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RURAL DEVELOPMENT  
( PROJECT 0285 AND ADJUNCT PROJECTS )

Final Report

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September 4, 1979

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OFFICE MEMORANDUM

TO: Mr. H. R. Slusser, Acting General Development Officer

FROM: Mr. Arthur J. Dommen, <sup>AID</sup> RDA (Maktar)

DATE: September 4, 1979

SUBJECT: Submission of Final Report

In view of the imminent completion on schedule of Project 0285, I am transmitting to you herewith a copy of my Final Report on this project, prepared at the request of Mr. Robert W. Beckman, Acting Director of USAID/Tunisia at the time. This was done on my own time.

As indicated in the Introduction, the views expressed herein are entirely my own and do not engage USAID in any way.

A copy of this report will be placed in the RDA files for the future reference of those to whom it may prove useful, as Hirsch's final report on the project was to me. In the same spirit, I am distributing copies only to American persons who have been in the project area.

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## INTRODUCTION

Seest thou not that God  
 Sends down rain from  
 The sky, and leads it  
 Through springs in the earth?  
 Then He causes to grow,  
 Therewith, produce of various  
 Colors: then it withers;  
 Thou wilt see it grow yellow;  
 Then He makes it  
 Dry up and crumble away.  
 Truly, in this, is  
 A Message of remembrance to  
 Men of understanding.

-- The Koran, S. XXXIX, 21

The following report relates the observations of one man, myself, during two consecutive cycles of the agricultural year in Maktar, Kesra, and Rohia. The brown, freshly-tilled earth turned green under the winter rains, then gold as the crops ripened, then the yellow of the stubble. I had the feeling of sharing with the people their experience of this cycle and I am grateful for this. I hope in return I have helped them, in soever small a way, during our residence in Maktar from September 20, 1977, to September 30, 1979.

In this report I have tried to be direct, honest, and equitable. It has not been my intention to exaggerate achievements or to gloss over failings, and there have been many of each. All opinions are strictly my own, and in expressing these I have tried to be as objective as possible about an experience that was meant as a pilot initiative in rural development. I hope this initiative has been as rewarding for AID in terms of lessons learned as it has been to me in terms of personal satisfaction.

## I. THE PROJECT AREA AND ITS PEOPLE

Maktar, Kesra and Rohia delegations cover 1,443 square kilometers lying in an area of north-central Tunisia known as the Haut-Tell, or high steppes. The landscape is one of broad hills intersected by deep gullies, with numerous table-like mountains revealing geological uplift and erosion. Natural vegetation is pine and scrub forest in the north, sparse drought-resistant shrubs in the south.

Notable landscape features of this area of north-central Tunisia are the "central backbone" (dorsale) formed by the parallel lines of Djebel Serdj and Djebel Bargou running southwest-northeast, with Djebel Belouta like a large whale, and Djebel Trozza like a great outrider in the southeast where the high country gives way to the coastal plain. To the south, the mass of Djebel Mrhila, equally oriented southwest-northeast, blocks the horizon. Djebel Barbrou and Djebel Skarna (the latter at 1,322 meters being the highest point actually within the project area) run generally north-south. The plain of Rohia at about 600 meters elevation is a distinctive feature to the west, and this plain extends southward through Sbiba and Sbeitla (Kasserine). The Kesra plateau is another distinctive feature, as is the great valley of the Oued Hateb and its tributaries in the extreme south of the project area (the lowest point in the project area is the Oued Hateb crossing at Kanguet Zegalass, at 400 meters elevation), which is best seen from the heights of the escarpment above Sidi Ben Habbes. Maktar lies at an elevation of 900 meters.

Climatologically, the project area forms a transition zone from the characteristic Mediterranean-type climate with its moist winters to the semi-arid and arid continental desert climate. This transition progresses equally from north to south and from west to east. The rainfall gradient appears to be quite steep between Maktar, where the long-term annual average is 520 mm., and Hababsa, where I suspect the annual average must be on the order of 300 mm. (See rainfall data given in Table 2, below.) The gradient is accentuated by rain shadow effects due to relief, such as the line of the El Garia road tunnel (an effect of the mass of Djebel Serdj nearby?) and also the Sidi Ben Habbes escarpment. The whole area is very windy, being subject to the cold northwest wind in winter and the sirocco in summer.

Water drainage is to the northeast in the Maktar area, to the Oued Medjerda, and to the southeast in the El Louza-Smirat-Rohia-Jmdlet-Hababsa area, with the Oued Hateb (known downstream as the Oued Zeroud) dumping its floodwaters periodically in the Kairouan arctic plain, with predictably disastrous effects as was the case in September 1969. Except after heavy rain, the Oued Hateb, in spite of the impressive size of its bed, is readily fordable by Land Rover.

The area has been settled from at least Punic times, and a flourishing economy based on grain, olives, and sheep is believed to have existed then. Punic and Roman ruins dot the landscape everywhere. A line of communication ran in those times from the east, possibly the coast at

Hadrumetum, to the interior at Zama Regia, which was located on the south slopes of Djebel Massouga. The importance of this line of communication is attested to by the six remaining arches of the great bridge over the Qued el Djilf at Sidi Amara (Roman Aggar), in the extreme east of the project area, and by the ruins of the Roman towns of Manange and Uzappa, both still visible. Hannibal may have followed this route when he marched to give battle to Scipio before the latter could link up with Massinissa in 202 B.C.; the site of the famous battle, described by Livy and others, is believed to be in the Le Sers plain. The foundation stones of a gigantic monument to be seen on the heights above the ruins of Zama Regia, where the piste (track) from Silliana to Le Sers crosses the watershed divide, is said to date from Caesar's bloodless victory over Juba at Zama Regia in 46 B.C. directly following the battle of Thapsus (Ras Dimas). In more recent history, Maktar figures as a focal point in the maneuvering that went on between the Allies and the Germans in 1943 (battle of Kasserine Pass, February 1943), and General Eisenhower is said to have slept one night in the delegation (I cannot vouch for the accuracy of this claim).

The population of the three delegations totals some 60,000 people. Dispersed settlement is the rule, but this is not to say that population density is uniform everywhere. Maktar is the most populous town in the project area and the most important center in an economic and administrative sense. Kesra, perched under the southern edge of the plateau of the same name, and Rohia, a hot, dusty/muddy plains town where the bus from Kasserine pulls in off the main road on its journey to Tunis, are the only other population centers of importance. All three towns have electricity, telephones and post office.

Administratively, Maktar Delegation is divided into the following sectors: Maktar, Sayar, Saddine, Beni Hazem, Beze, El Garaa, and Essouelem. Kesra Delegation consists of Kesra, Mansoura, Bou Abdallah, El Garia, El Fdhoul, and El Louza sectors. Rohia Delegation consists of Rohia, M'Sahla, El Haria, Smirat, Jmilet, and Hababsa sectors.

The life of the people revolves around agriculture. The agricultural year begins with the first autumn rains, when fields are plowed and sown. September, October, November and December are peak months of agricultural work. There follows a long slack period which lasts until the grain harvest begins in early May. During this interval, the main task is weeding the grain fields, which is done by hand. This work is performed by the women, who carefully collect the pulled weeds and feed them to their animals as fodder. The whole family takes part in harvesting, men and women bending to snap the stalks one by one or to cut them with a sickle. The stalks are tied into sheaves and stacked. These are then taken to the house on donkey-back.

Women play an extremely important role in the household as preparers of all food, cooking and serving. Women also care for infants and young children and do the cleaning and sweeping. They also look after the poultry about the house. They also do a major part of the haulage of water from the well or spring. Needless to say, if sanitary and health

conditions are to be improved in the project area, women have to be reached. This is not easy. For although women appear to be more "liberated" in the countryside than in the small-town environment of Maktar (for instance, they do not wear the veil except when their husbands take them to town riding on the back of their donkey or horse), nevertheless, strict rules of seclusion vis-à-vis strangers are observed in the vicinity of the house.

The perpetual water shortage and absence of sanitary facilities implies a hazardous health situation, especially for pregnant women and infant children. A health technician from AID Washington who visited the project area in 1977 estimated that regular preventive health care is available to roughly 20 per cent of the population. This refers to the 20 per cent who live in Maktar, Kesra, and Rohia. In the countryside, the percentage is nearer zero. All kinds of eye diseases are prevalent. Dogs are numerous and omnipresent, and there were two confirmed cases of rabies deaths of cattle in the project area in 1979. Appropriate precautions should be observed: one should never show fear before a dog, no matter how ferocious, and one should never hesitate to lapidate it, as this is the customary way of forcing dogs to keep their distance.

The houses of the people of Maktar, Kesra and Rohia delegations are of the simplest construction. Usually rectangular with walls made of stone, only one narrow door and one or two small windows, all on the side sheltered from the winter wind. A roof made of logs supporting flat stones. A dirt floor. A minimum of furniture: perhaps a chair or two, a table, and a wooden cupboard. Here and there in the countryside is a general store (hanawt), the same type of building with a stone and cement counter, and shelves along one wall. The general store is an important institution, a meeting place and a post box (as well as, more rarely, the site of a local public telephone).

