

PROJECT TECHNICAL REPORT NO. 69

THE ADMINISTRATIVE AND SOCIAL ENVIRONMENT OF
THE FARMERS IN AN EGYPTIAN VILLAGE

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EGYPT WATER USE AND MANAGEMENT PROJECT

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ABSTRACT

Any major new idea or activity introduced in a village must first be filtered through the local leadership of that village. The following report explores how that leadership structure in an Egyptian village setting may be understood. First, the formal governmental organization network at the village level is described and an analysis of how a particular village participates in that organizational structure is presented. Next, a methodology is introduced to extract specific village personnel who serve as legitimate authority figures in the village. Along with the individuals who are named as influentials in a particular village, a number of leadership traits are delineated. The knowledge of the administrative environment of an Egyptian village and the method of extracting influentials within the village setting provide a means whereby a change agency can introduce a strategy to implement a particular change most effectively.

نُبذة

أية أفكار جديدة أو أنشطه يراد إدخالها على مجتمع القرية المصرية لابد من مراجعتها من قيادات القرية والتقريب الأث تبين كيفية التكوين القيادي في القرية المصرية. فأولاً يكون التمثيل الرسم للحكومة على مستوى القرية ومبين في هذا التقرير كيفية مساهمة بعض القرى في هذا التنظيم ثم يأتي بعد ذلك كيفية جذب بعض الشخصيات المؤثرة في القرية وكذلك بعض الشخصيات ذات الأسماء اللامعات والتي لها تأثير في مجتمع القرية ويشار الى هوانب بعض القيادات في القرية وان التعرف على خصائص العمل الإداري في القرية وكذلك طريقة التأثير في مجتمع القرية المصرية كخبر وسيلة للدخال استراتيجية التغير بطريقة مفيدة وفعالة.

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INTRODUCTION

The focus of the work of the Egypt Water Use and Management Project (EWUP) has been with individual farmers and with groups of farmers who constitute, with their families, the populations of villages. In order to more effectively work with these farmers, it was felt that there should be more of an understanding of the context with which they live and work. One aspect of the farmers' context which exerts a significant influence on how they live and work together is the local power and authority network which encompasses a village. This authority network can be divided into two major categories: the formal government structure and the informal influence network which the farmers recognize as a legitimate source of social control. These two types of authority must be taken into consideration in attempts to organize farmers for any type of irrigation management program.

In recognizing this need to further understand what we will call the administrative environment of a village, EWUP has performed a study of a specific village to obtain information concerning the two categories which make up a village's power and authority network. The first section of the report will discuss the formal governmental structure which encompasses the villages of Egypt. Here, the focus of the discussion will center on the village council, the individual leaders of the village council and the village (the Umdah), and the cooperative and village bank. What will be examined is their function and how these governmental units are organized in the village of study.

Next, the report will focus on the informal authority network encompassing the village. A sample of farmers on the Project mesqa were asked a series of questions relating to relative power of certain individuals, their ability to resolve conflicts, and their competency in agricultural and non-agricultural areas. Names of people in the village of study who fit in the above mentioned categories were presented by the sample farmers and an analysis of who were the influential people ensued. Next, the comments of the farmers indicating specific leadership traits are presented.

Based on the study of these two categories making up the power and authority structure of an Egyptian village, information can be gathered which will help any individual who wishes to introduce an innovation in a village setting. This study not only explains the various relationships of local government bodies in a village setting, but it also establishes some criteria of influence by which important people who need to be contacted before any innovation may be introduced in a village may be identified.

THE LOCAL GOVERNMENT SYSTEM IN RURAL EGYPT

The Arab Republic of Egypt is divided into 24 governorates, 21 in the Nile Valley and 3 in the desert areas. Each governorate is further divided into some 150 districts (markaz), usually consisting of one major town and several (5 to 7) village council areas which would include roughly 40 or 50 smaller villages. A typical district has a population of between 150,000 and 200,000 and a typical village council area has roughly 30,000 people.

Under Public Law 52 enacted in 1975, local councils are to be elected at each of the three levels of the governmental hierarchy--the governorate, the district, and the village council area. At the district level, 8 individuals are to be elected by the citizens in the district capital and 4 by the citizens from each of the village council areas. For example, in the district where the Village council area of study is located, there are 14 village council areas. The district council includes 8 members from the major town in the district and 28 members from the 14 village council areas for a total of 36. (See attached map, Figure 1)

At the present time there are some 805 village council areas in all of Egypt. Each area is represented by a village local council elected by the people within the village council area. Below is a rudimentary chart depicting the formal local government presently functioning in rural Egypt.

Village Council in the Study Area (Maglis Mahali)

Each village council area has a main village which will have at least four representatives, and a series of satellite villages, each with at least one representative. Each local village council must have at least 17 members, including at least one woman. (See Figure 2)

Potentially, a local council can play an important role in developing a deep sense of legitimacy and commitment among the citizenry for a functioning local

