to reduce environmental causes of disease (improving water systems, draining swamps, etc.) could become a significant role of the now defunct RDC construction units, however. The need to improve water and sewage systems among communities in the Village Survey sample is clearly evident from Table 36.

Other problems include scheduling rigidity, which has the center open only during certain hours throughout the year. This scheduling tends to thrust costs of health care onto clients who are forced either to interrupt work to acquire the "free" medical care provided or else to see private doctors at another time. This problem is especially severe during peak labor demand periods such as harvest time.

Physical access and communications problems also occur in referring seriously ill patients to appropriate health care levels for special treatment. Clinics are oriented to deal with generally prevalent diseases and other problems instead of being adapted to treat locally prevalent medical problems. Being more adapted to locally prevalent diseases and capable of changing the clinic's

TABLE 36: % DISTRIBUTION OF SURVEY VILLAGES BY AVAILABILITY OF WATER AND SEWAGE FACILITIES

Availability	% of Villages with: (1) Water Piped to Houses (%)	(2) Water Supplied to Village Center (%)	(3) Sewage/ Drainage (%)
Yes	18	28	8
No	82	72	92
TOTAL	100	100	100

medical services in accordance with local needs throughout the year would reduce referral requirements to more distant centers at a presently high private and social cost.

3.1.2 Social and Educational Units: These units undertake the following activities:

a) Literacy courses: Five-month-long courses* are normally set up in a rotational sequence for several villages in the service area during each five-month term. Courses are conducted in existing school facilities under the instruction of village school teachers.

The duration of the course--five months--is probably too short to have a lasting effect on adult functional illiteracy in the absence of follow-up or refresher courses. Insufficient up-to-date material is available to reinforce the literacy skills which are acquired. Mobile libraries, also part of social and educational units, are of too limited a scope to correct this problem.

Literacy programs provided under the auspices of GADEB correct some of these shortcomings. Follow-up courses are offered, ample reading material--newspapers, books on history, economics and agriculture--is made available in the social and cultural centers constructed in each of the newly reclaimed area villages. Also

*Courses offered in the Joubet Bourghal center are just three months long.

a positive innovation is the combination of literacy education with handicraft courses for participating females.

In the case of both RDCs and GADEB, however, literacy programming could benefit from a stronger orientation toward functional literacy, i.e., literacy as a skill preparing peasants to operate more effectively vis-à-vis governmental institutions, cooperatives and other agencies.

b) Nurseries: Child care facilities are set up in the RDC and sometimes in several service area villages. Up to now, those outside the RDC were established on a temporary annual basis, with different villages selected each year. Permanent kindergartens with permanent teachers are now being planned for some of the RDC service area villages. In addition to providing pre-school education, nurseries play an important economic role by permitting mothers to leave the home and earn extra income.

c) Bookmobiles: Most social units have bookmobiles which distribute reading material to area villages.

d) Home economics courses: Sewing, knitting and cooking classes are offered in the centers themselves on a rotational basis to area villages.

e) Mobile cinema: A mobile film projection unit is used to show films in area villages.

3.1.3 Employment and Training: Rug-, Carpet-Weaving and Sweater-Making: Four of the RDCs have carpet-weaving units, and two of these have rug-weaving facilities as well. Two five-month training rounds are offered annually. Production units generate income for girls working in the units as well as for the social unit as a whole. In 1976 training and production units for sweater-making were introduced. Three of the four visited RDC'shad such units--Joubet Bourghal, Harran and Ifreen. Additionally, units were established in two villages 15 and 12 km. from Ifreen. These programs are part of national efforts along such lines in which major emphasis has up to now been given to carpet-weaving. Approximately 100 carpet-weaving units now exist all over Syria.

The goals of the national program are:

1) to provide employment and income earning opportunities to rural inhabitants;

2) to discourage rural-urban migration; and

3) to stimulate regional development through increased demand for locally produced raw materials.

Nationwide, the carpet-weaving program trained and employed a total of 2,173 females in 1977,* 184 of these women being in RDC-attached units. Average income was reportedly 200-250 S.L. per month and could reach a maximum of 350 S.L. for those who worked every day. Where other income earning alternatives are scarce or highly seasonal, the program may provide a significant source of supplemental family income. Absenteeism has been a chronic problem, however, peaking in conjunction with seasonal agricultural labor demand periods. This indicates that income levels for those who work in these units are too low to compete with other economic opportunities. For many areas where labor shortages seem to be a greater problem than unemployment, the contribution of such units is less than desired.

As a deterrent to urban migration, the program's impact can be considered to be negligible both because of its limited scale and because of the fact that incomes are not competitive with wages in the urban sector. Furthermore, those targeted as participants--young females--are not the ones most likely to move to town in the first place. As Williams indicates, the rural residents most likely to migrate are young men between the ages of 15 and 39.

In terms of the regional and national development linkages, proposals have been made to build State dye and yarn factories to supply the production units, including those in the RDCs. Since demand for carpets and rugs outstrips supply, the program could enhance demand for State sector products, especially if measures could be taken to improve productivity. The limited nature of the present program has meant that linkages into the economy have not been great. However, in locating other units and factories, more direct attention will have to be given to the availability of raw materials (cotton and wool) in order to maximize linkages to local producers.

The quality of the goods produced and the productivity** of those who work in such units, however, are limited by the maladjustment of carpet-weaving to the social reality of rural women:

a) high absenteeism coincides with peak agricultural labor demand periods (see Section 3.3);

b) girls quit the program upon marriage when they have reached the peak of their skills, leaving behind a pool of beginners;

c) looms are too unwieldy to be introduced into the homes of girls once they are married, nullifying potential long-term private income benefits of training.

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*These are averages calculated by the Ministry of Labor and Social Affairs on the basis of the number of workers in each center during each month of the year.

**Productivity is low, averaging 3,000 knots per day per worker, versus 15,000-20,000 in the case of Iranian weavers.

More emphasis should perhaps be shifted to sweater-making programs since looms are both compact and inexpensive;* transfer of training benefits to the homes of married trainees is thereby facilitated. The same advantages may exist in rug- (versus carpet-) weaving as well.

Generally, programs aimed at women could benefit from more explicit support for ultimate home-based production by trainees. The benefits from acquiring the weaving skills would thereby be transferable to the home for more long-term benefits. At the same time, moving the program in this direction would complicate input supply and marketing problems.

Where they exist, RDCs could become more involved in such organizational activities while in others village cooperatives might be well placed to perform these supply and marketing functions. The Peasants' Union (and therefore the cooperatives) has in fact become increasingly involved in the carpet-weaving activities. However, they are apparently not moving consciously toward a system of scattered home-based production.

Despite these problems, RDCs do benefit from carpet and rug sales as a source of internally generated financing.

3.1.4 Agricultural Units: These serve in an extension capacity by:

1) The use of demonstration plots. Farmers who agree to set aside some of their land for this purpose are given all inputs free of charge.

2) Publishing and disseminating instructive materials on various aspects of crop production.

3) Making spot checks in the service area, and upon discovery of plant diseases or other problems arrange for herbicide or insecticide application. Special concern is given to industrial crops such as cotton and sugar beets.

4) Distributing fruit tree and olive saplings to further government aims to expand the cultivated area devoted to such crops. The Nawa and Ifreen centers were expecially active in this sphere, in both cases concentrating on the distribution of olive saplings. Those planting olives are provided with technical supervision for the first 4 years of growth. The head of the agricultural unit in Nawa claimed that this effort was responsible for the planting of 900 dunams of olives over the last 15 years.

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*Machines were estimated to cost 2,000 S.L. With earnings averaging at 500 S.L. per month (based on productivity), the price is equivalent to about four month's pay.

5) Conducting field tests for newly introduced crops or assessing the selective adaptability of new varieties to particular local conditions. In Harran al-Awamid, a field test of wheat was being conducted in cooperation with ICARDA, with another in Ifreen devoted to sugar beets.