There are marvelous moments for anyone living in the project area. The sight of almond trees in full blossom in January, a promise that the long winter is getting on, or of fields of bright red poppies and other white, yellow, and blue wild flowers in May, is unforgettable. The storks wheeling over the town in May; the full moon, like a great lantern, rising over the Kesra plateau; or sunrise from the Essouelem plains on a July morning, the sun like an orange balancing on the nose of Belouta, the whale, are also unforgettable sights. Flocks of sheep moving up the trail from the Oued Hateb; camels floating along like caravelles on a distant hillcrest; or a horse at full gallop carrying its rider in flowing robes. The Maktar region truly has its beauties.

## II. PROJECT HISTORY

In the 25-odd years since independence, Tunisia has experienced an outflow of people from its interior regions, where population growth rates are high due to the subsistence level of production and the difficult conditions of infant survival. These rural emigrants, attracted by the prospect of finding jobs in the "other" Tunisia, that of industry and the tourist trade, have found their way into the densely populated urban areas along the coast, creating around cities like Tunis "bidonvilles." The Tunisian government has to bear the burden of providing these districts with services. Furthermore, with the system of heavy subsidies for basic foods prevalent in Tunisia, the country has had to import large quantities of wheat and other staples. These things constitute a drain on the Tunisian treasury.

It was mainly with a view to braking the rural exodus that the Tunisian government decided at the top level to make a rural development effort a national priority. The Ministry of Plan was given the responsibility for the effort by the Prime Minister in 1973. Thus, conditions favorable for a rural development project existed prior to USAID interest in such a project.

Sometime in 1974, USAID and the Ministry of Plan agreed to involve USAID in rural development. A Project Review Paper (PRP) was readied in February 1975 and reviewed in Washington the following month. The PRP gives much of the history of the early effort. Project design at that stage included narrowing the choice of location to the recently formed governorate of Siliana. Within Siliana, a number of sites were identified in which multi-sector activities could be undertaken, such as the Rohia plain.

In May-June 1975, Dr. Abraham M. Hirsch was assigned to USAID on TDY to prepare a Project Paper (PP). Hirsch was a rather short man with round, twinkling eyes who was very seldom seen without his pipe. A geographer by training and fluent in French, he soon latched on to the Siliana project and made it his own in a way that has never been forgotten by the Tunisian officials with whom he dealt.<sup>1</sup> As often occurs in the case of brilliant men, Hirsch perceived truths that those around him had lost sight of. For instance, he recognized that the natural units for a rural development project in Tunisia were delegations, which are the lowest level of organization in the territorial administration at which there exists access to government and party organisms, including the technical services, which can and must be enlisted in decision-making. He therefore recommended that the project be focused on the entire delegation of Rohia (and not just the plain) and the entire delegation of Maktar (these had formerly formed one single delegation).<sup>2</sup>

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<sup>1</sup>To illustrate: long after I was in the project area, the Délégué of Rohia still referred to the road into which the Rohia-Jmilet piate was to be re-constructed as "Dr. Hirsch's road."

<sup>2</sup>In April 1979 Maktar delegation was further split into two to create Kesra delegation.

Hirsch had to lobby strongly within USAID in favor of a rural development project. The Food and Agriculture Division (F&A) of the Mission, in particular, had serious reservations about the wisdom of putting money into an area whose natural endowments were so meager. The F&A officer, Carl Ferguson, wrote in a report following a field trip to Smirat, Jmilet and Hababsa sectors in the company of his assistant, Buford Grigsby, in July 1975 that "Because of the inhospitable nature of the terrain and soils, the best use of the area would be to convert it into a national forest and range preserve." This judgment by men who knew about agriculture in the United States and therefore tended to use American standards for comparison, reflected a myopic view of people who see grain yields and animal weight gains as the sole ends of a technocratic agriculture and never see farmers at all. As far as I could discover, the Ferguson-Grigsby conclusions were never given by the Mission to the Ministry of Plan.

Hirsch joined USAID in the latter part of August 1975 as head of its newly established Rural Development Affairs (RDA) Division, with the aim of getting the Siliana project approved in Tunis and Washington, where the project enjoyed strong backstopping by James Dalton and John Blackton of AID's Near East Bureau. Not that Hirsch was able to set to work right away. He arrived on the eve of a meeting of the U.S.-Tunisian Joint Commission and was instructed, as he put it in his final evaluation report, to "lie low" for the time being, not even being provided with an office for the first four weeks he was at the Mission. It was not until late October that he was able to set to work in earnest. Even so, he was not provided with a secretary until November, or a Tunisian associate until January 1976, and USAID had no four-wheel-drive capability until mid-1976, making travel on the pistes hazardous. Hirsch's problems were also compounded by the fact that during his two-year assignment his division occupied no fewer than four different positions within the Mission organizational structure; the vexing question of the relationship between RDA and F&A was batted around and was not satisfactorily resolved until the pressing concerns of project implementation made it moot. F&A was to collaborate magnificently. Our achievements in range management, apiculture, and arboriculture owe no small debt to Salah Mahjoub in particular.

Part of Hirsch's problem was that the RDA Division, once established, had no precise counterpart on the Tunisian side. Within the Tunisian government, rural development is a function of the Ministry of Plan acting in conjunction with the various governorates, to which moneys are provided for something called the "Rural Development Program" (Programme du Développement Rural--PDR). Far from being an integrated program, as the name would suggest, the latter consists of a bundle of disparate actions which lie basically outside the exclusive preserve of any one of the "line" ministries---Agriculture, Social Affairs, Education, Equipment, and so forth. The Ministry of Plan acts at the top as a planning coordinator for this effort. But in the elaboration of a cohesive rural development project such as the Siliana project, the focus needs to be on a much smaller region than the governorate, namely the delegation, and feedback needs to be generated from the principal administrative officer of this smaller

region, namely the délégué, in order to ensure success. The process should not be one of parceling out funds from the governorate to the delegations, as was the case with the PDR. Once the focus on the delegation and its multi-sectoral needs is in view, then the active participation, in men and funds, of the "line" ministries represented at the governorate level needs to be enlisted. To the credit of USAID, it deserves to be noted that the two délégués of the project area were involved right from the start, from planning the project through implementing it. The relationship between the délégués and the governorate is an intimate one; the délégué has the power to move men and equipment around, on the authority of the Governor. The Ministry of Plan, on the other hand, is at some remove from the action, and exercises its power mainly through its veto power over expenditures.<sup>1</sup>

In this situation, it is not surprising that the USAID Director sometimes gained the impression, in the planning of the Siliana project, of grappling with a many-headed monster. I often had the same feeling in Maktar, and the only thing that saved me was knowing with confidence which head I should be dealing with at any given moment.<sup>2</sup>

Project planning went ahead in the RDA office. Discussions with local and regional officials had by now identified what the most urgent needs of the people were and although these had still not been documented by inquiry in any systematic way, they became the focus of project design in USAID. By February 1976 the main lines of action had been sketched out. These became the various components of the project, and they were hardly to change over the next three and a half years.

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<sup>1</sup> The Ministry of Plan does not even have its own four-wheel-drive transport capability.

<sup>2</sup> Trusting to the Tunisians to resolve such issues could be fatal to project implementation. Indeed, the consequences of not having everyone concerned "thinking on the same wavelength" at all times had been well illustrated by the history of the ill-fated Ghardimaou AID project. Because of poor planning, a decision on who was to have final design authority over a large-scale irrigation project was postponed until after the actual arrival in country of the U.S. technical assistance team. This team waited on the sidelines, as it were, while two different branches of the Ministry of Agriculture disputed the type of irrigation system to be installed at the intended irrigation perimeter. In the end, they departed. The \$443,000 project was never implemented. As the Project Completion Report put it:

"Perhaps the most important lesson to be learned from the unfortunate history of this project is that there is great danger in papering over deep-felt differences (or in overriding objectors who have a key role to play; there was an element of both in this case) in order to get on with the project."

TABLE 1

## Original Components of the Jiliana RD Project

285.1	Design Support
285.2	Research
285.3	Rural Water and Health
285.4	Rural Road System
285.5	Agricultural Development
285.6	Community Organization
285.7	Soil/Water Reclamation
285.8	Urban Infrastructure

(Source: USAID/Tunis, "Project 285 - Rural Development," Working Paper, February 4, 1976.)

The PP which resulted, in April 1976, from the joint efforts of Hirsch, Dennis Morrissey, the Mission economist, and others, identified the project area to be Maktar and Rohia delegations (the project will henceforth be referred to in this paper as the Maktar project). It provided for the grant funding of a "core" project, given the number 0285, with a number of adjunct projects to be financed either by grants or by loans, and all tending towards the same goal and coordinated so as to avoid duplication of effort. Under this arrangement, management of rural development in Maktar and Rohia would take advantage of existing Tunisian territorial and administrative structures and the existing technical capabilities, whatever they were. Different services of the governorate-level office of the Ministry of Agriculture, the Commissariat Régional de Développement Agricole (CRDA), were to be responsible for implementing the components of the core project. Likewise for the adjunct projects (some of which, however, like those of CARE-Medico and the Save the Children Federation (SCF), were not implemented directly by either USAID or the Tunisian government but by outside organizations).