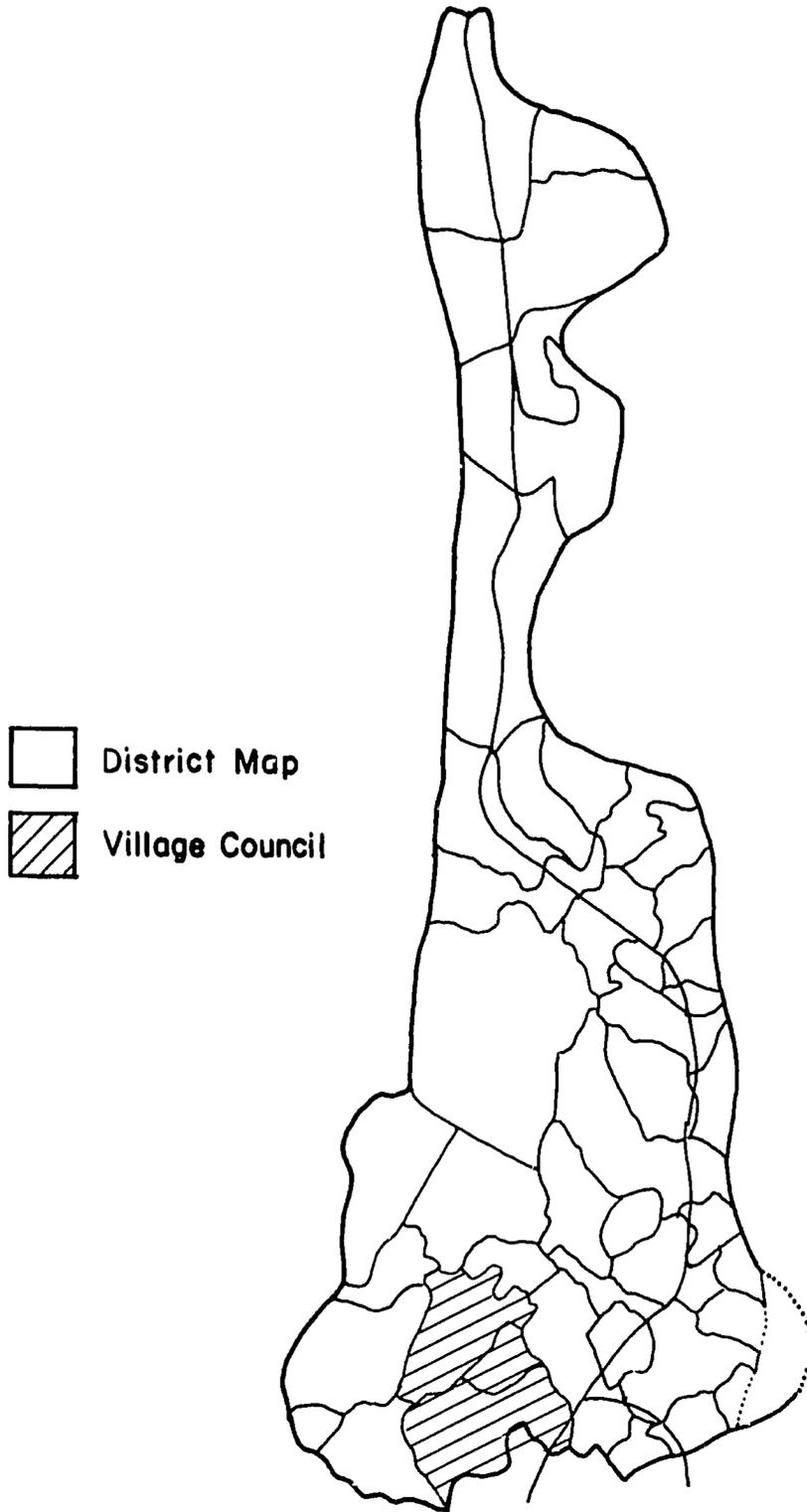


Figure 1. Study Site Area

Figure 2. VILLAGE EXECUTIVE COUNCIL

<u>Level of Government</u>	<u>Elected Local Council</u>	<u>Executive Branch</u>
Governorate (<u>Muhafasah</u>)	Governorate Council in Giza (<u>Maqilis Al-Muhafazah</u>)	Governor (<u>Muhafaz</u>)
District (<u>Markaz</u>)	District Council in Imbaba (<u>Maqilis Al-Markaz</u>)	District Leader (<u>Rais al-Markaz</u>) District Executive Council (<u>Maqlis Tanfizi</u>)
Village (<u>Oarya</u>)	Village Local Council (<u>Maqils Al-Mahali</u>)	Village Unit Leader (<u>Rais Al-Wahda</u>) Village Executive Council (<u>Maqlis Tanfizi</u>)*

* The Village Executive Council (Maqlis Al-Tanfizi) is made up of key government officials representing the Ministries of Health, Education, Social Affairs, Agriculture, Housing and Local Government.

government system.¹ It can provide a sense of participation for the inhabitants of a governorate, a district, or a rural community. A council provides an institutional structure by which local requests, complaints, and proposals can be channeled to higher governmental authorities. The truly effective council may develop a series of projects or programs of such obvious local value as to be a strong inducement to the local citizenry to contribute a significant portion of the financing.

Yet for a council to function in this manner, there must be a literate citizenry, a group of experienced and capable leaders who understand the strengths and weaknesses of a local government system, who appreciate the need for the local community to shoulder a larger portion of the costs, and who are willing to participate with the central government in reforming and developing the social, economic, and political conditions in the rural areas. Unfortunately, many of these factors do not yet exist in rural Egypt.

One significant question for the short-run effectiveness of the new village councils elected in November, 1979, deals with the amount of continuity that exists between them and the former councils originally established under Nasser. Most village councils constituted prior to that election had a fair number of experienced council members going back to at least the mid-1960s. All of these were members of the Arab Socialist Union (ASU) and tended to be re-elected several times.² A careful analysis of the data collected from interviews of the Local Council of the study area suggests that in this most recent election, only 5 of the 17 members were newly elected members with no previous experience in a village council. This tendency for the past members to be re-elected is consistent with most past elections.³

¹ For a good description of the village councils' potential for rural development in Egypt, see: Abdolhossain Zahedani, et al., The Basic Village Service Program: Technical and Financial Assessment (Washington, D. C.: Development Alternatives, Inc., 1980).

² James B. Mayfield, Rural Politics in Nasser's Egypt (Austin: University of Texas Press, 1971).

³ While there has been a fair amount of continuity from one village council to the next since village councils were established by Law 124 in 1960, it appears that President Sadat did structure the 1975 elections to ensure that a new group of rural leaders were elected who would be more supportive of his government's new programs and policies. See: James B. Mayfield, Local Government in Egypt: Some New Change Strategies and Training Opportunities (Washington, D. C.: Agency for International Development, 1976), pp. 16-34.

This new local council in the village is supposed to meet on the first Thursday of each month at 11:00 a.m. According to Law 43, each village within the boundaries of the Local area (see map) is allowed at least one member regardless of size, and more than one if the population warrants additional members. In Figure 3 there is a list of all the members in the village council of the study area.

Chairman of the Village Unit

Article 72 of Public Law 52 establishes an administrative officer with power and authority over the financial and administrative activities of all local government organizations functioning in each village council area. The official title of this new local government leader is chairman of the village unit (rais wahdat al-qarya). He is selected by the Ministry of Local Government and is head of the executive committee whose other members are the chief administrative officials working in the village council area (doctor, social worker, school principal, agricultural engineer, police officer, and building engineer) and the village secretary.

The chairman of the village unit should be distinguished from the chairman of the village council who is elected by the council members. (Figure 4) Thus, the chairmen of the village units are executive officers selected by the central government and responsible for the implementation of all government programs and policies within their area of jurisdiction. The chairman of the village council, on the other hand, is a legislative officer who presides over the village council meetings which are usually held once or twice each month. Given the central government's predisposition to control and direct most activities in the village council areas primarily through financial and budgetary regulations, the chairman of the village unit tends to have more administrative and budgetary power and authority at his disposal than does the chairman of the village council.

A preliminary analysis of the data collected from specific interviews over the past five years with those officials who live and work in the Egyptian Village provides the following kind of initial impressions of these village chairmen.

They tend to be mature administrators, usually with a college education and generally with over ten years' experience in villages. All of them had more than five years' experience as village council chairmen before the establishment of the new Public Law 52 in 1975. There is no consistent pattern which characterizes their place of residency, although a slight majority of those interviewed did live in a nearby town, rather than in the village itself. It appears that most of these

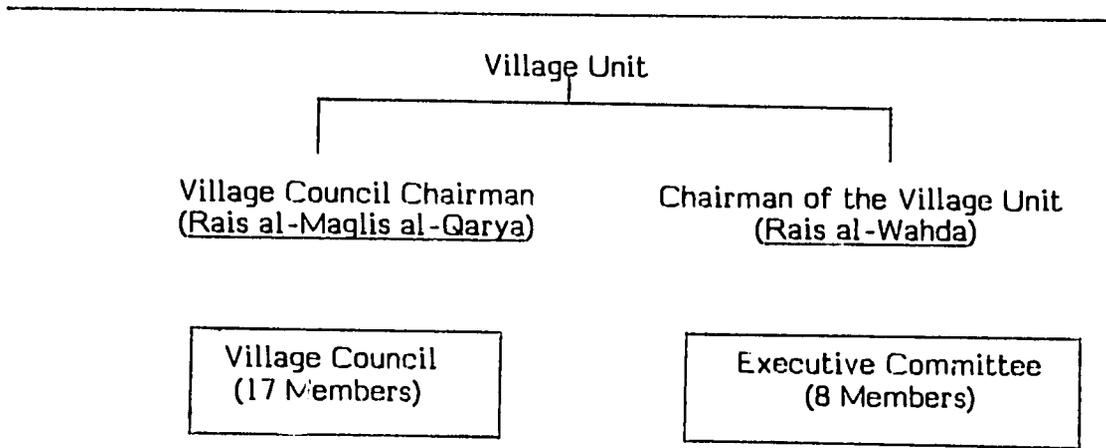
Figure 3. COUNCIL MEMBERS

Member	Age	Education	Employment	Number of Feddans Owned	Status in Council	Comments
<u>VILLAGE - A</u>						
Member #1	35	High School	Employee in Ministry of al-Waqt Farmer	None	Old	Chairman of Local Council
Member #2	43	Primary	Farmer	10	Old	Member of One Influential Family
Member #3	30	B. S.	Agricultural Engineer	Father (11)	New	Member of Second Influ- ential Family
Member #4	31	B. S.	Employee in Social Affairs	Father (6)	Old	
Member #5	52	Primary	Employee in Hospital	None	Old	
Member #6	25	Primary	Housewife	Father (8)	New	Only Woman-- Daughter in a Third Influen- tial Family
Member #7	32	High School	Agricultural Engineer	None	New	
<u>VILLAGE - B</u>						
Member #8	35	Vocational School	Teacher	Father (3)	Old	
Member #9	33	Primary	Worker in Factory	Father (2)	Old	