6) Providing veterinary services. The staff of these units consists of between 1 and 3 agricultural engineers, 1-4 agricultural assistants, 0-1 veterinarians and 0-2 veterinary assistants. Agricultural and veterinary assistants are graduates of agricultural secondary schools, while engineers and veterinarians are university graduates. Of the 4 centers visited, only Nawa had a veterinarian working in the unit (see Manzardo, 1979).

3.1.5 Administrative Organization: General authority over the centers rests with the Ministry of Labor and Social Affairs which has a special directorate of RDCs. The Ministry of Labor and Social Affairs heads the Higher Council for Rural Development Centers, while at the centers themselves, the position of director is filled by an official from the same ministry, usually a graduate in law or social services. While the RDC director and the Ministry of Labor and Social Affairs are responsible for the social and educational unit, the health, agricultural and construction units are tied to the Ministries of Health, Agriculture and Construction, respectively. If, for example, some problem arises in the health unit, the normal procedure is to attempt first to settle this problem within the center itself, possibly during one of the bi-weekly meetings of the administrative council. If the issue remains unresolved. the Ministry of Health, and not Labor and Social Affairs is called upon. Such a procedure is used in the case of other ministerial responsibilities as well.

In addition to the involvement of regular ministries in the administration of the centers' activities, there has been a growing tendency to introduce other organizations also generally active in rural development. The Peasants' Union has been incorporated into decision-making at the provincial and district levels and directives have been issued to admit this organization and the General Federation of Women into deliberations held by the centers' administrative councils. This is potentially a healthy development, particularly given the organizational infrastructure represented by the over 3,000 cooperatives associated with the Peasants' Union nationwide.

Planning, budgeting and financing responsibilities are also divided among a number of Ministries. While coordination and planning are in the hands of the Ministry of Labor and Social Affairs in Damascus, finance and management fall within the domain of the Ministry of Administration and Local Affairs at the Mohafaza level.

ADMINISTRATIVE ORGANIZATION

LEVEL

Higher Council for Rural Development Centers

National Level — Ministry of Labor and Social Affairs (Head)

Deputy Minister of Health	Deputy Minister of Agriculture	Deputy Minister of Housing	Deputy Minister of Finance	Deputy Minister of Culture and Guidance

MOHAFAZA RDC COUNCIL

Mohafaza Level

Director of Health	Director of Agriculture	Director of Housing	Director of Finance	Director of Culture and Guidance

ALSO: Provincial Representative of Peasant's Union

DISTRICT RDC STEERING COMMITTEE

Mantika Level (of Center)

Nahia Level

- Mantika Governor
- Nahia Governor
- Director of Center
- Teacher from highest level school
- Village and Peasant's Union Representatives

RDC ADMINISTRATIVE COUNCIL

Centers — Director of Center

Head of Health Unit	Head of Agriculture Unit	Head of Construction Unit	Head of Social and Education Unit (Director)
Ministry of Health	Ministry of Agriculture	Ministry of Construction	Ministry of Labor and Social Affairs

According to a 1973 report written by a former RDC Director,* shortage of funds has plagued the RDCs from the outset. At best, he observed, no more than 15 percent of the annual provisional budget has ever been actually allotted. While other obstacles have also hindered the ability of the Centers to serve the intended 40-50,000 people, funding problems have restricted their effective coverage to less than 2,000 persons per Center. Resource limitations have been especially debilitating in limiting the purchase and upkeep of vehicles which are critical if the centers are to extend effectively into the service area.

An additional problem has been the excessive diversion of funds to a swelled service and administrative staff, leaving less funds than might otherwise have been available for direct service and technical personnel and activities. One step in the right direction has been to subsitute a simplified monthly statistical report form to be submitted to the Damascus Center in place of a complex system of record keeping. A more serious and intractable problem raised by shortage of funds is that of providing financial and other incentives necessary to hold technical staff, particularly doctors and agricultural engineers. The more isolated centers--those most in need of services--suffer most from this problem.

The Ministry of Labor and Social Affairs provides limited special allowances weighted in favor of the poorer Centers in addition to covering administrative costs and expenses incurred by social units in all the Centers. One positive development has been the expansion of internal money-gathering activities within the Centers themselves--the expansion of carpet-weaving and sweater-making, training and production activities which generate income through sales while providing supplemental income to girls working in the units. Agricultural produce from test fields also provides income to the Centers. Specialized units--health and agriculture--are financed separately by their respective ministries.

The problem of coordination and that of duplication of activities already provided under other ministerial auspices have plagued the RDC scheme from its inception. One observer in the mid-1960s concluded that:

> "...the Ministry of Social Affairs was not able to coordinate the work of the Ministries of Agriculture, Education and Health. Community development activities that were started often duplicated the functions of other Ministries" (Fort:9).

This view is echoed by the RDC director in his 1973 report. Coordination difficulties, he maintained, "...resulted in units attached to other ministries pursuing independent activities, especially in

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*Director of Rural Development Centers, "Report on the Situation of Rural Development Centers," 1973 (Arabic). Unpublished Report.

the Agricutlure and Health Units." The Third and Fourth Five-Year Plans call for formalizing the separation of RDC units and associating them more closely to their parent ministries.* Nevertheless, decisions reached in 1971 by the Higher Council for Rural Development and agreed to by the State Planning Commission (Letter No. 6929 8-10 1971) are still in effect; namely, that the Ministry of Social Affairs and Labor should maintain overall administrative authority while technically units would be connected to concerned ministries. There are some observers--for example, a conference of health inspectors--who still argue for a return to unified technical and administrative coordination of the centers under the Ministry of Socail Affairs and Labor.

The coordination problem percolates all the way down to the day-to-day operation of the Centers. Relations between the directors and technical staff (i.e., the doctors, agricultural engineers, etc.) are, according to several informants marked by the classic tension between the generalist (i.e., the Director) and his technical employees who are not even directly responsible to him or the ministry he represents. Tensions are also exacerbated by the income differentials, especially between the rest of the staff and the doctors whose work commitment to the Centers is confined to the morning hours and whose government salary is merely a supplement to income earned from private practice.

Coordination difficulties are endemic to rural and community development schemes in general, since the activities involved in an integrated approach of this sort necessarily cut across the functional division of labor established at the national ministerial level. According to a recent review of community development efforts throughout the world, in countries where special community development agencies were established, such agencies were typically beset by animosities which surfaced between them and traditional ministries like agriculture, health and education (Holdcroft:10). The conclusion of the study was that "there is wisdom in trying to work with traditional ministries (Holdcroft:21).

Even though efforts were made to work through traditional ministries in the RDC program, inter-ministerial friction developed. Perhaps this friction emerged because the pre-eminent ministry, Social Affairs and Labor, lacked sufficient authority over units which maintained strong links to parent ministries. In contrast, in other development programs in Syria, authority vested in a rural development agency was strong enough, such as in the case of the Ghab and GADEB projects, problems of authority and coordination

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*The objective as stated in the Fourth Five-Year Plan is: "To develop the existing regulations of village welfare centers (RDCs) in a way suited to the following services they provide: (1) social and family services, (2) rural crafts, and (3) kindergartens, and to transform the existing centers...after leaving health, agriculture and urbanistic services to other competent authorities" (Fourth Five-Year Plan, pp. 38-39).

have evidently not been as severe. Such models of authority and coordination should be studied for their applicability to RDCs in general.

From the brief overview I provided earlier of the mosaic of ministries and organizations involved in education and health delivery, it is clear that the coordination/duplication problem is a general one and not exclusively experienced in the RDCs. One might argue that where there exists a large sector of people who are not reached by basic services, performance of similar functions by different ministries and popular organizations but directed to different target populations is not an inherently negative phenomenon. Those agencies that have the infrastructure, organizational or otherwise, which reaches into the countryside--the cooperatives, the schools, even the mosques--are possible channels for service delivery. At early stages when even the most basic services are absent, an orthodox and neat division of labor may therefore not be the best way to get things done.