This project structure worked exceedingly well in practice, but it required someone on the spot to act as eyes and ears for the Mission; occasional visits to the field by the several grant and loan officers responsible for USAID's interests in the several projects could not have achieved the same thing, even with the best will in the world, I am convinced. The SCF and CARE-Medico projects had their own staffs resident in Maktar. It would have been very fine, on the Tunisian side, to have additional staffs, or even additional divisions, to help with the implementation of the Maktar project; as it was, not a single extra cadre was added to any Tunisian service for the implementation of Project 0285 and its adjuncts. In point of fact, many of these services were operating at below their assigned strength during the course of the project.

The purpose of the Maktar project, as USAID saw it, was simple and twofold: first, to help the development of a backward area by means of a number of carefully selected interventions, thereby contributing to bettering the livelihood of its people, and second, to instill in the relevant branches of the Tunisian government a feel for what it takes to plan the

development of such an area. These twin, interlinked objectives were not to be met by the expenditure of millions of dollars to change the landscape or by vast giveaway programs (which had already been tried in the early days of the PDR and had been found to be failures). Instead, AID was to fund a few, relatively inexpensive, innovative interventions coupled with the opening up of the area by means of road improvement. It was planned that this "pump priming" would set in motion economic forces that would produce the uplift effect that had been lacking up to now. The whole thing would require the expenditure of something on the order of one hundred dollars in AID funding (including consultants' fees and the salary of the AID resident representative in the project area) per inhabitant of the project area.

I first heard of the Maktar project from Blackton in AID Washington in early 1977. From what he said, the project seemed to be one of the very rare attempts by AID, or by any development agency for that matter, to implement a rural development project anywhere that was truly integrated, that is to say one that did not simply consist of building irrigation channels or some other single improvement to rural living. Blackton urged me to apply for the position of AID resident in the project area, a position for which my background as agricultural economist and my interest in village economy suited me. My wife Loan and I had an opportunity to make a two-day trip to Tunisia in April 1977, in the course of which we met the principal officers at USAID and made a Land Rover trip through the project area in the company of Mark Pickett, a former Peace Corps volunteer who had been recruited by Hirsch on a personal services contract to work with him on project matters.<sup>1</sup> We decided to accept the challenge. Neither of us had ever lived in a town as small as Maktar before. Some of my colleagues in the consulting trade in the Washington area were quite horrified at my eagerness to put into practice some of the principles of development which we talked about and wrote about so knowingly. We do not regret our decision.

Loan and I arrived in Tunis on our two-year assignment on August 29, 1977. We were met at the airport by Hirsch, Assistant USAID Director Hermon Marshall, and Patrick Demongot, recently arrived from Egypt to take over from Hirsch the position of Rural Development Affairs Officer. We spent a couple of weeks in Tunis familiarizing ourselves with the Mission and meeting the Tunisians with whom we would have dealings. Most important of the latter were Mr. Hachemi Ben Slimane and Mr. Fehir Haija, respectively Vice-Director and Director of Regional Planning in the Ministry of Plan. At our first meeting, they explained to me the twin objectives of the government's rural development strategy: (1) to improve the livelihood of the people in rural areas, and (2) to decentralize decision-making as much as possible. They also spoke of the need for the project to acquire an identity of its own, something I did not forget. With both of these men we had good and friendly relations for as long as we stayed in Tunisia. They were in a sense Demongot's counterparts, and they operated in close collaboration, by personal contact and by telephone, with the people in Siliann who would become my counterparts.

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<sup>1</sup>Although we did not know it at the time, Hirsch had by then been virtually restricted to Tunis on orders of USAID Director Hermon S. Davis, Jr. He was thus never able to pay farewell calls on those with whom he had collaborated in designing the project in Siliann, Maktar and Rohia.

At the time of our arrival in Tunisia, Hirsch still considered the choice of residence for us to be an open question. The Mission signed a lease on an apartment in Maktar with the intention of making it available to the steppe-zone agronomist who, it was thought, would be a key figure in the project. An agronomist, Rudy Vigil, did, in fact, arrive in Maktar and use the apartment during 1977; but after two months he packed up and left. The apartment was thus available. Hirsch, however, felt that it would be advisable to settle in Siliana which, while not geographically in the project area, was where many of the officials with whom I would be dealing lived and worked. This was certainly a valid argument, and I considered all aspects of the matter carefully. Finally, we decided on Maktar.

Commuting is not a good way to run a project in Tunisia. For one thing, it seemed clear from the outset that the success or failure of the project was going to depend heavily on the effort furnished by the people at the end of the line. This meant both the cadres at the end of the government's chain of command and the people themselves whom one was supposed to be helping. For the former, one had to set a good example. For the latter, the farmers and their families, they worked a seven-day week and the closer one could come to duplicating their work week the better were the chances of understanding them and their problems. There is no substitute for being on the spot when things start to go wrong.

Settling in Siliana would have placed us in a position to have more constant contact with the governorate, the CRDA, and the other services with which we dealt, and therefore would perhaps have reinforced the institution-building role of our project. But I feel the loss in terms of project implementation would have far outweighed this gain. I felt we had to have something to show for our effort before we could hope to strengthen institutions. Moreover, we soon found ways of reinforcing institutions without being on the spot seven days a week. After we had lived in Maktar for a time we came to appreciate the fact that the people in Siliana had a very different view of project implementation than did those in Maktar, and we understood why some of the cadres in Maktar talked about their superiors in Siliana with thinly disguised contempt. These superiors were all involved in the usual busy schedule of meetings, and even with good will they had to divide their time between our project area and the five other delegations in the governorate. When it came to maximum efforts such as the 1979 sheep dipping campaign, for instance, it was evident that trying to implement development actions in Maktar and Rohia and farthest Habalza by juggling the elbow of this or that chef d'arrondissement sitting in his office in Siliana would have been futile.

At all events, Siliana was only 22 miles from Maktar over a good road, and we made the trip many, many times. We did not mind it at all, and we managed to keep good relations with our counterparts there. Some of them became close friends and we were invited to their homes in Soussa and Monastir and attended their family weddings. They knew we were on the job in Maktar and Rohia, and this undoubtedly helped to keep them conscientious.

Rural development projects are data hungry. The penalties of inadequate data are wasted efforts and much frustration at never seeing expected results materialize. In view of the total absence of any useful, valid data about the project area and its people, the most urgent task facing the Mission was the collection and analysis of socio-economic data. Hirsch, whose impressions had heretofore formed the basis of project planning (he had written a number of excellent descriptive papers on the subject, based on his many field trips; he had also constituted a topographic map file), was very conscious of the need and had set about to meet it. The way he did this was to assemble more than a dozen Tunisian social scientists, administrators and members of USAID into something called the Social Science Research Committee, which was then to be entrusted with the responsibility for designing the appropriate instruments of data collection, analysing the results, and disseminating them. In Hirsch's mind, it was set as a rule that Americans must not be involved directly in data collection. He felt that such involvement would work against the institution-building aim of the project and tend to make the Tunisians lose interest in it. What he wanted to avoid was bringing in American social scientists and sending them out into the countryside with license to conduct research. His motive was good, but unfortunately his choice of a solution was unhappy. The Tunisian members of the committee had a heavy schedule of meetings to cope with and also were invited to attend seminars and conferences at frequent intervals in one part of the world or another. As a result, the committee set up on Hirsch's initiative held only one meeting, to my knowledge.

The cumbersome committee approach soon fell by the wayside. After Hirsch's departure we set to to organize a baseline survey in the project area that would give us some of the data that were needed. This socio-economic survey was in any case the first item on the ambitious program of surveys Hirsch had drawn up in socio-economy, marketing, felt needs, education, health status, and other fields of investigation.<sup>1</sup> Making use of the funds allocated for the purpose in the various project agreements in existence we contracted with the Centre National des Etudes Agricoles (CNEA), a professionally competent, semi-independent studies section of the Ministry of Agriculture, to plan and carry out a micro-socioeconomic sample survey.

This survey was carried out in December 1977 in Hababsa sector, the sector chosen by Hirsch as the appropriate sector in which to gather micro data representative of the project area as a whole. While the choice was inconvenient geographically in terms of access and working conditions, it turned out to be a happy choice insofar as Hababsa, being in the extreme south, was indeed representative of much of the Central Tunisia Rural Development program area later brought into being. The field work was carried out by CNEA staff under the able direction of Mohammed Zghidi, a sociologist who had worked on a previous CNEA study of the project area, in 1976, based on secondary sources.

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<sup>1</sup>We managed to carry out only a small portion of this ambitious program. See below, Section IV(b)4.

The weeks preceding the start of the field work were spent in designing the sample and preparing the survey instruments. We knew that December was a favorable month so far as weather went, but also that towards the end of December many men from Hababssa left their homes (it was a slack period in terms of agricultural tasks) to go to the Sahel region to work on the olive harvest. Therefore, we faced a definite time deadline. This encouraged us to speed our work.

In the course of several brief visits to the field, Zghidi and his team designed a valid sample based on villages, or rather "groupements" as they referred to them. A map of Hababssa sector was prepared, using the 1:50,000 topographic map as a base, and the various "groupements" were located on the map. All this preparatory work was done in the closest collaboration with the omda of Hababssa, Sheikh Hussein. The sample was stratified according to length of residence of the family in the region, since Hababssa has witnessed successive population movements over the centuries.