Figure 3. COUNCIL MEMBERS (Continued)

Member	Age	Education	Employment	Number of <u>Feddans</u> Owned	Status in Council	Comments
<u>VILLAGE - C</u>						
Member #10	40	Primary	Farmer	7	Old	Belongs to a big family in his Village
Member #11	53	Primary	Employee in School	7	Old	
Member #12	42	Primary	Worker in Giza Governorate	None	Old	
<u>VILLAGE - D</u>						
Member #13	37	Prep.	Worker in a Company	Father (6)	Old	
Member #14	34	Primary	Driver	None	New	
Member #15	52	Primary	Cloth Merchant	None	Old	
Member #16	43	Primary	Farmer	5	New	
Member #17	45	Primary	Building Contractor	None	Old	

Figure 4. ORGANIZATION CHARGE OF THE VILLAGE UNIT



chairmen have a good sense of their responsibilities in the village, although many of them admitted that additional training in planning, budget preparation, and management (supervisory skills) would be helpful.⁴

Some specific problem areas mentioned in the interviews are:

1. There is some confusion as to who is the chief authority in the village -- the chairman of the village unit or the chairman of the village council. Those with the stronger personalities appear to dominate in their villages. Some of the chairmen of village units, who also happened to live in nearby towns, tended to let the council chairman take charge in the village.

2. Several chairmen of village units complained that village council members were inexperienced, untrained, and totally incapable of performing the duties assigned them under Public Law 52. The vast majority had no experience in village council work, having served only since their election in November, 1975. It appears that they will need continual guidance and training, certainly during the next year or two.

3. Some chairmen of the village units felt that their ability to coordinate and follow through had been curtailed now that they were no longer voting members in the village council. Most of them do attend the council meetings on a regular basis, but the village council chairman presides over these meetings in a fairly authoritarian way, and the chairmen of the village units have less influence in the council than they had under the earlier system.

4. All of the chairmen of the village units complained that they did not have adequate supervisory or administrative authority over the members of the executive committee or even over ordinary employees and workers in programs financially and administratively under the control of a specific ministry. Officials and employees under the direction of the Ministries of Health, Education, Agriculture, Social Affairs, etc., still do not take directions or suggestions from these chairmen of the village units. The long tradition of

⁴ See: James B. Mayfield, Local Government in Egypt: Some New Change Strategies and Training Opportunities (Washington, D. C.: Agency for International Development, 1976), pp. 11-15.

strong centralized authority under fairly autonomous ministerial service delivery systems will not easily be removed. It is anticipated that executive control and authority will eventually be decentralized down to the district level and should allow the district chairman to begin the process of integrating and unifying the service programs being implemented in the villages.

5. These chairmen of the village units have all had years of experience in a village environment which was clearly not the case among council chairmen ten to fifteen years ago. Most of their experience, however, has been within the structures and formal restraints that characterized local government under President Nasser. Most of them still work through other government officials or leaders of the main families. There is very little evidence that these chairmen clearly communicate with a broad cross-section of the village population. These professional village administrators need training in the general areas of community development, supervision, communication techniques, and popular participation and involvement.

The Rais al-Wahda (Unit Chief)

The Rais al-Wahda (Unit Chief) of the study village has held this post for eight years; is not from this area of Egypt, has no family connections in the village; and presently resides in Cairo with his wife and family. He has been working in the Ministry of Local Administration for 18 years, and for 10 of those years he has been a Rais al-Wahda. At this point, it is not clear how significant this administrator might be in the lives of the farmers of the project mesqa. No farmer interviewed knew who the Rais al-Wahda was nor mentioned him as an influential person in the village.

Although he is not related to any of the key families and is not widely known by the farmers, this does not mean that he could not be a useful supporter in legitimizing the project activities on the mesqa. Additional research is needed to determine whether the Rais al-Wahda should be involved and to determine how he could best be used.

Under the direct administrative control of the Rais al-Wahda is a staff of minor village employees, most of whom are from the village area or nearby. (Figure 5)

Figure 5. ADMINISTRATIVE STAFF

<u>Title</u>	<u>Big Family Ties</u>
1. Chief of Rural Development and Small Business (CRDEV)	No
2. Cashier for Village Unit Accountant	Yes
3. Store Keeper - Ministry of Supply	No
4. Electricity Bill Collector	Yes
5. Water Bill Collector	No
6. Water System Worker	No
7. Secretary	No
8. Assistant Secretary	No
9. Agricultural Mechanization Worker	Yes
10. Three Electricians	Yes
11. Two Weavers	No
12. Four Laborers	No

The key governmental decision-making body in the village is the Executive Council, which is made up of the Rais al-Wahda, the village secretary, and representatives from the six major ministries that function most directly with the rural population: Health, Social Affairs, Agriculture, Housing, Interior, and Education. This council meets twice each month in the village on the first and third Thursdays. Its members are the chief administrative officers of the village unit area. They are responsible for the supervision of three clinics, eight primary schools, one preparatory school, one agricultural high school, one social unit, one post office, and one youth club. (Figure 6)

Figure 6. THE EXECUTIVE COUNCIL IN THE VILLAGE
(Maglis Tanfizi)

Member	Position	Ministry Representatives	Residence	Big Family Ties
Member #1	Chairman of Village Unit	Local Government	Cairo	No
Member #2	Secretary of Village Unit	Local Government	Nearby Village	Yes
Member #3	Head of Clinic	Health	The Village	No
Member #4	Social Worker	Social Affairs	The Village	No
Member #5	Agricultural Engineer	Agriculture	The Village	No
Member #6 (died recently)	Housing Engineer	Housing	Imbaba	No
Member #7	Police Officers	Interior	Nearby Village	No
Member #8	Head Master in Primary School	Education	The Village	No

None of the officials in this executive council (except the Secretary) has any family ties with the major families in the village of study. This is a typical pattern found in most villages in Egypt and reflects the government's tendency to place administrators in villages where they are not known.

The executive council is required to prepare an annual budget which must be approved by the Local Council.⁵ The present budget of the study village in four major areas are shown in Figure 7.

⁵ For a detailed analysis of the village executive council and its role in the administrative and budgetary process, see: James B. Mayfield, The Budgetary System in the Arab Republic of Egypt: Its Role in Local Government Development (Washington, D. C.: Agency for International Development, 1977).