However, a problem does arise, as it did in the case of the RDCs when different ministries and organizations compete in the same terrain. In those areas increasingly well-provided for by Ministry of Health clinics and by Ministry of Agriculture offices at the Mantika level, it appears that the RDCs have been losing their authority and perhaps their effectiveness. For this and other reasons, the setting--physical, social and infrastructural--into which an RDC is to be introduced must be closely studied and monitored. Care should be taken to locate areas where such an approach could do the most good and reach the most people and then to have a flexibility built into it to perceive changing needs and re-adjust programs accordingly.

3.2 The Problem of Locating Centers

Centers are intended to serve populations of between 40-50,000 people* living within a 20-km. radius. The use of population criteria is typical of location planning for other social service facilities as well. We see this in the Fourth Five-Year Plan which seeks to establish a hospital for every 40-50,000 people. These are to be built in mohafazat centers with clinics to be set up in nahia centers and "large" villages. Primary schools and electricity are to be provided to all villages with populations of 500 or more.

While such guidelines are useful for drawing up plans and budgets in ministerial planning offices, they must be supplemented by other types of information which affect the ability to achieve the basic aim of maximizing access to, and utilization of, such facilities in outlying communities. In particular, variations in population density, the scatter of settlements and the demand for services should be considered when adjusting population criteria, and more basically when determining whether the center approach is appropriate. Coexistence of a population of 50,000 within a 20-km. radius implies a minimum population density of 25-44 sq. km. The following table illustrates the implications of applying the established population and distance criteria for each of the Centers.

*When relevant, preference is given to the establishment of such centers in "poor" rural areas.

TABLE 37:

Center	Population Density in District (1970/km.^{2})	Estimate of Population within 20 km.	Radius for Population of 45,000
Harran al-Awamid*	--	--	--
Ifreen	58	72,848	15
Joubet Bourghal (Kirdaha)	92	115,552	12
Mayadin	4	5,024	60
Nawa (Izra)	54	67,824	16
Salkhad	17	21,352	29

*No information available.

SOURCE: Prepared from 1970 Census data.

Centers located in areas of higher density--Ifreen and Joubet Bourghal--can potentially serve the intended numbers of people well within the 20-km. radius which, given adequate road connections, is a realistic standard. However, two additional dimensions must be considered in assessing the ability of RDCs to fulfill their mission: the scatter and modal size of settlements the RDCs are meant to serve. While loosely related to population density, those districts which are of equivalent population densities may nevertheless differ in the spatial distribution of their populations. Situations may range between those in which there are large, widely spread-out settlements to others where a large number of small villages exist in close proximity to each other. Each of these circumstances represents radically different service environments.

According to a UNICEF-sponsored survey of all RDCs in 1976, the total number of settlements served was 237, with a combined population of 172,714. The following table, Table 38, reflects the impact of population density and modal population size differences on the

TABLE 38: NUMBER, POPULATION AND AVERAGE SIZE OF VILLAGES SERVED BY RURAL DEVELOPMENT CENTERS, 1976

Center	No. of Villages	Population in Service Area	Average Village Size
Harran al-Awamid	43	39,035	908
Ifreen	41	30,454	743
Joubet Bourghal	105	30,971	295
Mayadin	6	19,088	3,181
Nawa	9	30,129	3,348
Salkhad	33	33,037	1,001

SOURCE: Adopted for data in, UNICEF report. (1977)

TABLE 39: PERCENTAGE DISTRIBUTION OF VILLAGES AND TOWNS IN RDC DISTRICTS, BY POPULATION SIZE GROUP, 1970

Center	Population Size Group			
	Fewer than 500 (%)	More than 500 (%)	More than 1,000 (%)	More than 2,000 (%)
Harran al-Awamid*	--	--	--	--
Ifreen	77	23	7	2
Joubet Bourghal	90	10	0	0
Mayadin	11	89	65	27
Nawa	10	90	50	40
Salkhad	40	60	24	6

*No information available. Prepared from 1970 Census data

number of communities to which each RDC is supposed to provide services. Table 39 depicts the percentage distribution of villages and towns in RDC districts by population group.

Mayadin and Nawa serve an area of rather large villages: 89-90 percent of the villages have populations above 500 and between 50 and 65 percent have over 1,000 inhabitants. Salkhad, Harran and Ifreen serve villages averaging between 800 and 1,000. Joubet Bourghal represents a case of extreme fragmentation in which 90 percent of villages have less than 500 people and in which Joubet, with less than 1,000 inhabitants, is the largest village in the Nahiya. Thus, in Mayadin, while low population densities present a distance problem in terms of the ability to reach a substantial number of people, large village size represents an alleviating factor. Relatively few road connections are needed to ensure the extension of services to other villages. Joubet, despite its high density and shorter distances between villages, confronts difficulties posed by a structure of small, dispersed villages requiring an intricate road network to link them all together. This problem is exacerbated by the rough mountainous terrain in Joubet.

There is yet another respect in which village size acquires importance--the relationship between population size and adequacy or availability of services like schools, medical facilities and roads. While RDCs are designed to correct deficiencies in these areas, the ability to perform this mission is affected by the preexistence of such infrastructure.

Settlement size has influenced the availability of non-RDC service infrastructure in the areas in which the six RDCs are located. Table 40 shows the quality of road connections between each center and villages in the service area.

Comparing these data with the population data of Table 38, we see that the ranking of RDCs on this quality of road dimension coincides exactly with average village size in the respective service areas. It is precisely those centers which are in greatest need of adequate and intricate road connections, those where the villages are typically small, which are worst off in this respect. Using the measure of schools per village in the service area of each center as an indicator of relative school facility adequacy, the same pattern appears (See Table 41).

According to the 1978 statistics* virtually every village in nahawi served by the six centers had at least one primary school. (Seven villages in Joubet and three in Salkhad have no primary school.) For the centers, existence of such schools with interested and committed teachers is critical for the ability to organize adult literacy courses. Villages lacking such features are unlikely candidates for such courses, even though these may be the very ones in greatest need.

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*Unpublished statistics from Central Bureau of Statistics.

TABLE 40:

Center	Percentage of Villages Linked to RDCs by Asphalt or Stabilized Road, 1976
Harran al-Awamid	56
Ifreen	27
Joubet Bourghal	21
Mayadin	83
Nawa	67
Salkhad	40

SOURCE: UNICEF. Study of the Rural Development Centers and the Status of Employees Working in Them in the Syrian Arab Republic, Damascus, 1977.

TABLE 41: SCHOOLS PER VILLAGE IN RDC SERVICE AREAS

Center	Schools per Village
Harran al-Awamid	0.79
Ifreen	0.56
Joubet Bourghal	0.38
Mayadin	2.83
Nawa	2.00
Salkhad	1.59

SOURCE: UNICEF. Study of the Rural Development Centers and the Status of Employees Working in Them in the Syrian Arab Republic; Damascus, 1977.

Finally, as far as the relative availability of medical personnel is concerned, we find the ratio of population per doctor to be more favorable (i.e., smaller) in the case of areas where villages are typically larger. With one exception (Ifreen), RDCs ranked according to population per doctor show the same order as in the case of road and school availability. Proximity to Aleppo and the rapid growth of the Ifreen mantika center itself--which is now a town of almost 25,000--may be jointly responsible for this departure from the norm.

Presence of such facilities does more than contribute to the direct service activities of the RDCs. Adequacy of educational, health and other services also affects the ability of such centers to hold personnel in rural areas. This problem is especially serious in the case of medical personnel and one that is generalized to the overall distribution of medical manpower. Looking into the future, one report predicted that:

> "there will be sufficient physician capability in the mohafazat centers and large/medium size towns to form the core necessary (but not sufficient) for a good basic health delivery system" (Family Health Care, Inc.: p.66).

However, it is unlikely that physicians would settle in rural areas on a permanent basis. The report cites the example of UNICEF-assisted programs to contruct 50 health centers. As of May 1976, they could only be staffed at the 50-percent level. Yet compared to other developing countries, physicians in Syria seem more willing to settle and work in rural areas. This is partially due to the desire of some doctors to live and work in areas where they were raised (FHC: 62). Two of the RDCs which I visited--Nawa and Ifreen--had such long-term doctors. In other cases, doctors consisted of fresh medical graduates fulfilling their two-year post-medical-school rural service obligation.