At my urging, Zghidi included in his questionnaire as much information on matters of household economy as he thought would be practicable, since we had only the vaguest notions of how a typical household produced and distributed its product, where and when it sold crops and animals, what the seasonal distribution of labor input was, and so forth. In the end, the CNEA questionnaire in French totaled 15 pages, which was probably a bit too long. (The questionnaire is reprinted in the annex volume of the CNEA survey report.)

At the same time as we were laboring to overcome the socio-economic data problem, I realized that the fact we would have a number of field teams interviewing heads of households over a period of ten days presented a unique opportunity to extend our knowledge in another vital field---that of nutrition status. This was another field where our information was largely impressionistic. How serious was malnutrition, and if serious, what were its characteristics? We did not know the answer to this and other basic questions as we embarked on our project to improve the quality of life.

At Tunis staff meetings, there was always a great deal of talk about "getting closer" to the people of this or that Tunisian government agency. My experience has been that the best way to "get close" to a branch of government is to work with its people in the accomplishment of a set task. I therefore on my own initiative made contact with the National Institute of Nutrition, through the members of a resident advisory group to that institution from A. T. Kearney, Inc., a management consulting firm.

I found, happily, a ready response from Mme. Mehzoud, nutrition planning coordinator, and Moncef Bouslama, statistician. After discussion of the matter, we agreed there was the basis for conducting a nutrition status survey based on the CNEA sample households. A survey carried out on such short notice obviously lacks complete scientific validity. Nevertheless, it enabled us to learn what the nutritional deficiencies were in a region that lives for the most part on grain and meat. The questionnaire in this case was the collaborative product of the MIN, the Kearney team, and the Tunis office of CARE-Medico, which had had previous experience in conducting nutrition surveys. Altogether, we spent several rather frantic

days in Tunis preparing the questionnaire. The product was a questionnaire in classical Arabic. The interviewers we engaged were three young women from Siliana who had been trained by CARE-Medicò as health workers and who, happily for us, were temporarily out of work because their Land Rover had become disabled. They interviewed mothers of children aged 0-6 in the households constituting the CNEA sample.

The field work in December went off like clockwork, in conditions of perfect weather. The dozen interviewers from CNEA, divided into several interviewing teams, traveled daily from their base in Rohia and, with the help of aerial survey photos of the area, used every possible  piste  and path to reach the sample villages, many of them in isolated areas. To the one large CNEA Land Rover we were able to add two of our project Land Rovers, one large and one small, to help with the transport. Tahar Ben Salem drove one and I the other. My days were made particularly long because, in addition to commuting daily to Hababsa from Maktar, I had to go to Siliana in the predawn darkness to fetch the three women, and return them after work in the evening. Loan acted as our coordinator of field work for the nutrition survey. Every day we established a schedule with Zghidi for moving interviewers about among the sample villages. The CNEA team completed its field work in a week, by dint of working from dawn to after dusk every day. The nutrition survey was not completed for two weeks. At the end of the survey, the CNEA team packed up its camp at Rohia, returned to us the paraffin heater we had lent them to ward off the nighttime cold, and bid us goodbye. The two reports were published in early 1978.

### III. OPERATING IN MAKTAR

Maktar town, except for its natural setting, looks to the outsider like any other Tunisian town. Consisting essentially of a collection of single-storey stone houses dispersed around a central market place, a number of general stores, several workshops of various kinds, half a dozen cafés and two small hotels, two mosques, and a few old stucco buildings left from the French colonial period now housing government offices, the town gives the impression of extreme stability, not to say stagnation. A large lycée dominates the upper end of the town where the road leave for Rohia. The delegation office, a pleasant old building shaped around a central courtyard, with the délégué's quarters and a tree-shaded garden behind a high wall adjoining, dominates the lower end of town. A cinema opened in the summer of 1978. The town, with a 1975 population of about 6,500, was expanding all the time as new stone house construction progressed in ever widening concentric circles.

To me, this expansion was alarming, because it meant a further demand on the already overburdened public water supply, which came from a natural spring behind the delegation. Over the years, successive generations of water engineers had worked on the spring, putting up stone and cement works, so that today the present SONEDE engineers are afraid if they touch it again to try to increase the flow they may inadvertently divert the flow or a part of it. Therefore, they have concentrated instead on exploring for alternative water supply possibilities, so far to no avail. Yet Maktar goes on expanding.

Across a gully, on an adjoining hill, are scattered the visible remains of the old Roman town, among which lies a large stone bearing the inscription "Mactaris." These ruins and the small museum nearby attract a smattering of visitors to Maktar, but since there are many Roman ruins in Tunisia and most tourists chose to visit others like Dougga and Sbeitla the number of visitors is few. It has to be admitted that Maktar is a backwater, a town through which American Embassy officers do not care to pass, by and large, except when forced to make a detour into the hills by floodwaters that have cut the main road along the coast, blocking their return to Tunis.

As we got to know Maktar better, Loan and I found more of interest in it. We discovered that, economically speaking, Maktar is an important marketing, servicing, and information-exchange hub for a wide region of mixed agriculture and pastoralism, as Mactaris must once have been. On Mondays, market day, farmers crowd into town, on donkey-back, on tractor-drawn trailers, aboard Peugeot camionnettes, and the bustle and noise have to be seen and heard to be believed. The market deals in everything from small hand-tools to carpets and furniture. There are separate produce and livestock markets. (Our apartment balcony overlooked the former, so we could see what it was we wanted to buy every week.) In short, Maktar is a hotbed of capitalist enterprise. As such, it is not without its capitalists. The Boukris family, for instance, owns a large bakery, a hammam (bath house) and numerous shops; they could invite 150 guests to dinner and not bat an eyelash.

Hirsch had told me my first priority on arrival in Maktar should be given to going around in the Land Rover to familiarize myself with the various sub-regions of the project area. This I set about doing as soon as possible, though more as part of my rapidly escalating implementation responsibilities than as a separate orientation phase. There was no time for that, and in any case I had no guide other than the map: Tahar was kept in Tunis by his business there. I found indeed, as Hirsch had said, that the different sub-regions were quite distinct from one another. The semi-arid wastes of El Garia and El Fdhoul beyond the road tunnel were quite different in character from the relatively lush forests of Bou Abdallah and the alpine countryside on the northern edge of the Kesra plateau. The broad vistas of Jmilet gave a very different impression than the "badlands" of eastern Hababsa along the Oued Kouky.

I was impressed in the course of my Land Rover tours by the number of derelict public works---cement fords and culverts along the MC77 and other pistes, private houses and even large-scale groups of buildings like the old sheep station at Tella, all abandoned. Here and there wells had been allowed to crumble. An old windmill in Rohia had become a rusty monument to a bygone energy-scarce age. These sights constituted for me a first sobering lesson: the area had been continuously inhabited since Punic and Roman times, and what was "modern" did not necessarily stand a better chance of surviving than the Roman walls of Mactaris.

Whatever may have been the specific causes of dereliction---a flood in the case of the bridge over the Oued Saboun washed away in September 1969 and not rebuilt until our project did the job almost ten years later, an abrupt reversal of government agricultural policy in the case of the Tella sheep station---these sights testified to decades of official neglect of the Maktar-Rohia area by every level of government. Rainfall readings at the Maktar meteorological station going back to 1901 had been allowed to lapse beginning in the mid-1970's; the equipment was out of order, was the official explanation. If it was not official neglect, how to explain that valuable structures, the very essence of people's ability to move about, and even the information base, had been allowed to go derelict?

Some of the Tunisian cadres with whom I brought up the question suggested that the people of Maktar and Rohia have a peculiar mentality: they were suspicious of outsiders, independent-minded to the point of stubbornness, difficult to work with. My own experience of the people, inasmuch as I worked with them, ate in their houses, and observed them, was that they were little different from other subsistence farmers I have known in India or Mali; they, too, were suspicious, independent, and sometimes difficult. But I am convinced that the people with the peculiar mentality, if anything, are not the farmers of Maktar-Rohia but the administrators. This situation was at once strangely depressing and

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<sup>1</sup>On the other hand, in the course of our two years in Maktar we witnessed evidence of official interest in the region's development quite coincidental to our own project. In the winter of 1977-78 the Tunisian state electric company, STEG, built a high-tension power line from Tajerouine to Ousseltia right across the project area with amazing speed and efficiency. Also, the

enormously exhilarating, because it meant that what we were doing was essentially helping Maktar to rediscover its past greatness---the greatness of Maktaris and of the caïdat.

Loan and I settled into the small AID apartment, making it as livable and as workable as possible. In the spare bedroom I set up the project office, with a telephone, our link to the outside world. I soon had a sign on the door, a topographic map on the wall. We had to cope early on with the problem of heating (the only centrally heated building in Maktar I know is the delegation), which we did by means of a variety of oil, paraffin, and electric heaters in different rooms. By means of these devices, we managed to keep the apartment comfortably warm in winter. But there was no combating the summer heat; one simply had to adapt one's daily routine to it. On August days when the temperature in the apartment rose and stayed over 90 degrees Fahrenheit, I sometimes thought of our Mission colleagues in Tunis with their air conditioned homes, and almost envied them.