Figure 7. VILLAGE COUNCIL BUDGET 1980

	<u>Bab 1</u> Employee Salaries (Egyptian Pounds)	<u>Bab 2</u> Current Expenditures (Egyptian Pounds)
Local Unit Administration	7,000	3,100
Education	62,000	509
Health	21,000	3,075
Social Affairs	5,000	700
TOTAL:	<u>95,000</u>	<u>7,384</u>

Traditional Umdah System

The Umdah is the traditional government representative in the village. In the pre-revolutionary period he was often the supreme power in the village, and his word was law. It was not uncommon for the Umdah to be the largest landowner; his powers included the collection of taxes and the designation of specific farmers for the military draft and the corvee (forced labor groups to clean the canals). He was the representative of the village in all interactions with the central government.⁶

The office of the Umdah in the study village is presently located within a powerful family, which historically has usually held this prerogative. However, there have been Umdahs in the village from two other families. For example, between 1967 and 1969, one of the present Shaykh Al-Balads, was

⁶ For a more detailed description of the Umdah system, see: James B. Mayfield, Rural Politics of Nasser's Egypt: (Austin, Texas, University of Texas Press, 1971), pp. 76-99; Gabriel Baer, "The Village Shaykh in Modern Egypt (1800-1950)" Scripta Hierosolymitana (Studies in Islamic History and Civilization), ed. Uriel Heyd (Jerusalem: Hebrew University Magnes Press, 1961); Robert L. Tignor, Modernization and British Colonial Rule in Egypt 1881-1914 (Princeton: Princeton University Press, 1968).

the Umdah in the village during the period right after the 1967 war when President Nassar was attempting to reorganize the power structures in various villages. The present Umdah, was mentioned by five of the farmers on the Project mesqa as an influential person and one who would have to be involved before a Project could be established or agreed upon in the village.

The artificial powers of the Umdah have been curtailed in recent years, being limited for the most part to ceremonial activities, the informal resolving of conflict between farmers, and some general duties regarding the peace and security of the village. In many large villages the Umdah has been replaced by a police officer for matter of security. In the study village, the Umdah still exists, but most of his formal governmental duties have been taken over by the government representative in the village (Rais al-Wahda), various government officials functioning through the maglis tanfizi in the village, and the members of the local council (maglis mahali). The subtle ways in which this traditional family-based system of the Umdah and the more modern bureaucratic system of the Rais al-Wahda interact in the study village is extremely complicated and continually in flux.

In addition to the Umdah of the study village, there are five Shaykh Al-Balads, all of them coming from the four major families in the village.

The entire agricultural area of the village is divided into five areas, and each area is headed by a Shaykh Al-Balad. Four of these five Shaykhs were mentioned by the farmers on the Project mesqa as being influential in the village. Any farmer within the area of jurisdiction of a Shaykh Al-Balad generally goes to his Shaykh if he has a problem, needs advice, or is seeking help on some matter. This position of Shaykh Al-Balad is recognized by the central government, and his role in the village is sanctioned both by tradition and the family system which perpetuates his power and influence in the village.

A Shaykh Al-Balad would be the obvious person to solicit as a supporter for an irrigation Project being implemented in his area. Additional research is needed to determine how best to use the Shaykh Al-Balad, what his present perceptions and attitudes toward the Project mesqa are, who can most effectively influence him, and who can be most effectively influenced among the farmers on the mesqa.

Development of Local Government in Egypt: Some General Comments

A careful analysis of local government in Egypt over the past three decades demonstrates the existence of at least four stages in its development.

Stage 1: The "Umdah" system--highly centralized, generally very authoritarian, in which the one main representative of the central government, the village Umdah or mayor, ruled the community in a strong, highly centralized way. The major focus was on security and control, and most of the few functions of the various ministries were channeled through this office.

Stage 2: The "Unified Council" system--based upon the need to establish a village or town council which, because of its lack of experience, required fairly close supervision from the central government. The second stage included a local council made up of elected members (selected from the ASU Committee), a few selected members, and the ministerial representative in the local area (doctor, social worker, teacher, security, and housing officials). This unified council tended to focus on political awareness through an active single-party system and close interaction and supervision of political elements by the more knowledgeable representatives of the ministries providing services in the local areas.

Stage 3: The "Two-Branch Local Government" system--established under Public Law 52. This new system envisions the creation of two interacting and coordinating institutions of local government: first an elected council of local representatives freely chosen by their constituents, and second an executive committee representing the various ministries providing services in the local area. Its focus is the need for the council to represent the people, to identify their needs, to develop a draft budget which targets these needs, to consider alternative plans and programs, and finally to conduct on-going monitoring and evaluation of the services and programs which the central government is providing. Also, this new law envisions a strong executive committee which will coordinate and implement the plans and programs developed by the councils in conjunction with the central ministries. In this third stage, central control will remain dominant as the vast majority of laws and budgetary revenues will still come from the central government.

Stage 4: The "Local Self Government" system--which is expected to emerge in Egypt in the future. The local council will, because of the experience it gained in Stage 3, begin to assume greater responsibility for both legislative and executive functions. Adequate revenues will be made available to ensure that over 50 percent of the budget will come from local sources. The wages, current expenses, and capital expenditures will become more and more independent of central control, and the executive committee will gradually divest itself of many of its functions and activities, assigning them to the council itself.

Two innovations in Public Law 52 appear to be harbingers of a stronger local government system for Egypt in the future. First, articles 37, 54, and 70 announce the establishment of a special fund for services and development.⁶ It is based upon locally generated revenues and will remain in the council for independent development projects designed both for additional services and income-generating activities. We make reference to this special fund as a reminder that the Egyptian government does appear committed to allowing the local councils to play the dominant role in the future for economic development and increased service programs in the local areas. The Ministry of Local Government will apparently play a key role in implementing and encouraging the development of these "special funds." Let us now look more closely at some of the other institutions in rural Egypt.

The Agricultural Cooperative in The Study Village

The agricultural cooperative in the study village was organized in 1961.⁷ At that time a general election was held among all 600 landowners in the village area (roughly 450 actually voted) to select an 11-member board. There were 16 candidates, and the election was organized under the auspices of officials from the district (Markaz) cooperative office. Law 52 of 1959 provided that the Board of Directors of each village agricultural cooperative be elected for a three-year term. Over the past twenty years, as members of this board have passed away or resigned, leaders of major families have met to determine replacements. (Figure 8) Although the elections are supposed to be

⁶ For a more detailed description of this special fund, see: James B. Mayfield, The Budgetary System in the Arab Republic of Egypt: Its Role in Local Government Development (Washington, D.C.: Agency for International Development, 1977).

Figure 8. AGRICULTURAL BOARD OF DIRECTORS

Member	Occupation	Age	Education	Feddans Owned	Big Family Relationship
Member #1	Farmer	56	Literate	6	Yes (Family A)
Member #2	Farmer	60	Literate	4	No
Member #3	Farmer	52	Literate	3	Yes (Family B)
Member #4	Farmer	65	Literate	8	Yes (Family C)
Member #5	Farmer	50	Literate	9	Yes (Family A)
Member #6	Farmer	45	Literate	5	Yes (Family A)
Member #7	Farmer	50	Literate	8	Yes (Family A)
Member #8	Farmer	65	Literate	4	Yes (Family C)
Member #9	Farmer	50	Literate	2	No
Member #10	Farmer	45	Literate	2	No
Member #11	Farmer	36	Literate	2	Yes (Family C)

general among all the present 1210 members of the agricultural cooperative, the more traditional method of selection is still used. Heads of major families meet informally and develop a list (slate) of candidates by consensus. Although other villagers may submit their names to be placed on the list, such individuals, not agreed upon by the major families, are seldom elected. The person receiving the largest number of votes is declared to be chairman of the board. The present chairman is mentioned by one of the farmers on the Project mesqa as influential in the village and also was mentioned as one who would be helpful in settling any conflict between a tenant farmer and his landowner.⁸

It should be noted that three of the major families are represented on this board with eight members. Three members come from what are considered to be minor families. Also note that non-major family representatives all have four or less feddans of land.