Comparison of health unit perfomance demonstrates the impact of these factors. The two RDCs located near large cities, Harran al-Awamid near Damascus and Ifreen near Aleppo, far outstrip the other centers in the number of patients treated (see Table 42). Both centers surpass the other in terms of the number of RDC-based doctors as well as doctors not associated with the RDCs with their own private practices in the community.

While not perfectly correlated, the administrative hierarchy of Mohafaza center, mantika center and nahia center and village represent a descending order of population sizes. There have been conscious government efforts to concentrate services in centers above the nahia level and especially at the Mantika and Mohafaza center levels. This means that such centers, and especially the larger ones, are likely either now or in the future to be provided with basic health, educational and agricultural extension services (see Section 2 of this report).

TABLE 42: NUMBER OF PATIENTS TREATED BY RURAL DEVELOPMENT CENTER CLINICS, 1977

Center	Number of Patients
Harran al-Awamid	18,497
Ifreen	19,597
Joubet Bourghal	4,454
Mayadin	7,588
Nawa	8,268
Salkhad	5,063
TOTAL	63,467

SOURCE: S.A.R., Ministry of Social Affairs and Labor, The Annual Statistical Bulletin of the Ministry of Social Affairs and Labor, 1977 (Damascus, 1978), p. 140.

As already noted, while this coexistence of service delivery infrastructures may bolster the operational capabilities of RDCs, it also has meant that involvement of RDCs in some of these activities is irrelevant and a duplication of administrative energies.

In terms of the work of agricultural units, Ifreen as a mantika center has a Ministry of Agriculture extension office separate from the RDC. The head of the RDC agricultural unit shuttles between the RDC and the Ministry of Agriculture office which he also heads and employs six agricultural engineers serving the whole mantika. This contrasts with the situation in Harran al-Awamid, a nahia center. It is located close to Damascus, a 40-minute drive, and near to the Intermediate Agricultural Institute from which it acquires saplings for its fruit tree proliferation program. This last advantage is complementary in nature rather than representing duplication of effort. Unlike the Ifreen case, there is no contingent of agricultural engineers employed in a Ministry of Agriculture office. Such an office exists instead in Duma, a mantika center. The Director of the Ifreen RDC health unit also doubles as the district Ministry of Health representative.*

These observations suggest that if the RDCs are to represent a significant and unique contribution of services, they should be located no higher than at the nahia center level. The dilemma of the RDC approach seems to boil down to the fact that they operate best in centers which are easy to reach and usually large because of infrastructural supports available--places where they are least needed. Yet those communities most in need of the type of services provided by RDCs tend to lack the infrastructure needed to link the often small isolated communities in the surrounding area.

3.3 The Impact of Scheduling and Program Appropriateness on Access to and Utilization of Services

Scheduling of service centers such as the RDCs affects the propensity of the local population to use services. Even if no formal charges exist, opportunity costs are likely to arise and are likely to vary for specific groups. In the case of rural residents to be served by RDCs, or even by formal educational and health institutions, it is how people's lives are structured by their involvement in agricultural production that assumes central importance. Labor shortage or surplus in the area, the seasonality and intensity of agricultural labor demand, opportunities for non-agricultural employment, and the age and sex selectivity of labor activities are critical in affecting participation in these programs and utilization of services during different seasons and even times of the day.**

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*In this same mantika there are three nahia center-based medical dispensaries located in Jenderes, Bulbul and Rajo, each with one doctor. The relatively large populations of these centers probably explain the presence of these facilities. Similarly in Nawa (Dar'a) clinics exist in two large villages, Jassem and Harra.

**Observations which follow are based on interview with RDC Directors, the head of the RDC Directorate in the Ministry of Social Affairs and Labor in Damascus and on statistical data provided on utilization and participation rates for the various services and programs.

Literacy courses, carpet/rug weaving projects, use of health clinics and nurseries are among those programs sensitive to the work environment. The position of females in the labor force and the seasonality of demand for female labor have a great impact on carpet weaving participation and on the utilization of nurseries. During harvest seasons, nurseries experience dramatic rises in participation rates while sharp drops in attendance are recorded in the case of carpet weaving units. For both sexes, temporary drop-offs in literacy course participation occur during such peaks in labor demand.

Visits to health units also fluctuate. Several factors may operate to produce such variations, namely the uneven seasonal occurrence of disease and illness in specific areas and the possible absence of a doctor from the clinic for some period of time. Nevertheless, the fact that lows in visiting rates coincide with labor demand peaks in several RDCs suggests the saliency of the labor demand factor in producing variation. There are a number of reasons why this occurs.

Since health clinic hours are restricted throughout the year to the morning hours, a sickness in the family during harvest time or other peak labor periods is likely to result in income losses. Seeking care during clinic hours might mean that a family member is forced to take off from work to accompany the ill person to the clinic. The alternative, to seek private medical care later in the day, thrusts a direct cost onto the family. Consequently, it is reasonable to expect that many illnesses go unattended particularly among poor rural families who have the desire to obtain treatment but cannot absorb the direct and indirect costs of involved.

This situation could be alleviated by either adjusting clinic hours by providing additional evening hours during peak labor periods or perhaps by having doctors reverse their usual clinic schedule, holding private practices during the morning and requiring them to work in the public clinics during the afternoon or evening.

One can draw a distinction between demands for labor which are recurrent and seasonal (being based on land use patterns and the major crops grown in an area) and more fundamental changes in the structure of labor demand--for example, the building of new factories. While the first type of pressure may create fluctuations in utilization or participation, the second type of change can possibly undermine the entire viability of certain types of programs.

These differences are well illustrated in the case of the carpet and rug weaving units. Monthly statistics on the number of man-days worked in the over 100 carpet weaving units dramatically demonstrate the impact of harvest time labor demand peaks. Several units have had to close down during these periods. Table 43 and 44 and Figure 3 depict fluctuations experienced in the four RDC-connected units.

TABLE 43: MONTHLY DISTRIBUTION OF WORKERS IN RURAL DEVELOPMENT CENTER CARPET-WEAVING UNITS, 1977

Center	Months								Months				General Average
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Ifreen	52	47	58	60	42	60	58	53	61	59	48	56	55
Joubet	38	41	41	36	34	29	29	38	22	8	8	8	28
Mayadin	29	29	24	24	18	19	44	33	33	17	18	28	36
Salkhad	98	89	86	91	92	68	84	88	50	50	50	60	76
TOTAL	217	206	209	211	186	176	215	212	166	134	124	152	184