The other major problem, this one a summer one mainly, was water rationing. On some July and August days water flowed from our taps only between the hours of 10 p.m. and 9 a.m. This compelled us to devise a number of ingenious water storage systems. But life in Maktar had its compensations, aside from the satisfaction of working in an important job. There was a pastry shop that made splendid macarons and served a cooling lemonade in summer. We did not frequent the numerous cafes, except to the extent we were obliged to out of politeness: on a crisp Maktar morning, before setting off in the Land Rover, a hot glass of Tunisian coffee (half coffee, half chickpea) tasted good.

Our lives settled into a pattern. My work kept me in the field several days a week, and it was therefore essential that the Land Rover be kept in top operating condition. Although we tried to avoid going into Tunis too often, we had to go in periodically for necessities like picking up mail, drawing dinars from the Embassy cashier, for both personal expenses and to replenish the project revolving fund, which in turn was replenished from a Trust Fund account. Every four months or so we took the Land Rover for servicing, on appointment, at the Garage Le Moteur. Otherwise, we tried to avoid bringing the Land Rover to Tunis: it is a heavy vehicle to drive, ill-suited to the paved road, and we were encouraged by AID's mileage reimbursement scheme to use our Fiat 128 for commuting between Maktar and Tunis. Altogether, we put about 42,000 kilometers on the Land Rover, most of them on pistes, and 20,000 miles on the Fiat, most of them on the 100-mile trip between Maktar and Tunis. From time to time I was called to participate in important meetings at the Mission or at the Ministry of Plan. But most of my business with Demongeot was conducted over the telephone, as was much daily business with Silianna. I prepared a weekly report which I either dictated to Demongeot's secretary over the telephone or mailed.

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PIT connected Maktar and Rohia with a telephone line for the first time, making communications much easier. When telephone lines outside Rohia were blown down in a high wind one weekend, they were rapidly repaired. The telephone line from Rohia to Thala, in Kasserine Governorate, on the other hand, was allowed to remain down for months on end. When we left Maktar, work was going forward on installation of an automatic dialing system.

Our trips to Tunis were carefully planned so as to combine the most business and errands in the shortest possible time. We stayed generally at a hotel, thereby minimizing the bother of carrying household wares, although for our longer stays in the summers of 1978 and 1979 we lived for several weeks in the AID guest apartment on Place Pasteur. The view across to the towering trees of the Belvedere Park always reminded me of Malaysia and was a pleasant change from the treeless horizons of Maktar.

Living in Maktar we soon got to know how to make life easier. We became acquainted with key people like the clerks in the Post Office where we sent and received mail and the telephone operators, and many of these people became our friends. Our neighbors in the apartment building were professors at the lycée for the most part, and one of these we engaged to give us Arabic lessons. We got to know the secretary-general of the coordinating committee of the PSD very early on in our stay, since we rented his vacant garage. I paid for the garage rental out of my own pocket, since I was informed it was not AID policy to pay garage rental. Besides keeping the Fiat in it, I used it to store Land Rover spare parts, tires, and other project equipment, as well as keeping the Land Rover protected during my absence in Tunis. AID paid 25 dinars (\$62.50) per month for rental of our apartment.

We lived to a large extent on the local economy. Besides patronizing the sheps, the carpenters, the plumbers, the electricians, and other tradesmen, we used our revolving fund to purchase a fair amount of small supplies of one sort or other for the project locally---everything from fuel for the Land Rover to whitewash for the Maktar equipment depot---all this in cash. The Tunisian administration purchased its requirements with chits, called bans de commande. For the supplier, this often entailed long delays of several months in obtaining payment from the Tunisian treasury, and some suppliers refused to accept them altogether. In its purchase of fuel, the Tunisian government appeared to favor Agip, so I chose to patronize the Esso and Shell stations in Maktar for diesel fuel as much as possible. For high octane gasoline for the Fiat, on the other hand, which was not available in Maktar except at the Agip station, we had tax exempt coupons from the Embassy which we were able to use at the Esso station in Rohia and the Shell station in Siliana. A new Esso station opened in Siliana while we were in Tunisia.

The American community in Maktar at our arrival on September 20, 1977, consisted of Mark Oppen, the CARE-Medico wells project director, and his wife Sue and assistant Gary Clemens, and four Peace Corps volunteers teaching at the lycée. During 1978 this number was to grow with the arrival of Joel Schlesinger, the Save the Children Federation project director, and several Americans on his staff or resident consultants (appropriate technology, solar energy, etc.). Schlesinger saw a danger of creating an American "ghetto" in Maktar, but I don't think this ever happened. Schlesinger operated with a Tunisian staff of about a dozen, however, and I used to envy him when I was standing in line for 20 minutes to get my mail or pay an electricity bill in the little Post Office and he could send one of his staff over for him.

Hirsch had once suggested that AID and the Tunisian government co-finance construction of 20 houses for RDA field staff. This was in his palmer days.

Outside Maktar, at Souk Djemea, was an army camp. We occasionally saw columns of soldiers marching along the main roads on exercises, but the army played little role in Maktar life, with one major exception. In January 1978, during disturbances fomented in several Tunisian urban areas, the army was called into Maktar by the délégué to maintain order at the lycée, where a group of agitators had allegedly plotted destruction. A number of lycée students were arrested and sent to the jail in Siliana.

Hirsch had told me my role in Maktar was to be that of "expediter, liaison man, and observer." Armed with the commitment of the Ministry of Plan and the Governorate of Siliana to a definite course of action, I set about trying to do the job which I had been assigned. I feel I can claim a share of the credit for the successes described in the following section of this report, and I take responsibility for some of the failures also. Others were beyond my control, for reasons to be explained below. I found that the commitment of the Ministry of Plan was not always as firm as it should have been, and it was obviously not a question of adjusting priorities within the Tunisian government.

I have a natural sympathy towards people who build things with their own brain power and muscle. I also admit to having great sensitivity to the basic needs of people living at the subsistence level in conditions of a harsh environment with no more than the rudiments of what to eat, what to clothe themselves with, and what to cover their heads with in blizzard and sun-bake. At the time I arrived in Maktar, after two years of intensive studies, some by highly paid experts brought across the seas, and just over one year of project "implementation," the only thing the people of Maktar and Rohia saw as visible proof of the commitment of the United States to the improvement of their well-being was the work of four teams of masons who, for the previous five months, had been rebuilding wells. This was the start of the CARE-Medico project which was to make the face of the countryside less harsh and be of direct use to the people who lived there.

Expectations, however, were at a high level, raised thereto by all the comings and goings, the studies, the meetings in Siliana and Maktar and Rohia, not to mention the speculations of the omdas themselves. The road project, especially, had generated tremendous enthusiasm when it became known, through the délégués and their weekly meetings with the omdag. But already in September 1977 there was more than a passing note of deception, of disillusionment mixed with all the enthusiasm. So much talk and so little action. One Tunisian official was reported to have commented at that time: "The Americans take us for fools."

It was obviously high time for action, time to pay off some of the promises that had been made, time to fulfill some of the high expectations that we had raised. I had not come to Maktar merely to make more promises and counsel patience. Accordingly, I decided that I would make it my top priority to "sharpen the cutting edge" of AID's rural development program in Tunisia and to devote myself first and foremost to the implementation of the Siliana project as it had been designed, and to allow nothing else to get in the way of this objective. This was consonant with the existing situation, and with my official job description. The program had been laid out and the funds were available. All that had to be done was implement.

Fortunately, there existed valuable resources in the project area with which to work. Of these, the most valuable by far, I would say, was the enthusiastic response I found on the part of the many Tunisian cadres in Maktar and Rohia. With few exceptions, these cadres were highly motivated and dedicated to the well-being of the 60,000 people they served. These low-level technicians, ill paid and overworked, constituted a tremendous human capital for the advancement of our project.

There were those, like Abdallah of the agricultural extension staff, who did not hesitate to give their own time to work in the field, at any hour of the day or night. There were those who told me of colleagues assigned to Jendouba, Sousse, and other favored areas who were ready to come and work in Maktar, either because they had families here or out of interest in a project that was a going concern. All they asked was to be given the means with which to work. There were those, like Mr. Ben Arbia, an OEP bee-keeping technician, who came to Kesra to teach bee-keeping to the primary school students in the winter of 1978-79, whose fingers got so cold while preparing his lessons at night he could not write. Time and again, these cadres with high motivation resorted to their ingenuity to punch through roadblocks repeatedly thrown up, wittingly, or unwittingly, by their administrations in order to complete their projects on schedule. Mr. Mohammed Naija, Forestry Service chief in Siliana, for instance, ordered the fencing for the Denglos perimeter constructed out of materials on hand when it became apparent that project supply delays might result in the loss of one whole agricultural year to project implementation. In some cases, like Ben Arbia's, the revolving fund could be used to fill the gap on the spot: we bought a paraffin heater for his use while in Kesra.

It was, therefore, a great shock to me to discover with what indifference this human capital was squandered on occasion after occasion by the Tunisian officials in Siliana and Tunis who were their superiors, in the first instance, and by a bureaucratic system that was incredibly rigid and ossified, in a more general sense.