According to the official records of the cooperative, the largest landowner in the village of study owns 38 feddans, while eight other individuals have over fifteen feddans: yet over 35 percent of the 1210 members of this cooperative have less than one feddans. (Figure 9) The secretary of this cooperative indicated that the village area, because of its proximity to Cairo, was free to grow whatever crops the farmers wanted. Thus, most farmers were growing vegetables

⁷ For a good review of the cooperative system in Egypt, see: R. W. Baber, Egypt's Uncertain Revolution under Nasser and Sadat (Cambridge, Mass.: Harvard Press, 1979); Samir Radwan, Agrarian Reform and Rural Poverty, Egypt 1952-1975, (Geneva, Switzerland: International Labor Office, 1977); Gabriel Saab, The Egyptian Agrarian Reform, 1952-62 (London, 1967); Fathy Abdel-Fattah, "Land and Peasant in Egypt, 1952-72, the Matrix of Land Ownership," al-Taliaa, October, 1972; A. Al-Tanamy, "Agricultural Cooperation in Egypt," al-Taliaa, October, 1972; M. A. Fadi, Development, Income Distribution and Social Change in Rural Egypt, (1952-70), (Cambridge, 1975); James B. Mayfield, Local Institutions and Egyptian Rural Development (Cornell: Cornell University Press, 1974); Gene Miller, Cooperative Marketing Project--Egypt (Washington, D.C.: Agency for International Development, Project Paper 263-0095, 1979).

⁸ For an interesting analysis of the relationship between the major landowning families and tenant farmers in Egypt see: Fathy Abdel-Fattah, The Contemporary Village: Between Reform and Revolution, 1952-70 (Cairo, 1975); M. Abu Mandour al-Dib, "The Relationship Between Owner and Tenant in Egyptian Agriculture," al-Taliaa, June, 1975.

Figure 9. MEMBERS OF THE VILLAGE AGRICULTURAL COOPERATIVE

Amt. of Land in Feddans	Number of Owners			Number of Tenants			Number of Tenants and Owners in Part'n.			Number of Squat. on Gov't Land			Number of Squat. on Owners Land			Number of Squat. on Ten. Land		
	Fed.	Karats		Fed.	Karats		Fed.	Karats		Fed.	Karats		Fed.	Karats		Fed.	Karats	
1	241	137	8	109	63	14	27	18	1	2	1	2	2	1	8	-	-	-
1-3	459	853	17	149	257	4	104	219	14	1	1	21	1	2	-	1	2	6
3-5	35	135	13	9	33	22	17	60	13	3	12	12	-	-	-	-	-	-
5-10	22	164	-	5	28	2	2	12	10	1	5	-	-	-	-	-	-	-
10-15	10	122	12	-	-	-	1	11	-	-	-	-	-	-	-	-	-	-
15+	9	214	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	776	1,627	15	272	382	18	151	321	14	7	20	11	3	3	8	1	2	6

and other cash crops, instead of the mandatory one-third cotton requirement of other areas of Egypt. The secretary also indicated that most loans for the purchase of fertilizers and insecticides were for a four-month period. He also insisted that all the farmers in the cooperative were up-to-date in their cooperative loan payments and generally had no trouble in making these payments because of the ready cash market available for their crops in Cairo.

The governmental administrative system, which oversees the functioning of the cooperative, includes three government employees. None of these three officials has family connections in the village, since they are from outside the village. Nevertheless, their influence is, very important, given their position in the agricultural cooperative. (Figure 10)

It is significant that not a single farmer of the Project mesqa who was interviewed acknowledged that he would seek help from someone in the agricultural cooperative if he had a problem with his crops or wanted to increase his yield. All preferred to contact a neighbor, a relative, or a close friend on the mesqa itself. Even when they were asked whom they would go to if they had a problem with insects, only five of the twelve responding to the question specifically mentioned the cooperative as a source of help.

Other sources interviewed in the village and other surrounding villages have suggested that the local Agricultural Cooperative is "much, much better" than most other cooperatives, that while many cooperatives have a reputation for cheating and taking advantage of the farmer, the employees in this cooperative are very well respected and appreciated for their willingness to help the farmers. These same sources even indicated that some farmers in other villages have tried to transfer their cooperative accounts to this cooperative because the cooperative officials here "can be trusted."

This interesting, but contradictory, information (many sources saying that the village cooperative is one of the best in the area vs. very few of the farmers on the Project mesqa saying that the cooperative would be a source of help) requires additional research in order to determine whether the cooperative as a village institution could be used to encourage and strengthen the willingness of farmers on the Project mesqa to organize themselves into some type of voluntary water users' association.

Village Bank System

Since 1977 there has been a village bank branch in the study village.⁹ The chief regional bank has branches in the four villages located within the boundaries of the village council area. (Figure 11)

The bank representative in Village A was mentioned specifically by two of the farmers on the Project. mesqa as a person they would go to for help if they had a problem with insects. Several other sources indicated that the farmers trusted him and appreciated his help. He has been associated with the village cooperative for eleven years and more recently with the village bank during the past three years. He acknowledged that the present banking system is working much better than the old cooperative system. Under the old system there was a very informal relationship between the farmers and the cooperative. Often 30 to 40 percent of the farmers would not repay their loans, dishonest officials were easily bribed, and both large and small farmers often disregarded the cooperative demands for loan repayment.

Under the new system, with the village bank being separated from the cooperative, the relationship between the farmer and the bank is much more formal and subject to legal sanctions. The present rate of interest charged on all money borrowed is 4 percent, and some 980 of the 1210 farmers in the area have taken out loans. The other 230 farmers buy their seeds, fertilizers, and insecticides with cash in order to save paying the interest. The bank representative also confirmed that none of the farmers in the area were delinquent in repayment of any bank loan, again because of the ready market for cash crops in nearby Cairo.

⁹ For a good analysis of the new village bank system in Egypt, see: Asaad Nadim, The Role of the Village Bank in the Rural Community (Cairo: al-Azhar University, International Islamic Center for Population Studies and Research).

Figure 10. COOPERATIVE ADMINISTRATON SYSTEM

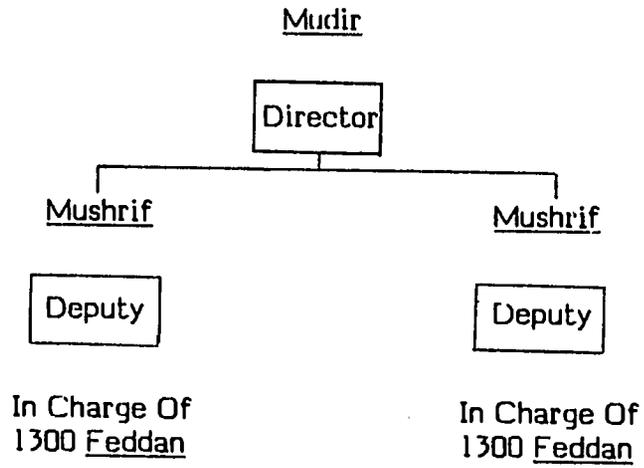
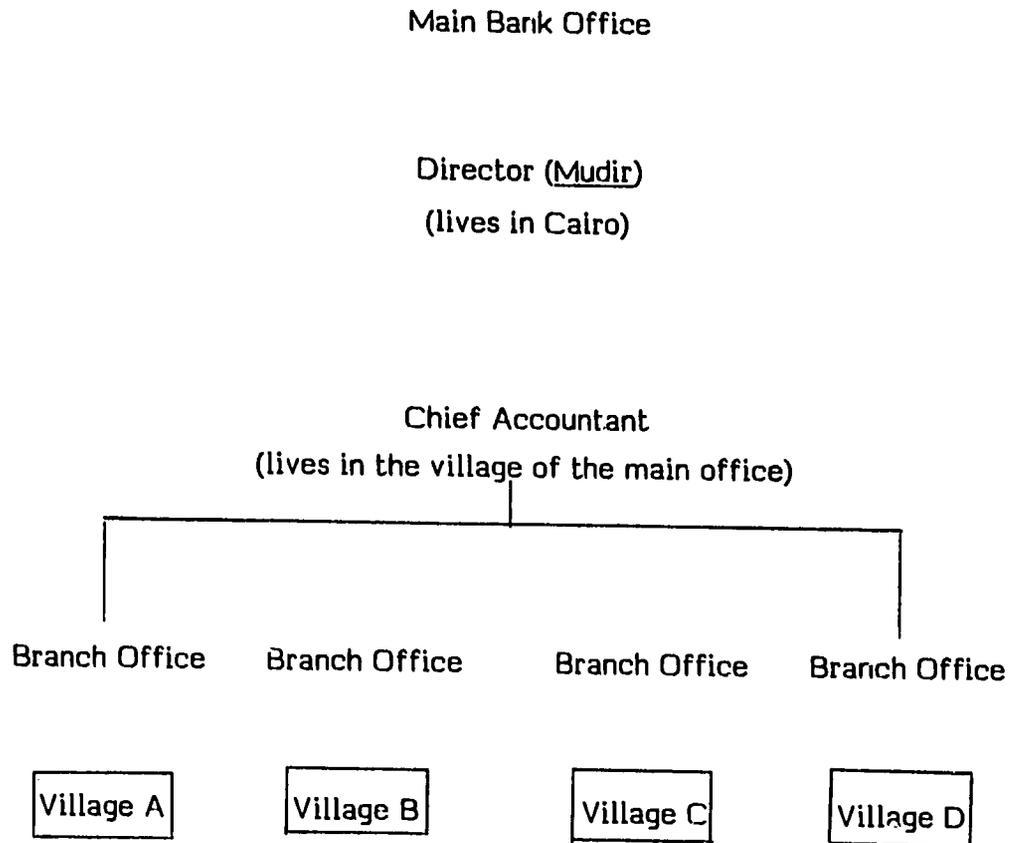