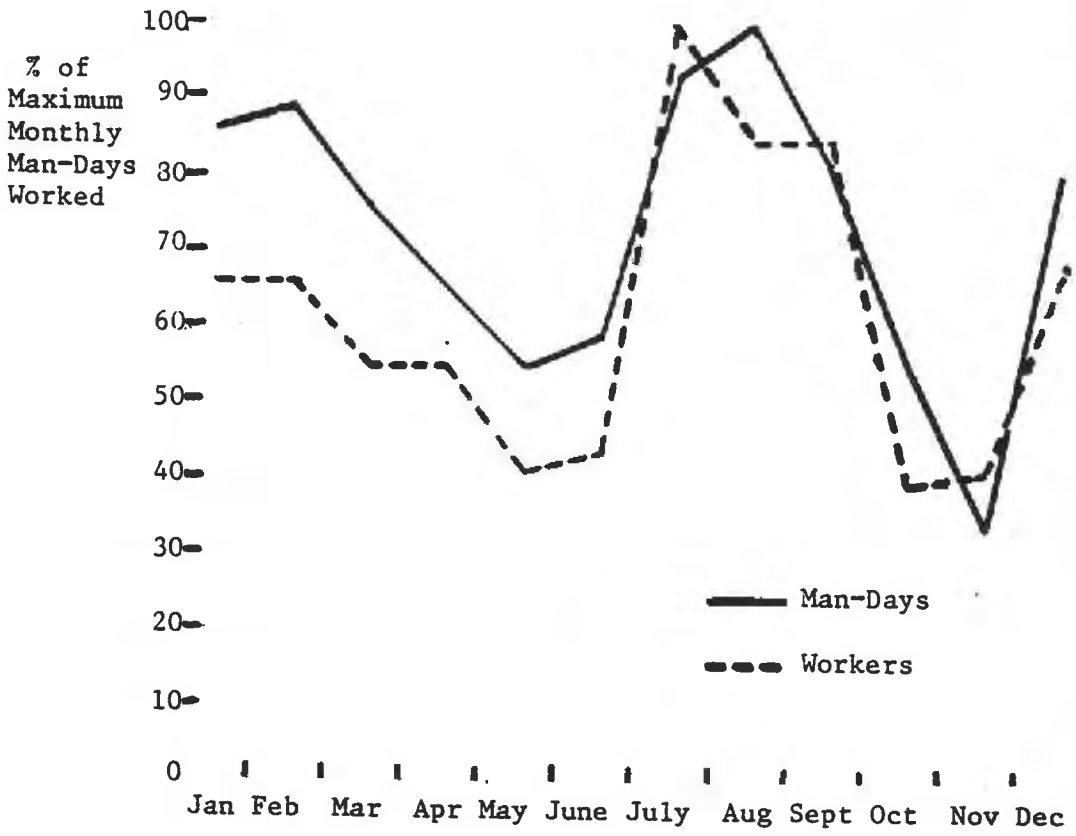
SOURCE: Ministry of Labor and Social Affairs.

TABLE 44: MONTHLY DISTRIBUTION OF MAN-DAYS IN RURAL DEVELOPMENT CENTER CARPET-WEAVING UNITS, 1977

Center	Months								Months				General Average
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Ifreen	1,182	914	1,295	1,234	979	1,323	1,183	1,203	978	1,504	770	1,312	1,156
Joubet	812	808	875	706	688	644	637	338	378	206	168	180	513
Mayadin	679	696	600	451	438	464	729	778	635	425	270	622	565
Salkhad	1,770	1,718	1,592	1,692	1,568	948	800	1,241	652	1,116	1,116	1,017	1,302
TOTAL	4,443	4,136	4,362	4,083	3,673	3,377	3,349	3,560	2,643	3,251	2,324	3,131	3,527

SOURCE: Ministry of Labor and Social Affairs

FIGURE 3: MAN-DAYS/WORKERS PER MONTH* IN RDC CARPET-WEAVING UNITS --MAYADIN, 1977



*Standardized as a percentage of peak month.

As an all-female program, one would expect the impact of labor demand on carpet weaving units to be most strongly manifested where the labor contribution of females is greatest in performing agricultural tasks, a proposition that indeed seems to be borne out by the data.*

The two-trough pattern exhibited by the Mayadin unit in Deir-ez-zor (see Figure 3) is particularly striking. There, the first dip in labor participation probably reflects the importance of females in cotton planting, hoeing and weeding operations conducted during the months of April, May and June; and the second, their role in the harvest beginning in September and extending through November. In terms of cultivated area, cotton is the primary crop in the Deir-ez-zor mohafaza.** Wheat and barley cultivation, second and third in importance, probably have a more limited impact due to greater levels of mechanization and reliance on male versus female labor. In contrast, tomato growing, which ranks fifth in cultivated area, probably does attract away women during the long growing season which lasts from April or May to December.

Working in the Joubet Bourghal unit falls off dramatically in August/September and remains low through December. This decline mirrors the heavy involvement of females in olive, apple and cherry picking (mainly during October, November and December), combined with the absence during most of the year of many work-age males employed in the town of Lattakia or elsewhere, thereby increasing the burden on females left behind (see Figure 4).

In Salkhad there are two low periods, one in June/July with the second, a more precipitous drop, beginning in September and lasting until December. For the mohafaza of Sweida as a whole the major crops are, in order of importance, grapes, watermelon, wheat, tomatoes and apples. The June/July decline may be associated with tomato growing, the wheat harvest and the beginning of the apple harvest in July; the sharper drop in September coincides with the grape, watermelon and apple harvests (see Figure 5).

Finally, turning to Ifreen, fluctuations are much more evenly distributed over the year, and a generally higher level of labor participation is maintained than in the other units (see Figure 6). These special characteristics may be attributed to two factors: (1) the wide variety of crops grown in this mantika of Aleppo***,

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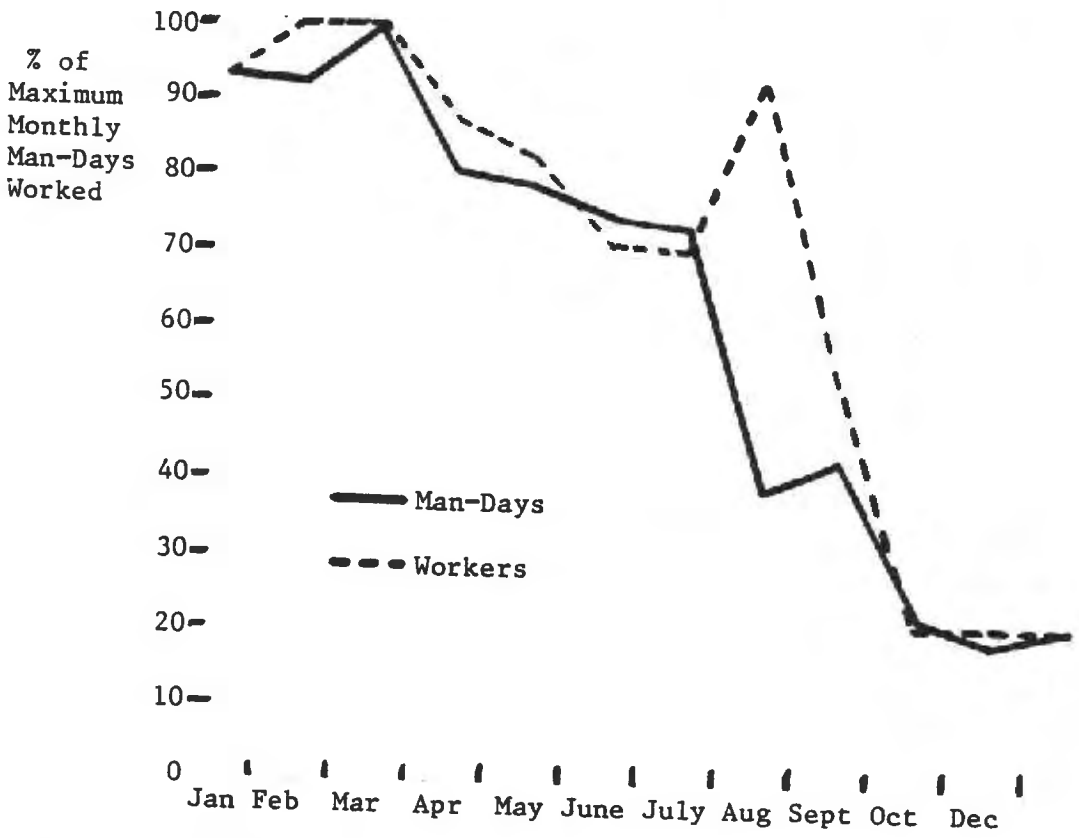
*Monthly labor participation is measured by man-days and average number of workers per month. Where differences between the two measures are large, data for those months may be suspect. Figures 3 to 6 are based on data in Tables 43 and 44.