Having neither a driver nor an Arabic interpreter, I was forced to depend from the start on these technicians in order merely to be able to navigate the hundreds of kilometers of pistes and to be able to communicate with the people. As a quid pro quo for this invaluable service to me, I eased their transport problem a little by taking them with me when they lacked a Land Rover. The Génie Rural and the agricultural extension service, for instance, were woefully short of Land Rovers, and we were frequently able to combine tasks on field trips, sometimes by taking more than one cadre with me on the same field trip. I feel this style of work induced badly-needed inter-agency cooperation.

The working relationships which I came to develop with the délégués and omdas were also close and continuous. I was practically in weekly contact with the délégués of Maktar and Rohia. The former, a high school biology teacher named Abdelmajid Chatty, was a distinguished looking man, tall with a shock of white hair. Chatty had definite ideas about development in his delegation and prided himself on his forward planning, an outgrowth of the position he had held before coming to Maktar, that of delegate for economic affairs at the Governorate of Siliana. He was less interested in agriculture

than in other facets of development, but objected to the CRDA's questioning his judgment on agricultural matters. He was of great assistance to us in implementing a series of "urban" projects in the town.

My relations with Chatty were rather stiff and formal, and he never invited us to his home. His successor in September 1978, Abdelhamid Ben Chedli, was more relaxed and affable. Ben Chedli had been délégué of Rohia and was succeeded there by Abdelmajid Ben Youssef. Ben Youssef and I were good friends from the start, and he invited me to his home. When he left in September 1978, he was succeeded by Brahim Bouthelja, a former primary school teacher from Le Kef.

Over time, I grew acquainted with most of the omdas as well. Without their help in many small ways, there would have been no possibility of achieving anything. Omdas, I found, are rarely changed, much more rarely than délégués. This is due apparently to local politics: an omda may be unpopular with some of the people in his sector, but he is capable of causing endless difficulties if his feathers are ruffled. And so he is left alone, and each successive délégué learns as best he can to get along with him.

As in all personal relations in the project area, my relations with the omdas involved give and take. In exchange for their help, I often gave them rides when it proved convenient and they happened to be going my way. Some omdas abused this privilege. I never experienced it directly, but others did. Gary Clemens told me the story of the omda of El Fdhoul who once demanded to be taken to Maktar for the weekly meeting. Clemens was going to Kesra, and so left him off at the crossroad to find another ride. That way, one made enemies.

When Professor Frank Young, a sociologist, came to Maktar and announced he needed to interview two omdas to test a questionnaire for the CTRD program, I was taken somewhat aback. Politeness called upon me to arrange the interviews, and the omdas acceded with their usual grace. The interviews reportedly went well. I had the feeling that my work had taken me far afield from academic research. I point out, however, that Professor Young and I are the best of friends, and besides we are both fellow Cornellians.

The Tunisian officials most directly responsible for the timely implementation of Project 0285, and of several of its adjuncts as well, were the Secretary-General of the Governorate, firstly, and his deputy in charge of the PDR, secondly. Both men live and work in Siliana, and I had to keep in constant touch with them, reporting field problems to them on the one hand and asking them to intervene with the relevant technical service if necessary; and, on the other, collecting information about project expenditures from them and forwarding this to Tunis so as to ensure speedy disbursement by AID of obligated funds. Early on, we established a practice of holding a weekly meeting, usually on Wednesday afternoons, at the governorate with all the technical services represented, as well as one or both the délégués. These meetings, under the chairmanship of Secretary-General Abderrazak Bekhis and then of his successor, Abdelaziz Djemel, allowed us to run down the entire list of outstanding actions and to note progress in each case. They were an important institutional innovation.

The head of the Siliana PDR at our arrival was Taieb Kchida. An expert on fiscal matters, he announced that he had managed to put his finger on 30,000 unspent dinars from previous years' programs. A tireless worker, he chain smoked and drank large amounts of coffee, a combination that did no good for his health. He had recently married a girl from Tunis, a marriage his family in Beni Hassen (Sousse) opposed. Taieb and his wife Samiya were very happy together and had an infant son. Loan and I became their good friends, eating with them in their simple apartment in Siliana. During the spring and summer of 1978 we spent a weekend with the Kchidas in Ain Drahm and were invited to the wedding of Taieb's sister at Beni Hassen. After these happy occasions our shock on arriving in Siliana one day in August, during Ramadan, and hearing that Taieb had died barely three days before can well be imagined. He had complained of being tired on Sunday night and had lain down on the sofa, his head in his wife's lap. There, he had suffered a massive brain hemorrhage. He cannot have been much over 30. We expressed our personal grief in a cable to Governor Saibi and Secretary-General Rekhis.

The Secretary-General reported directly to the Governor. My meetings with Governor Youssef Saibi were restricted to formal occasions and such opportunities as presented themselves when VIP's passed through. When Mary Huntington, AID Tunisia Desk Officer in Washington, visited the project area, the Governor invited us to lunch at his house in Siliana. On another occasion I had the opportunity to drive both the Governor and the Minister of Equipment on a Land Rover tour of the MCT3, then under reconstruction, which linked Siliana with Ousseltia and only approached the project area tangentially.

Governor Saibi was an extremely busy man. I was never in his office when the meeting was not interrupted at least once every five minutes by the telephone ringing. On one occasion, we all sat in uncomfortable silence while the Governor carried on an animated conversation with a building contractor about restoring some building in the town to its original state after it was turned back to its owners by the governorate. This conversation involved detailed instructions about where windows and doors were situated. We, too, had such details to deal with. But it would have been impossible to have imposed on the Governor the burden of time for his attendance at our weekly meetings. These were matters for the attention of the Secretary-General. The Executive Committee, created by Hirsch to manage the project under the chairmanship of the Governor, was allowed to die a peaceful death; it held only one meeting, in August 1976, so far as I know.

The Secretary-General of the Coordinating Committee of the PSD was the other high official in Siliana with whom I had an acquaintance. Tahar had taken care to introduce me to Achmed Habassi right after meeting the Governor. Habassi was from Hababa. In a shake-up of the PSD leadership in Siliana in the late summer of 1978, however, he was voted out of office and replaced by Achmed Senoussi. Loan and I had a glimpse of PSD grassroots participation in action when we attended the congress of the PSD circumscription in Maktar in May 1978. We were impressed (1) by the large audience and (2) by the number of detailed questions about the PDR and the USAID project put to the Governor and his aides (all of whom were present) from the floor. The Governor spends a great deal of his time attending such meetings.

All these activities in the field and in Siliana took up a great deal of time, naturally, and Loan and I often found ourselves working a seven-day week. Even in Tunis, on our visits there, I frequently had to use the Tunisian Saturday morning working hours to contact Ben Slimane at the Ministry of Plan or some official or other in the Ministry of Agriculture at No. 30 Rue Alain Savary. This constituted for me efficient use of time, and Loan and I counterbalanced this heavy schedule by taking compensatory time and leave time to make trips both inside and outside Tunisia. We got to know almost every corner of the country. Somehow, we were always glad to get back to our Maktar apartment.

After we had been in Maktar about a year, Mr. Marshall raised with me the question of moving the project office. Under an agreement with the Tunisian government, the latter was bound to find us office space at a location of our mutual convenience. I decided against taking up this offer for three main reasons. First, any office should obviously have had to be located in the same locality where we were living and would moreover have involved the choice of a government agency as "landlord." To have picked one agency over another would have needlessly created jealousies, since we were working with half a dozen different agencies and we needed good relationships with all of them. Even to have established such an office in the delegation at Maktar would have implied favoritism over Rohia, whose délégué had initially invited us to live there (as he later invited the SCF to set up its office there). Such things are keenly felt in the project area by délégués, omdas, and the people at large. Secondly, I considered my job to be more a field job than a desk job, and while I certainly needed a desk I did not want to become desk-bound; our frequent absences from Maktar on business would in any case have created an unfavorable impression, since I was not even provided with a secretary and I would have had to lock the office on such occasions. Thirdly, as the reader will have been able to judge, my business life overlapped onto our private life and this constituted a very good reason, in my mind, for keeping the office in our apartment. There, Loan was able to devote herself to the thousand and one things needed to help me run our show, everything from preparing box lunches for me and my Tunisian colleagues to entertaining visiting American consultants (some of whom, preferring the relative warmth of our living room over the unheated hotels in the town, slept on our couch).

We suffered a severe blow to our operation in April 1978. Director Davis suddenly took Tahar away from us, for reasons of which we know nothing. Tahar had been of invaluable help to Hirsch and later to Demangeot in taking care of the burden of paperwork in Tunis. He handled everything from Customs clearances for incoming project equipment and vehicle insurance renewals to liaison with Ben Slimane. Although most of the Land Rovers and project equipment had already been delivered to Siliana by April 1978, his departure vastly increased the work load on us, in terms of time spent, as I reported at a staff meeting, to the reported discomfiture of Mr. Davis and Mr. Marshall.

It was all very well for Mr. Marshall to tell us we should leave the paperwork to the Ministry of Plan. The alternative to doing it ourselves was to let Land Rovers and equipment sit on the docks or in Tunis parking lots

for months (as the fourth and last Land Rover did) for lack of papers, when they should have been at work in the project area. Tahar's departure reduced our division's manpower to Demongeot, myself, and one secretary, until a Tunisian employee of the Mission, Chedli Zarg el Ayoun, effectively joined our division after following a training course at AID Washington. Tahar found a job with the Peace Corps office in Tunis.