Figure 11. VILLAGE BANK SYSTEM



Bank Agent (Mandub)
lives in Cairo)

LEADERSHIP PATTERNS AND PERCEPTIONS AMONG THE FARMERS ON THE PROJECT MESQA

In an attempt to gain some understanding and awareness of how the farmers on the project mesqa identify and define influentials, leaders, and other significant persons in the study village, some 12 farmers were selected from among the 58 working or owning land there. The purpose of the interviews was not to ensure a perfectly representative sample, but rather to allow a group of farmers on the mesqa to define and identify the characteristics, skills, and behaviors of individuals whom they consider to be influential, powerful, helpful, and generally competent in various areas important in these farmer's lives.

Each was asked the following kinds of questions:

What are the names of these influentials?

What occupation or profession do these influentials have?

What family relationship do you have with these influentials?

What family relationships exist among these influentials themselves?

What specific activities, skills, behaviors, and characteristics best explain why you consider these people to be influential?

For the purpose of analyzing the responses, the questions asked were later categorized into five broad indices of competency:

A. Power Competency (three questions)

1. Who are the 3-5 most influential people in the study village?
2. Who are the 2-3 people in the study village who must agree before a decision can be made about introducing a new project, making a change in the village, or doing anything in this village which is new or different?
3. What one person in the village do you believe is an influential person with officials in the district (Markaz) or the governorate (Muhafazah)?

Five people in the village were mentioned most often by farmers on the Project mesqa. Their scores were determined simply by adding the number of times they were listed in the three questions asked above.

	<u>Score</u>
1. Farmer A	15
2. Farmer B	9
3. Farmer C	7
4. Farmer D	5
5. Farmer E	5

It is important to recognize that these data are not to be interpreted as an objective indication as to who are the most powerful people in the village. These are the one who are perceived by the farmers as the influential people. It now becomes the responsibility of the researchers to confirm or disconfirm these perceptions and to determine how the information may be useful in designing an implementation strategy for the Project.

B. Conflict resolution competency (these questions)

1. Who in the village do you go to when you need help or advice on how to solve a conflict with another farmer on the Project mesqa?
2. Who in the village do you go to when you need help or advice on how to help solve a conflict with your landowner (or government official)?
3. What one person in the village do you believe is a good compromiser between two people who have a conflict?

Again, five people in the village are perceived to be the most helpful in resolving conflicts:

	<u>Score</u>
1. Farmer F	14
2. Farmer G	7
3. Farmer A	5
4. Farmer C	5
5. Farmer H	4

Again, it is important to remember that these are not necessarily the most effective compromisers in a conflict situation, but these appear to be people the farmers on the mesqa acknowledge as good resolvers of conflict. The utility of such people in the inevitable conflicts associated with any project implementation process should be obvious.

C. Village betterment and service competency (three questions)

1. Who in your village are the most interested in making this a better village, who are trying to introduce progress, or who are trying to help people solve their problems?
2. What one person in the village do you believe is a good religious man?
3. What one person in the village do you believe is really trying to help the very poorest farmers in the village?

The following five people in the study village are perceived to be most interested in improving the village and helping the people to improve themselves.

	<u>Score</u>
1. Farmer I	9
2. Farmer A	8
3. Farmer B	7
4. Farmer D	6
5. Farmer J	3

D. Agriculture competency (four questions)

1. Who do you go to in the village when you need help or advice on how to improve your crop yield?
2. Who do you go to in the village when you need help or advice on how to increase the amount of water you need?
3. Who do you go to in the village when you need help or advice on how to eliminate a pest or insect?
4. What one person in the village do you believe is a very progressive farmer (uses new seeds, fertilizers, insecticides, techniques, etc.)?

The following five people in the study village are perceived to be most competent in various agricultural activities.

	<u>Score</u>
1. Farmer F	13
2. Farmer C	10
3. Farmer K	5
4. Farmer H	4
5. Farmer L	4

It should be noted that the first two individuals mentioned have land on the Project mesqa. There is a definite tendency, as will be seen later, for farmers to select relatives, close neighbors, and friends when they need help or assistance in matters dealing with agriculture.

E. Non-agriculture competency (five questions)

1. Who in the village do you go to when you need help or advice on how to help someone in your family who is sick?
2. What one person in your village do you believe is an honest merchant with fair prices?
3. What one person in your village do you believe is a government official who is trying his best to help the village?
4. What one person in your village do you believe is a good teacher in the school?
5. What one person in your village do you believe is a young person (under 30) who you think will be an influential person when he is older?

The following six people in the study village were mentioned the most times by the farmers on the Project mesqa.

<u>Name</u>	<u>Score</u>	<u>Position</u>
First Person	10	Village bank agent
Second Person	8	Teacher and <u>Ma'zun</u> *
Third Person	7	Grocery Merchant
Fourth Person	5	Farmer I and <u>Khatib</u> **
Fifth Person	5	Seed merchant
Sixth Person	5	Doctor in village clinic

*Prepares marriage contracts for people in village

**An informal religious person who recites Koran, give speeches in the mosque.

Multi-Role Analyses In The Study Village

A careful review of the data collected suggests that many individuals play more than one role as they interact with their fellow villagers. In addition to analyzing the various roles different individuals in the study village may be playing (decision-maker, compromiser, innovator), it may also be helpful to identify those individuals who are perceived as functioning in many different kinds of roles. Each individual listed by the farmers on the Project mesqa was scored on the basis of how many different kinds of roles he was perceived to be playing. There is some evidence to suggest that those village leaders able to play a variety of different roles are much more apt to be helpful in the implementation of rural development projects. Obviously, this is a hypothesis that would have to be tested by the farmers on the mesqa. Below are the individuals perceived to be functioning in at least four different types of roles:

	<u>Score</u>
1. Farmer C	8
2. Farmer A	7
3. Farmer I	6
4. Farmer B	6
5. Farmer J	6
6. Farmer F	5
7. Farmer D	5
8. Farmer M	5
9. Farmer K	4
10. Farmer G	4
11. Farmer N	4

Figure 12 is a list of all the individuals mentioned by a least four farmers on the study village mesqa. Note how some leaders are perceived to play many roles, and others are perceived to be playing only a few.