** Information on relative importance of crops at the mohafaza level comes from Dr. Lester Schmid's report.

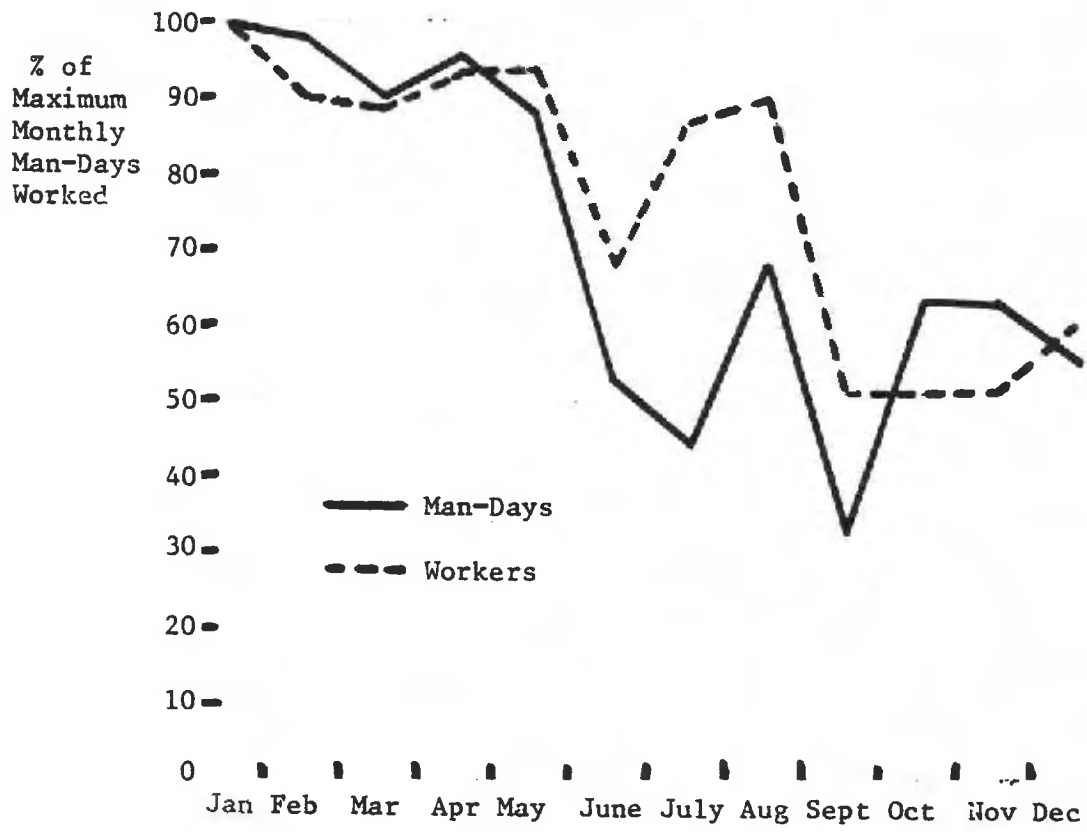
***For the mohafaza, crops are in order of importance: olives, cotton, wheat, barley, watermelon, lentils, grapes, musk melon.

FIGURE 4: MAN-DAYS/WORKERS PER MONTH* IN RDC CARPET-WEAVING UNITS --JOUBET BOURGHAL, 1977



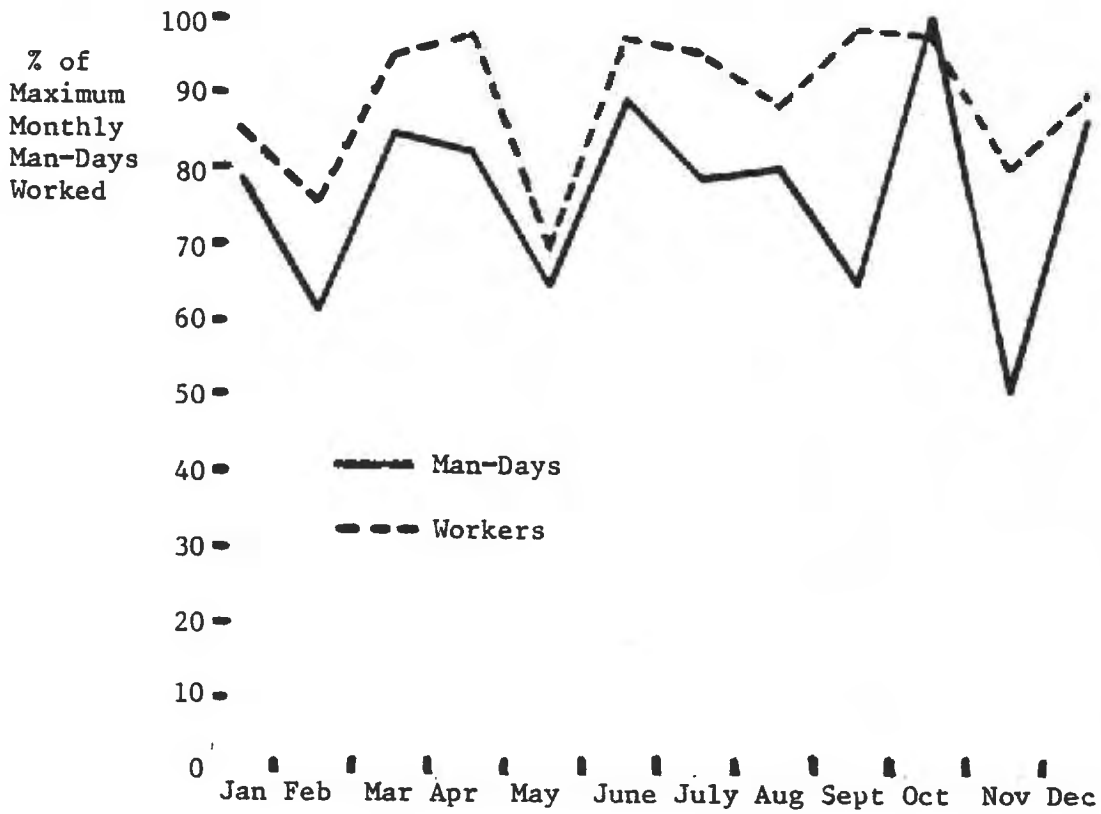
*Standardized as a percentage of peak month.

FIGURE 5: MAN-DAYS/WORKERS PER MONTH* IN RDC CARPET-WEAVING UNITS --SALKHAD, 1977



*Standardized as a percentage of peak month.

FIGURE 6: MAN-DAYS/WORKERS PER MONTH* IN RDC CARPET-WEAVING UNITS --IFREEN, 1977



*Standardized as a percentage of peak month.

and (2) the fact that Ifreen itself has grown into a sizable town (population estimated to be 25,000) and that consequently agricultural labor demand pressures may be less than in other centers, and may perhaps be overshadowed by competition for labor within the urban sector itself. Ifreen's low point in May is probably a consequence of cotton (and perhaps watermelon) planting and tending activities; the low point occurring between July and September represents the joint impact of wheat and barley, watermelon and grape harvests, while that in November evidently results from involvement in olive and cotton harvesting activities. The fall-off in February remains unexplained.

Some units located near Damascus underwent dramatic and drastic fall-offs in participation for other reasons. One experienced a drop from 120 to 28 over a two-year period. Another case was reported in which construction of a shoe factory nearby forced closure of a unit. In both instances, higher wages offered in the factory or other work (picking fruit in the Ghouta, for example) attracted girls away from the carpet weaving unit. Withdrawal of World Food Program assistance in the form of sugar, tea and rice commodities to participants also undermined the attractiveness of joining such programs.

The lessons to be drawn from these experiences are clear. Before investments are made in rural areas, a careful feasibility study of how the proposed project fits into the existing structure of labor demand in the area is needed. This is especially critical for determining the best location for rural industrial development, whether this involves carpet weaving or other types of industry. For other basic services, such information may be incorporated into scheduling and programming decisions. Furthermore, if the intention is to encourage participation by the poorest segment of the rural population, special attention must be given to the way "it fits" into the local economic structure. For example, the place of young girls in agricultural production may determine the likelihood of their attending schools. This has been found to be especially salient in areas where labor-intensive crops like cotton and sugar beet are grown and in which dependence on female labor is great. Such considerations may be incorporated with other strictly economic ones in making up plans for agricultural mechanization for particular areas.