In Mr. Davis' favor, I will say that from the moment of our arrival until the moment of his departure from Tunisia in May 1979 he left me alone to manage the Maktar project as I saw fit. This was a pleasant surprise, for Hirsch had complained to me of his very different experience with Mr. Davis, and I was never quite sure whether to interpret this as a sign of confidence in my judgment or as evidence of his lack of interest in the details of a relatively small (budgetwise) project. He visited us on three occasions during our stay in Maktar, once having lunch with us in our apartment. He was in the habit, when he formed questions about project implementation, of storing them away in his mind and later committing them to paper, which he gave to Demongeot, and Demongeot then would give me.

## IV. PROJECT COMPONENTS

In this section each of the components of Project 0285 and its adjuncts will be reviewed. A brief account of the origins of each and a summary description of the activities involved will be given, and an informed judgment as to the effectiveness of each will be hazarded.

Preceding the text relating to each component is a dollar figure showing the total AID obligation for that component. For the elements of Project 0285, this figure represents approximately 75 per cent of the total cost of the component, as the Tunisian government was required under our project agreements to contribute the remaining 25 per cent.

This section is divided into two parts. In the first, components that were actively implemented are described. This subsection includes consideration of components that were successfully completed, and a few that were not (a fact noted in the text). The important distinction here is that they were started. In the second subsection, components and adjuncts that never materialized in any significant way during the life of project 0285 are described.

## 1. Potable Water

(a) CARE-Medico Wells Project (Project 0299) \$316,500

CARE-Medico is a private American organization that has been established some years in Tunisia and has had a chance to prove itself in the field of making improvements to wells and springs. On December 27, 1976, AID awarded CARE-Medico, on the advice of the Mission, an operational program grant (OPG) for a program of improving a total of 80 water points in the Maktar project area, and CARE-Medico hired Mark Oppen as project director. Unfortunately, it took a further five months for CARE-Medico to complete negotiation of a three-way contract with the Governorate of Siliana and the Ministry of Public Health, each of which was called upon to make a financial contribution to the project. This contract was finally signed on May 9, 1977.

By the time the necessary equipment had been purchased and a warehouse set up in Maktar, a full-scale drought had set in in the project area. The drought lent this component an urgency not foreseen by the project designers. Table 2 gives the rainfall figures recorded in the project area during the agricultural years 1977-78 and 1978-79, month by month, compared with the long-term averages. Despite the initial delay, and thanks in part to the dry weather, the last of the planned water points was completed by the target date of June 30, 1978, the project team having made up the lost time by dint of superb logistical organization, moving cement, iron bars, sand, and mobile work teams around the far-flung work sites in all 20 sectors.

The project team consisted of Oppen, his assistant Gary Clemons, plus a small number of Tunisian technicians. At the peak, this team had on its

Table 2

## RAINFALL IN THE PROJECT AREA (mm.)

Month	Maktar			Rohia		Choucha	
	73-year Average	1977-78	1978-79	77-78	78-79	77-78	78-79
September	45.1	28.7	0	3.0	7.0	n.a.	9.0
October	51.6	17.8	36.6	19.0	14.9	n.a.	48.2
November	45.0	44.7	39.6	24.1	17.0	n.a.	31.0
December	57.0	10.9	17.5	1.2	5.0	n.a.	5.0
January	60.1	21.0	13.2	7.7	1.0	n.a.	0
February	53.6	65.4	67.3	41.2			20.0
March	52.0	44.2	33.3	59.3		19.9	n.a.
April	52.8	26.6	78.9	25.5		6.6	n.a.
May	44.4	32.0	33.2	28.0		24.5	n.a.
June	24.6	19.9	28.7	7.0		16.0	n.a.
July	12.4	0	0	0		0	n.a.
August	22.0	58.6	20.7	34.0		31.0	n.a.
<b>TOTAL</b>	<b>520.8</b>	<b>369.9</b>	<b>369.0</b>	<b>250.0</b>			

Sources: Maktar 73-year average (1900-1973) reported in CNEA, "Projet de Développement Rural Intégrés du Sud du Gouvernement de Siliana, Annexe I, Milieu Physique" (June 1976), p. 5. Other data were recorded during the project by the relevant authorities. Project funds were used to purchase a portable rain gauge which was entrusted to the primary school teacher at Choucha in February 1978. Recordings were made from this rain gauge, which was emplaced under my supervision in his garden, enclosed by a hedge, until March 1979, when it was stolen by one of the school children. The incomplete data series obtained is useful mainly in that it shows the large variation in rainfall, month to month, between Choucha and Rohia, some 30 km. away.

payroll 150 Tunisians, including masons, half-masons, laborers, watchmen, drivers, mechanics, a quartermaster, and personnel of health and education teams. The method of operation was for a mobile team to set up camp at the work site, with their tent, food and bedding, and to remain at the site in all weather until work was completed. One of the sights I became familiar with during my tours was Oppen at the wheel of his light blue four-wheel-drive Scout making the rounds of the camps twice a month to distribute the payroll. This was a labor-intensive project.

The sites consisted for the most part of old wells, some of them dating back to Roman times. These were pumped dry, cleaned out, and rebuilt with a cement "cap" and fitted with a simple wood and metal bracket hand pump. Many had an animal watering trough connected to a collection basin by means of a long cement conduit. Other sites were natural springs. The ingenuity used to capture the flow from the latter constantly amazed me. Cement walls wedged in between overhanging rocks, lengths of pipe, and all resulting in clean water flowing out of a spigot in the midst of the arid landscape. It made one think of the Koranic verse, as undoubtedly it did the many children, women, and men who lined up at these spigots every day to fill their clay jars, wooden kegs, and plastic bidons.

The project resulted in the improvement by these methods of a total of 80 water points---50 in Maktar delegation (including Kesra) and 30 in Rohia delegator. These are listed in Table 3.

Table 3

## CARE-MEDICU WELLS AND SPRINGS SITES, 1977-78

<u>Delegation and Sector</u>	<u>Site Name</u>	<u>Map Coordinates</u>
<u>Maktar</u>		
Essouelem	Bir El Hamada (Bir El Garsa)	278.4 - 439.9
Essouelem	Bir El Krizerane	277.4 - 436.7
Essouelem	Bir El Bladdia	282.3 - 433.5
Essouelem	Bir Bit El Hadjar	282.0 - 434.8
Essouelem	Bir Ecole Tella	279.4 - 439.5
Essouelem	Bir El Ara	277.3 - 436.6
Ras El Oued	Ain Ouled Ali	280.6 - 431.9
Ras El Oued	Bir El Hadj Ben Djaffar	281.4 - 431.2
Ras El Oued	Bir El Hamra	281.9 - 429.5
Ras El Oued	Bir Tahar Ben Amar	283.2 - 428.5
Ras El Oued	Bir Mardj El Aala	282.2 - 429.0
Ras El Oued	Bir Deoudia (Kssir)	283.5 - 429.0
Beze	Bir El Hadj Abdallah	291. - 437.
Beze	Bir Fidh Ouhichi	288.9 - 437.2
Beze	Bir Sidi Saad Betame	290.4 - 436.5
Beni Hazem	Bir Jouah (Ennouasria)	285.5 - 427.0
Beni Hazem	Bir El Auadia	284.3 - 424.3
Beni Hazem	Ain El Agba (Bir Mrade)	286.7 - 426.0
Beni Hazem	Bir Krum (Echeik Ettahar)	283.1 - 427.0

Table 3 (cont'd)

Beni Hazem	Ain El Assem	281.4 - 427.5
Beni Hazem	Bir Djemaia (Oued Ramel)	282. - 428
El Garaa	Bir Elousia	291.0 - 437.8
El Garaa	Bir Iz Zouz	292.8 - 437.7
El Garaa	Bir El Ghram	286.8 - 444.0
El Garaa	Bir El Garaa	287.5 - 441.3
Sayar	Ain Halloufa	282.7 - 437.9
Sayar	Bir El Gatnie	283.4 - 438.0
Sayar	Ain Is Sayadia	280.0 - 440.1
Sayar	Bir Enhaila	284. - 436.
Saddine	Ain Halloufa	278.2 - 426.4
Saddine	Bir El Affou	280.1 - 427.1
Saddine	Bir Ali Ben Amar	279.1 - 426.9
Saddine	Bir El Habbab (Hadba)	275.8 - 421.8
Saddine	Bir Es Smania (Sidi B'Diri)	
<u>Kesra</u>		
Kesra	Bir Hammam Kesra	279.2 - 447.2
El Garia	Bir Bou Chakoua	276.4 - 461.8
El Garia	Maagen Es Shereda	271.0 - 465.8
El Garia	Bir Ksar Gamana	275.9 - 457.1
El Fdhoul	Ain Sebarghoud	269.5 - 457.5
El Fdhoul	Bir Saadoun	272.6 - 457.3
El Fdhoul	Ain Ez Zemla	267.9 - 457.4
El Fdhoul	Bir El Hadj Ali	269.4 - 455.6
Mansoura & B.Abdallah	Bir Boukra	279.9 - 462.3
Mansoura & B.Abdallah	Bir Ouled El Askri	283.4 - 457.6
Mansoura & B.Abdallah	Ain Es Xeraib	284.3 - 456.3
Mansoura & B.Abdallah	Ain Tebiha	285.8 - 457.4
Mansoura & B.Abdallah	Bir Iddoud	286.1 - 459.2
Mansoura & B.Abdallah	Ain Bou Souf	283.8 - 456.6
El Louza	Bir El Kebir (Ras Edjebel)	268.0 - 439.6
El Louza	Ain Bou Guedoura	269.8 - 440.5
<u>Rohia</u>		
M'Sahla	Ain El Anzassa	275.0 - 425.4
M'Sahla	Bir Ouled Zitoun	274.0 - 420.9
M'Sahla	Ain Rejal El Hamada	278.3 - 430.0
M'Sahla	Bir Mohammed Ben Amor	280.0 - 427.5
M'Sahla	Bir Bou Ghrara	273.4 - 423.1
Smirat	Ain El Anzassa	272.2 - 428.2
Smirat	Ain Sakrane	270.7 - 428.3
Smirat	Bir El Hadra	269.8 - 429.3
Smirat	Ain El Hamid	273.7 - 428.4
Smirat	Bir Marthoum	269.6 - 431.2
Smirat	Bir Bit Amor	275.6 - 428.5
El Haria	Ain Halloufa	272.5 - 426.3
El Haria	Ain Soltania	272.3 - 426.8