Family Patterns in the Village of Study

Although it was quite impossible during the short time devoted to this field research project to document the intricacies of family interactions in the study village, still some general observations are possible.

1. There appear to be at least four major families in this village, at least as defined by the farmers on the Project mesqa (Figure 13).

2. It appears that Family A and Family B have been in conflict with each other for several years. For example, in a recent election the head of Family A and a lawyer supported by Family B both sought a position in the Egyptian National Assembly. Although neither candidate was able to win, the conflict and animosity which characterized this election both reflected their past differences and reinforced their present feud. In visiting the head of Family A, it was interesting to note that he had a revolver and some ammunition on his living room table!¹⁰

3. Family C appears to be neutral in the conflict between Family A and Family B. Several sources intimated that this family exerts a moderating influence in the village. It is important, also, to note that this family has land on the Project mesqa.

4. It is crucial for any effective researcher in the study village to document carefully the various family relationships that exist among the farmers and the perceived influentials. Such relationships are a significant part of the social reality found in any Egyptian village and should not be ignored.

5. Although we have identified over 30 individuals who were listed (see Figure 12) at least three times by the farmers on the Project mesqa and have attempted to delineate some of the family relationships of these individuals, it should be apparent that much more information is still needed.

- (a) What additional family relationships exist which might determine close interpersonal interactions?
- (b) What are the friendship patterns among these individuals?
- (c) What are the strong patterns of conflict that exist among these individuals and what is the potential of these conflicts for disrupting the Project?

¹⁰ This type of information is only appropriate for field notes, but it can be helpful for later researchers who may come onto the Project. An awareness of these conflicts is absolutely essential for someone working in study villages.

Figure 12. GENERAL INFLUENTIALS IN THE PROJECT VILLAGE

Position of Influential	Variety of Roles*	Number of Farmers Mentioning Each Individual					Total Times Mentioned
		Power Competency	Conflict Resolution Competency	Innovation Competency	Agricultural Competency	Non-agricultural Competency	
<u>Shaykh al-Balad</u>	7	15	5	8	-	-	28
Farmer on Project <u>mesqa</u>	5	-	14	1	13	-	27
Farmer	8	7	5	1	10	-	23
<u>Khatib in mosque</u>	6	4	-	9	-	5	18
Judge in Cairo	6	9	-	7	-	1	17
Local Council Chairman	5	5	1	6	-	-	12
Farmer	4	1	1	3	5	-	10
Farmer on Project <u>mesqa</u>	4	-	7	-	3	-	10
Village Bank Agent	1	-	-	-	-	10	10
<u>Shaykh al-Balad</u>	6	4	-	3	2	-	9
Teacher/ <u>Ma'zun</u>	3	-	-	1	-	8	9
Farmer on Project <u>mesqa</u>	4	3	2	2	-	-	7
Grocery Store Owner	1	-	-	-	-	7	7
Farmer	5	2	1	2	2	-	7
Seed Merchant	3	-	-	1	1	5	7

Figure 12. GENERAL INFLUENTIALS IN THE PROJECT VILLAGE (Continued)

Position of Influential	Variety of Roles*	Number of Farmers Mentioning Each Individual					Total Times Mentioned
		Power Competency	Conflict Resolution Competency	Innovation Competency	Agricultural Competency	Non-agricultural Competency	
Farmer	3	-	3	-	4	-	7
<u>Undah</u>	3	5	1	-	-	-	6
Farmer	4	-	2	-	4	-	6
Military Officer	4	4	-	-	-	1	5
Doctor	1	-	-	-	-	5	5
Farmer	2	2	2	-	-	-	4
Rich Farmer	1	-	-	-	4	-	4
Farmer on Project <u>mesqa</u>	3	1	1	-	2	-	4
<u>Tamari</u> (employee health clinic)	1	-	-	-	-	4	4
Employee in Al-Azhar	1	-	-	4	-	-	4
Chairman of Agriculture Coop.Board	3	2	1	-	-	-	3
Rich Farmer	2	-	1	2	-	-	3
<u>Shaykh Al-Balad</u>	2	2	1	-	-	-	3
Farmer	1	-	-	-	3	-	3
Doctor	1	-	-	-	-	3	3
Doctor	3	-	-	1	-	2	3

*Among the five board categories of competency, there are a total of 15 different roles that potentially could be played.

- (d) What possible systems of alliance might be developed among the key influentials which might be most helpful in obtaining support and commitment from the farmers on the Project mesqa?

Analyses of Leadership Traits Perceived by Farmers on the Project Mesqa

In order to better understand how the farmers on the mesqa define leadership, the following direct quotes from these farmers are listed.

1. Who in your village has influence at the district or governorate levels of government?
 - a. "He knows the right influential people in Cairo."
 - b. "He is very rich and powerful; he has good friends."
 - c. "No one in our village has powerful friends."
 - d. "If you have the money (fulus), you will have the influence."
 - e. "He is a judge and can help you in a trial, and he expects only a small amount of bakshish."
 - f. "He has many friends and is willing to help people in the village."
 - g. "He is very sincere and being the son of one powerful man helps him make arrangements."
 - h. "Your money (irshak) is the only road to influence in the village."

2. Who is someone in your village who is good at resolving conflict and working out a compromise?
 - a. "He is respected and trusted, and people go to him."
 - b. "He has status and influence; people go to him for help."
 - c. "He is a member of the local council and is very respected."
 - d. "A farmer who is fair and seeks what is right (Khayr)."
 - e. "The Umdah is good at compromising because of his status and formal position."

Figure 13. INFLUENTIALS WITHIN THE FOUR MAJOR FAMILIES

Family A	Family B	Family C	Family D
Member #1 (28)	Member #1 (17)	Member #1 (23)	Member #1 (3)
Member #2 (6) (Umdah)	Member #2 (10)	Member #2 (18)	
Member #3 (5)	Member #3 (4)	Member #3 (9)	
Member #4 (4)	Member #4 (1)	Member #4 (2)	
Member #5 (3)	Member #5 (2)	Member #5 (1)	
Member #6 (3)	Member #6 (1)	Member #6 (1)	
Member #7 (1)	Member #7 (1)	Member #7 (1)	
Member #8 (1)	Member #8 (1)		
Member #9 (1)			
Member #10 (1)			

- f. "He has resolved conflicts for many people both within families and between families."
- g. "He is respected and not feared."
- h. "He never lets a problem continue; he seeks to solve the problem immediately in its time (fi wahtaha)."
- i. "Go to him, and the problem will be solved."
- j. "I prefer to go to a neighbor or friend."
- k. "He is respected and is old enough to have wisdom."
- l. "He works on the mesqa and is good at solving problems."
- m. "He is the oldest and most respected man on our mesqa."
- n. "People go to his home when they have a problem to solve."
- o. "He sits down with us at sunset and discusses the problem with us."
- p. "They often go together and solve the very serious problems between families in our village."
- q. "As the Dallal Misaha (traditional village surveyor), he knew all the boundaries between the landowners and could settle many disputes."
- r. "He used to be the Dallal Misaha and is very good in solving problems between people."

3. Who in your village is a good, religious man?

- a. "He is not a formal immam, but is the khatib* in our mosque from time to time."
- b. "He is very religious and he says his prayers often."
- c. "He collects the youth together and preaches (Yew's) to them."
- d. "He knows God and resists wrong behavior in our village."
- e. "He is a graduate of Al-Azhar."
- f. "He is an Azhari; he loves the good (al-Khayr) and has been active in building new mosques in our village."
- g. "He is known for his good behavior."