3.4 Overall Assessment of RDCs Role in Service Delivery

The assessment of the RDC model for social service delivery focuses on two questions:

1) the ability of RDCs to respond to local needs and delivery services under different conditions; and

2) the adequacy of services provided through the integrated multi-service framework of RDCs rather than through individual ministries.

3.4.1 Success of RDCs as a Community Development Approach: As an approach inspired by community development principles, RDCs can be judged by their success in strengthening the capacity to delineate local level needs and in providing a mechanism to mobilize government resources to meet them. Achievements have been limited to this respect. Growing involvement of Peasant Union representatives in the centers may eventually enhance the flow of communicatic from the bottom of the administrative hierarchy to the top. The Peasants' Union's (PU) connections at all levels with the Party and their representation on high-level inter-ministerial councils put them in a powerful position to marshal resources to meet local community needs. Their actual ability to do these things is now limited, however, because of the ambiguous role they are assigned to play: both to resist the bureaucracy while at the same time directing farmers to follow State plans.

3.4.2 Benefits of Integrating Delivery of Services in RDCs: Possible advantages from a unified RDC administrative framework have been largely nullified by coordination difficulties. Agriculture and health units in particular have tended to pursue independent policies. It has been at the lowest levels, within the centers themselves, that such conflicts surfaced most severely. Yet, these conflicts could only be resolved in Damascus.

A way to alleviate these problems is suggested by the Egyptian approach in what are the prototypes of the Syrian RDCs. While also under the authority of a single ministry, units in each RDC are linked to a super-ministerial council at the provincial level. All RDC employees are responsible to this council rather than to specific ministries. Also, budgetary and personnel decisions are all made at this lower administrative level which is closer to the RDCs and more sensitive to local conditions.

Establishment of a provincial level council similar to the type used in Egypt is presently being considered for the social and cultural centers set up in reclaimed area villages by GADEB. This organization would replace the present arrangement whereby centers have been directly linked to the Social Section of GADEB.

3.4.3 Ability of RDCs to Supply Services to the Intended Target Population of 40,000 Living within a 20-km. Radius of the Centers: Fort concluded in the 1960s that the RDC approach could work only in areas of high population density (like the Delta in Egypt), but that in Syria they were "ill-suited because distances between settlements tended to be too great and villagers were not likely to travel a great distance to get help from such centers" (Fort:10).

While population density is indeed highly significant in determining the suitability and performance of RDCs, two additional factors are also important: average village size, and topographical conditions in the service area. The ranking of RDCs by infrastructural and basic service quality (of roads and schools) was found to coincide exactly with their ranking by average village population

in their respective service areas. Relative availability of medical personnel followed the same pattern, though not identically. Proximity to Damascus and Aleppo lifted two RDCs above the rank that could be expected if reference had only been made to the average village size variable.

Using a rough typology of operating conditions based on two dimensions, population density and average population of area villages, the following conclusions are suggested concerning the relative appropriateness of the RDC approach under the four sets of conditions summarized in Figure 7.

FIGURE 7: Typology of Villages for Designing RDCs

		Average Village Population Size in Service Area	
		Large	Small
Village Population Density	High	1	2
	Low	3	4

Type 1: High Density / Large Villages. While RDCs might function well under these circumstances, little unique contribution could be expected from them in their present form. It would be preferable to emphasize mantika and nahia administrative systems for the delivery of services. Existing administrative unit areas could be subdivided if they were too large to be served by the preexisting service centers.* Higher level, more specialized services facilities (for health and education) could be distributed to centers on an area-wide basis rather than, for example, placing them all within every mantika center (e.g., a secondary agricultural school in one center, a secondary industrial school in another, etc.).

Type 2: High Density / Small Villages. RDCs would be useful under these circumstances because of the probable absence of basic services in many villages. But the ability to extend services is hindered by the need for intricate road connections between villages and the center. Mountainous or muddy terrain conditions aggravate this problem. Special resources would have to be devoted to transportation.

*Between 1970 and 1977, a large number of nawahi have in fact been subdivided.

Type 3: Low Density / Large Villages. RDCs can potentially operate well under these conditions. But since some of the largest villages in such areas are already likely to have health clinics, agricultural extension services and schools, particularly the mantika centers, the unique contribution of RDCs would be questionable. If established, RDCs would better be limited to nahia centers or villages lacking administrative center status. Since in this type of area, villages are rather distant from eath other, it might be advisable to concentrate the full range of facilities (e.g., small hospitals or intermediate institutes) in larger communities. Such a strategy contrasts with one for high density areas which distributes lower level service facilities on an area basis with centralized higher level facilities. Secondary vocational schools, agricultural, commercial and industrial schools might be built in single communities rather than assigning schools of each type to different villages or small towns. The area-wide approach under high-density conditions may not impair access, but such an approach would create access problems where settlements are widely spread apart.

Type 4: Low Density / Small Villages. These conditions are the least appropriate for introducing permanent RDCs in any one place. Development of small, mobile units operating out of base facilities in the larger urban centers would represent a better approach. This design would be especially practicable in arid, steppe areas where travel is less reliant on the existence of roads. More specialized services could be provided by periodic visits of combined multi-service teams. Market days could also be chosen to deliver services like health that can be provided on an intermittent basis.

In situations (2) and (4), developing a cadre of village-level rural development workers could provide a means to supply basic information and services on a more continuous basis to residents of isolated, small communities. This matter of personnel and the levels of specialization and training required under different circumstances merits elaboration.

3.4.4 Staff and Training Implications: Existence of rural development workers with a broad range of skills at different levels of specialization would permit a more flexible response to particular social service delivery needs than is presently the case.* Recognizing this need, the Ministry of Social Affairs and Labor initiated some years ago a training program to produce rural development workers for its RDCs. Agricultural secondary school graduates were put through a six-month long course in Damascus and were then assigned to operate as village field workers with responsibilities to each of the RDC units. In this sense these individuals were to assume the role of an RDC in the villages to which they were sent. About 80 individuals graduated before the courses were discontinued. Most centers no longer employ such agents. The only exception I observed was in Nawa which had two, each based in a village while serving other communities in the immediately surrounding area.

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*In agricultural extension work, in many countries, training is area- and crop-specific.

Factors undermining this program were:

(1) After being employed for several years, field workers came to realize that they were in a dead-end position: advancement was impossible within their area of specialty and they were unable to transfer their training to other jobs; and

(2) The prospect of long-term residence in rural areas often lacking in basic services like schools was a hardship for agents with families.

GADEB presently provides general social services and rural development training through the Land Use and Development Branch of the Rakka Intermediate Institute of Land Reclamation. About 50 people are graduated annually as specialists in agricultural production and social development. They work in the cultural and social centers built in reclaimed area villages and in the socio-economic studies section of GADEB. Special training in socio-economic development is offered in association with training in other skills which provides the graduates with more job flexibility than those who emerged from the Ministry of Labor program .*

A revived effort to produce village level rural development workers in other ministries, especially in the MAAR, could avoid some of the past difficulties by giving such workers special training in social development, something similar to that offered by GADEB. Such a program could also limit the duration of direct fieldwork and offer additional training or educational possibilities once the village service stint was completed. Candidates could be chosen who were single or newly married without children to reduce hardships. Village residents with some education could also be selected to be put through special courses. In Afghanistan this has been done to train village health care workers (Traditional Health:8).

3.5 Conclusion

The unique potential of the RDC idea lies mainly in the fact that such centers physically and administratively bring together a mix of disparate rural development related programs and services. Coordination difficulties weaken this potentially integrating feature, but other experiences indicate that there are ways to reduce such problems. Their greatest contribution, however, might be to provide a forum at the local level where information can be shared among people involved in health, literacy, agricultural extension and sweater-making activities. Literacy could reinforce health education and agricultural extension activities by introducing information from these areas into the reading material prepared for courses.

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*To date, graduates from this program have been assured employment with GADEB, which might have to restrict such opportunities in the future.