* Speaks in the mosque on Friday - gives the sermon.

- h. "He has a beard and follows the sunna like Muhamad. He often recites the Koran, and all his sons are religious. He is not from a big family and, therefore, has little influence. Thus, the children sometimes make fun of him because of his piety."
- i. "A farmer who is very religious and knows how to settle conflicts."
- j. "He is always in the mosque for prayer."
- k. "He helps in building the new mosques."
- l. "He is the Khalifa (local leader) for the Rifaiya sect of Islam here in the village."
- m. "He recites the Koran (Murati) in the mosque."
- n. "He fights for Islam, he is always in the mosque, prays often, collects the youth, and gives them advice and instruction."
- o. "He is an employee of Azhar, always willing to help in religious projects; he is willing to collect money and to persuade people to support the building of a new mosque."
- p. "He knows God and serves in the mosque."
- q. "He always participates in the prayers."

4. Who in your village has an especially good relationship with the poor in the village?

- a. "He is the first one they go to; he always helps the poor."
- b. "Their home is always open, especially during Ramadan."
- c. "He fears God and loves the poor."
- d. "When I was sick, he plowed my land and planted my crops and never asked for any money."
- e. "He is always willing to help the poor and gives generously to help build a mosque."
- f. "He is very generous."
- g. "He is well known for helping the poor in secret. I have seen him taking food to a poor family late at night."

5. Who do you consider is a progressive farmer in Project village?

- a. "He has extensive lands and likes to try new things."

- b. "As a member of the coop. board, he spends much time in the coop. and is aware of new seeds and fertilizers."
- c. "He is my cousin, and he likes to try new things. He was one of the first to try to cultivate sugarcane in this area."
- d. "He is a rich farmer with much land (Amlak Kabira), and therefore can risk some experiments."
- e. "He is a merchant of seeds who knows about new varieties."
- f. "He has a big farm and a hard heart (Galbu Gamid). He is not afraid to take a risk with new things."
- g. "He has extensive lands (Amlak Wasa), he spends much time in the coop., and he tries the things when they arrive."
- h. "He has good land, and he is always willing to try new things, and his yields are always high."
- i. "He has good land; he can risk a new thing without fear."
- j. "He has lots of money and is rich (Malyan) enough to try new things."

It is interesting that most farmers equate progressive farming with the bigger and more affluent farmers. Note how often the notion of risk is mentioned. The implication is that a poor farmer can never take these types of risks.

6. Who is a good government official in your village who is trying to help people?

- a. "No one comes to the coop. and then leaves (Za'lan) angry."
- b. "He is famous in all the village for his fairness."
- c. "All the people love him. May God help him."
- d. "You can send your wife or your daughter to the coop., and he will treat them with respect."
- e. "He is like a postage stamp - -predictable and sure."
- f. "He works without routine, annoyance, or bakshish."

7. Who is a good merchant in the village?

- a. "He serves both rich and poor and is patient with the poor when they cannot pay."
- b. "He is honest and fair. He is well known for his honesty."

- c. "He knows what is right (Al-Haq)."
- d. "His prices are fair and the quality of his goods are high."
- e. "He will never cheat you (Yislam), and his word is his bond. He has one work (Kilma Wahda)."
- f. "He has honesty (Zima) and will never take what is not his."
- g. "He earns his wage (Halal) fairly. He only charges what is fair."
- h. "He always sells at a fair price. He charges the right price, not the blackmarket price."

What has evolved from an analysis of this approach to find influentials in a village, is that there are indeed specific individuals who emerge as a local village leadership. This leadership has linkages to the formal governmental organization existing in the village. This linkage may be through direct participation in one of the councils, or it may be through individual contact with members of these councils and organizations. No matter how this leadership is placed within a village, experience in Egypt has confirmed that any change agent must contact these leaders and obtain their approval for any major change to be successfully introduced in the village. Therefore, it is imperative that this leadership structure be delineated before any project can think of implementing it's program.

AMERICAN EQUIVALENTS OF EGYPTIAN ARABIC
TERMS AND MEASURES COMMONLY USED
IN IRRIGATION WORK

<u>LAND AREA</u>	<u>IN SQ METERS</u>	<u>IN ACRES</u>	<u>IN FEDDANS</u>	<u>IN HECTARES</u>
1 acre	4,046.856	1.000	0.963	0.405
1 <u>feddan</u>	4,200.833	1.038	1.000	0.420
1 hectare (ha)	10,000.000	2.471	2.380	1.000
1 sq. kilometer	100 x 10 ⁴	247.105	238.048	100.000
1 sq. mile	259 x 10 ⁶	640.000	616.400	259.000

<u>WATER MEASUREMENTS</u>	<u>FEDDAN-CM</u>	<u>ACRE-FEET</u>	<u>ACRE-INCHES</u>
1 billion m ³	23,809,000.000	810,710.000	
1,000 m ³	23.809	0.811	9.728
1,000 m ³ / <u>Feddan</u> (= 238 mm rainfall)	23.809	0.781	9.372
420 m ³ / <u>Feddan</u> (= 100 mm rainfall)	10.00	0.328	3.936

OTHER CONVERSION

	<u>METRIC</u>	<u>U.S.</u>
1 <u>ardab</u>	= 198 liters	5.62 bushels
1 <u>ardab/feddan</u>	=	5.41 bushels/acre
1 <u>kg/feddan</u>	=	2.12 lb/acre
1 donkey load	= 100 kg	
1 camel load	= 250 kg	
1 donkey load of manure	= 0.1 m ³	
1 camel load of manure	= 0.25 m ³	

EGYPTIAN UNITS OF FIELD CROPS

<u>CROP</u>	<u>EG. UNIT</u>	<u>IN KG</u>	<u>IN LBS</u>	<u>IN BUSHELS</u>
Lentils	<u>ardeb</u>	160.0	352.42	5.87
Clover	<u>ardeb</u>	157.0	345.81	5.76
Broadbeans	<u>ardeb</u>	155.0	341.41	6.10
Wheat	<u>ardeb</u>	150.0	330.40	5.51
Maize, Sorghum	<u>ardeb</u>	140.0	308.37	5.51
Barley	<u>ardeb</u>	120.0	264.32	5.51
Cottonseed	<u>ardeb</u>	120.0	264.32	8.26
Sesame	<u>ardeb</u>	120.0	264.32	
Groundnut	<u>ardeb</u>	75.0	165.20	7.51
Rice	<u>dariba</u>	945.0	2081.50	46.26
Chick-peas	<u>ardeb</u>	150.0	330.40	
Lupine	<u>ardeb</u>	150.0	330.40	
Linseed	<u>ardeb</u>	122.0	268.72	
Fenugreek	<u>ardeb</u>	155.0	341.41	
Cotton (unginned)	<u>metric qintar</u>	157.5	346.92	
Cotton (lint or ginned)	<u>metric qintar</u>	50.0	110.13	

EGYPTIAN FARMING AND IRRIGATION TERMS

<u>fara</u>	= branch
<u>marwa</u>	= small distributor, irrigation ditch
<u>masraf</u>	= field drain
<u>mesqa</u>	= small canal feeding from 10 to 40 farms
<u>qirat</u>	= cf. English "karat", A land measure of 1/24 <u>feddan</u> , 175.03 m ²
<u>qaria</u>	= village
<u>sahm</u>	= 1/24th of a qirat, 7.29 m ²
<u>saqia</u>	= animal powered water wheel
<u>sarf</u>	= drain (vb.), or drainage. See also <u>masraf</u> , (n.)

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