Agricultural extension agents could be made more aware of nutritional and disease problems associated with their work, such as how to minimize disease risks introduced by irrigation. Experience gained could be introduced into staff training for technicians and others working in rural areas, whether within or outside the framework of the RDCs. The RDC idea is a valid one which can be profitably used in appropriate circumstances. Much can be learned from past experiences in Syria concerning the location and organization of RDCs as well as other service centers under the direct supervision of ministries with rural social development as one of their goals.

4. Toward a More Locally Adjusted Planning Process

This report began with an overview of how extension of social services to the country's rural residents was seen by the government to fit its broad development objectives. Yet, rural peoples' decisions to seek health care, to pursue education and whether or not to migrate are not directly subject to the government's control. Under present conditions, the government can only hope to structure such decisions, which are generally made within families. They strive to balance the more immediate goal of maximizing family income with the more distant one of securing a source of livelihood for sons with which they can eventually support their own families. Utilization of services, reliant as it is on client initiative and capabilities, reflects the operation of this family calculus. In the case of the RDCs it was shown that variation in carpet-weaving program participation and use of medical services was attributable to the costs of time spent participating or having to reach facilities. For rural families involved in agriculture, who lived in RDC service areas, the value of time required to participate in RDC programs varied significantly over the course of the year, particularly in association with seasonal fluctuations in labor demand.

Interest of the government has tended to be restricted to the aggregate outcome of family-level decisions and the degree to which they coincide with planning goals and targets drawn up for the whole country. However, since labor demand structure, settlement patterns and other contextual elements differ so markedly across the country, policy effectiveness could be enhanced by tailoring programs and delivery systems more closely in accordance with local conditions. This tailoring would involve defining problems and needs and devising appropriate location strategies for facilities and personnel, for training of personnel and for scheduling in a differentiated location-specific manner.

To formulate and implement policy in a more locally adjusted way, information about potential service areas relevant to social service planning must be identified and generated. Information must then be channeled to those at administrative and political levels vested with authority to incorporate this information into programming and resource allocation decisions affecting particular areas.

A significant step to provide the necessary administrative machinery for more locally adjusted planning came with the establishment of the Ministry of Local Administration in 1971 (by Legislative Decree no. 36). As noted by Averell (see his report), this and other new laws have provided the framework for the transfer of power from the central level down to the local councils at the Mohafaza, Mantika and Nahia levels. Potentially at least, this restructuring means that people most familiar with local conditions have more of a say in determining policy. And in fact, such councils have acquired increased authority in deciding matters

like the location of service facilities and resource allocation to communities under their jurisdiction. These changes are, however, not designed to displace the system of national central planning in which primary authority is concentrated at the highest political and administrative levels. Instead, local councils act as conduits of an improved information base for national planning. Aggregate national targets, aims and criteria are, or could be, elaborated with more specific programs and implementation strategies for different areas.

To reduce some of the information load placed on communication channels between lower administrative and the national administrative and planning levels, it would be advantageous to have areas of the country distinguished by criteria which broadly relate to social service planning. A stable framework would thereby be provided within which the finer details of finance and location could be elaborated. Population size criteria have been resorted to for this purpose; but, as we have seen, reliance on this measure alone ignores other factors that affect social service delivery, program relevance and participation and service utilization levels. At the same time, the amount and variety of information to be incorporated into social service planning must be limited if an "information overload" is to be avoided.

A possible path between these two pitfalls is to distinguish geographic areas of the country by agro-ecological conditions, such as availability and source of water, topography and soil quality. Such conditions impinge on virtually every aspect of social service planning. As part of the Agricultural Sector Assessment, 53 relatively homogeneous agro-ecological zones or Resource Planning Units have been identified. Their relevance as potential social service planning units is suggested by the link shown to exist in the RDC case between agro-ecological conditions and: (1) indirect costs of service utilization and program participation; (2) settlement patterns and therefore the facility location/access issue; and (3) local manifestation of particular types of problems and needs.

(1)Agro-ecological conditions have a direct link to the indirect costs of service utilization and program participation. Such conditions define land use possibilities and can, therefore, be expected to affect the intensity and seasonality of labor demand. For rural families the labor demand situation can determine indirect costs or income losses incurred because of time spent obtaining services or participating in literacy or other training programs. Such time spent in obtaining services cuts into time which could be generating income.

(2)Agro-ecological conditions also affect settlement patterns. The clustering of settlements along rivers or in oases is common in Syria. Highly fertile land enables the settlement of a more numerous population. Other factors also affect settlement patterns, of course, but a certain correlation with agro-ecological

conditions undoubtedly exists. Such a correlation can provide guidance in devising more area-specific social service delivery strategies designed to maximize access. The delivery problem is obviously different in cases of large villages located close to eachother or to large towns, widely scattered villages, or semi- or completely nomadic social formations (see Appendix I)

(3)Agro-ecological conditions also help to determine the types of problems with which social service delivery systems have to contend. A recent study of health conditions and services makes the point that "health problems cannot be isolated from the physical and cultural environment in which they occur" (Syncrisis, pp. 19-20). An illustration of how this position is upheld in the case of the Bedouin is worth quoting in full:

> There are special health problems which are directly related to the nomadic lifestyle which adversely affect the nomads as well as the people with whom they come into contact. A number of infectious diseases, including cerebrospinal meningitis and measles, are contracted and disseminated by the nomads in their wanderings. Mosquitoes carried by the nomads aid in the spread of malaria, while the snails which are the hosts for schistosomiasis lodge in the hoofs of their cattle (Syncrisis, p. 21).

Similarly in desert areas, the dry winds and dust storms ". . . result in a high incidence of conjunctivitis"; water ponds created during the rainy season "provide breeding grounds for mosquitoes which increase the threat of malaria"; river irrigation canals in the Euphrates River Basin and its tributaries, the Balikh and Khabur, are ". . . major sources of schistosomiasis" (p. 19) and malaria (p. 38). (The debilitating effect of such water-borne diseases is especially grave given the high labor intensity of crops grown in such areas.)

The potential of agro-ecological zones (RPUs) for social service planning should be further explored. However, such a technique appears to offer benefits to the planner who wishes to make planning more adjusted to local conditions without having to overload the communication channels of the planning agency. The analysis of the RDCs presented in this report indicates that some such adaptation of social service planning is critical to avoid past errors and achieve the goals for which such systems are designed.

Appendix I

An example of a plan which took agro-ecological conditions into account can be found in a social soundness analysis of rural water supply projects planned for three environmentally distinctive locations in Deir-ez-zor and Al-Hasakeh provinces: (1) the Euphrates Valley area, where settlements are concentrated in a band along the river; (2) the semi-arid Jarawan Plateau, sparsely populated with scattered villages; and (3) the Sharki-Kokab Plains, occupied in a compact pattern of small villages and sub-village units (mezr'aa) separated by only small distances.

The more highly concentrated settlement structure in the Sharki-Kokab Plain is considered likely to increase the number of indirect project beneficiaries since it places so many more people within physical access distance to facilities to be constructed. Each of these areas also exhibits distinct migration patterns, which are linked to the types of crops grown, the levels of dependence on sheep and goat herding and therefore labor demand and income potentially obtainable from agriculture.

Conditions in each area also correspond with transportation quality, a critical factor in providing health and other services to residents. Little problem existed in the band of mostly large settlements along the river which could be linked together by relatively few road connections. Under these conditions, it was felt that either fixed facilities or mobile units could provide adequate services. On the Jarawan Plateau, while there were few paved roads, dry conditions permitted year-round travel. In contrast, higher precipitation and inadequate drainage in the Sharki-Kokab Plains hindered travel over unpaved areas:

> . . . During the winter many villages are made inaccessible for up to three months. This constitutes a major problem for the inhabitants especially in cases of medical emergencies. (Asmon)

Appendix II

TABLE 8: Availability of Water, Sewage and Electric Services Among Survey Villages (N=103)

Service	N	%
Water Piped to the Homes in the Village	19	18%
Water Supplied to the Village Center	29	20%
Sewage System for the Village	8	8%
Electricity Available	34	33%

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