Table 3 (cont'd)

El Haria	Ain El Ghadoflia	270.1 - 425.1
El Haria	Bir Ben Abdallah	271.4 - 424.5
Rohia	Ain Djil Djil	258.1 - 435.2
Rohia	Bir Douhran	259.9 - 434.9
Rohia	Ain Sidi Amara	265.0 - 433.3
Rohia	Bir El Oubeira	266.5 - 431.8
Rohia	Bir El Hessi	265.5 - 428.2
Rohia	Bir Rohia	261.5 - 423.5
Jmilet	Bir Ez Zair	259.9 - 436.5
Jmilet	Bir Cheheda	258.6 - 440.7
Jmilet	Bir El Houda	262.0 - 439.7
Jmilet	Ain Khesib	263.1 - 437.6
Hababsa	Ain Hamid	256.1 - 438.6
Hababsa	Bir El Hessi	249.8 - 450.8
Hababsa	Ain Djeguig	253.1 - 437.8
Hababsa	Bir Oued El Bellil	251.1 - 446.0

The CARE-Medico project did not provide by any means the complete answer to the water scarcity problem, which continued to be severe. CARE-Medico construction methods continued to be criticized by the Génie Rural for allegedly putting an aesthetic finish on a poorly engineered base. Although it is easy to criticize when a general drought dries up wells and springs, some of Génie Rural's criticism is certainly founded, and in subsequent CARE-Medico projects USAID insisted on greater engineering safeguards, with which CARE-Medico complied. More important, there remained a tremendous task of educating people as to what clean water meant in their lives, a task that the health education component of the CARE-Medico project barely began to tackle.

To my mind, the successful completion of Project 0299 meant that it was less likely that in future one would see---as I often had---little children filling pails from stagnant, filthy puddles and river bottoms. The chances for better health were accordingly improved.

Upon completion of the project, Oppen ordered all equipment cleaned and repaired where necessary, inventoried, and stored safely in the CARE-Medico depot in Maktar. The dump truck went elsewhere to work and one tractor with trailer was detached for use by CARE-Medico elsewhere. But by and large, the CARE-Medico equipment, consisting of a complete set of pumps, tents, construction frameworks, and so forth, was ready to be put to use again on short notice. It was to remain in mothballs for one year and two months.

It had early on been agreed that there would be a follow-up CARE-Medico project in Maktar-Kesra-Rohia. The délégués were strongly in favor of such a project, and the Siliana Governorate was prepared to sign a new agreement with CARE-Medico making a financial contribution to the cost, as before, of a new 50-site program. Furthermore, CARE-Medico, in response to Director Davis' directive that future efforts in Tunisia be concentrated in the Central Tunisia Rural Development program area, which included Maktar-Kesra-Rohia, prepared a follow-up project proposal as early as February 1978.

Having got enmeshed in the CTRD planning process in USAID, the proposal for a new CARE-Medico project was not to emerge again until much later. In August 1979, finally, the new CARE-Medico agreement was signed. The long delay meant a serious loss of confidence among those involved in the project area as workmen were laid off and skilled masons searched for jobs elsewhere. This loss is only temporary, it is to be hoped, and the old esprit de corps can be captured again by the new project team. Meanwhile, drought conditions continued to be severe, particularly through the summer of 1979 when the Governor ordered water to be hauled by tractor trailer to needy villages. It is only fair to observe that for 365 days a year the officials of USAID in Tunis had their baths at home, while thousands of people in the project area went without water to drink because of poor planning.

Oppen and Clemens left Tunisia at the end of September 1978, their job done. They were ill appreciated by the high-ups in Tunis. When Director Davis received a letter from Oppen reporting successful completion of the

project, he did not even have the grace to answer it directly. Instead, he sent a reply to Peter Reitz, the Tunisia director of CARE-Medico. I managed to have a carbon copy sent to Oppen in Maktar. Governor Saïbi was not so blind, however. At a public ceremony installing the new délegué of Rohia in September 1978, the Governor mentioned Oppen by name and expressed his appreciation for the services Oppen had rendered to the people of Maktar and Rohia. For months after the departure of Oppen and Clemens, people came up to me and asked: "Où est Monsieur Mark?" or "Où est Monsieur Gary?"

The new project was to be known as Project 0312.5 and was an integral part of the Central Tunisia Rural Development program. This project was intended by USAID to be the first step in a gradual process of tightening rule of thumb as regards cost per beneficiary of potable water projects. USAID was to encourage the recently formed Central Tunisia Development Authority to develop a coherent potable water strategy for the area of its responsibility---nine delegations---with strictly applied cost criteria for project selection. It was satisfying to me that before I left Maktar the good precedent set by CARE-Medico had received its natural follow-up. Project 0312.5 marked the transition between the Maktar project and the more ambitious CTRD program.

(b) Artificial Catchment Basins (Project 0285) \$59,000

The project for building artificial catchment basins (ACB's) on the semi-arid hills and plains of Maktar and Rohia to catch rainwater from the sky originated not in the collective mind of any "study team" flown in from the U.S., but in the insight of one man on the spot---Belgaoem Gana.

When Gana arrived in Siliana as CRDA Commissioner in 1976 he noticed right away the sufferings of the people because of the scarcity of drinking water. This state of affairs was incomprehensible to him because in his native governorate of Medenine (he is from Zarzis) masons have for centuries built flat surfaces and underground storage tanks to capture rainwater. In such arid regions, a large proportion of the annual rainfall can come in one or two summer thunderstorms. Thus, where there is no well available, stored rainwater can be a lifesaver. Loan and I had noticed the many such ACB's on a visit we made to Djerba. But the people of Siliana appeared to have no knowledge of this technique, and were consequently unable to cope with the problem.

Gana resolved to change this, and when he was asked to submit his ideas for the third project agreement he proposed the construction of ten such ACB's. Nine were actually built under this project agreement, but the experience was so positive that a further seven were built under the fourth project agreement signed in 1978. Their locations were in relatively isolated regions, frequently in hard-rock areas, having a sufficiently dense concentration of population to make them a useful alternative source of drinking water to wells or springs miles and miles away. (See Table 4)

I was fortunate enough to be able to participate in the implementation of this project component from start to finish. First, the location of each

ACB had to be decided. This was usually done by calling a meeting of the people inhabiting an area seemingly needy of an ACB. The meeting was usually under the chairmanship of the omda. Often a lively discussion ensued at these meetings. Finally, a decision was taken, and the lucky landowner on whose land the ACE was to be built would formally donate his land, usually consisting of wasteland or pasture, to the applause of all present. (Sometimes the initial location gave rise to conflict, and in the case of at least two of the nine ACB's it became necessary to shift the location after excavation work had started.)

The local superintendent of the Génie Rural was informed of the decision. The Génie Rural then transmitted this information to the private contractor who had won the bid to build the ACE. (The Génie Rural decided to distribute the work among three small local contractors in order to give the maximum stimulus to private enterprises of this sort. The local contractors hired local labor for the work.) Each ACE cost about 3,600 dinars (\$9,000) to build.

The ACB itself consisted of a gently sloping smooth cement surface one thousand square meters in area and a one-hundred-cubic-meter capacity underground storage tank. A sediment pit was positioned at the entrance to the tank. A low wall enclosed the catchment surface to prevent animals from gaining access to it.

A typical ACB is the one at Kef el Agab, a plateau in the northeast corner of Hababsa sector. This ACB serves a number of villages in one of the most arid sections of the project area. Two of these villages, collectively known as Henchir Daala, are Belgacem Bilkhalfala and Mukthar Bil Taieb Bin Hadj Amor, both visible from the top of a low ridge near the ACB. Another five villages, collectively known as Sayar, lie further north. They are Hamtar Ben Salah, Amor Ben Mazoud, Ali Ben Lakdhar, Amara Ben Abdallah, and Mohammed Ben Taieb. Altogether, these seven villages have a population of between 100 and 150 families. At six members per family, this means the Kef el Agab ACB serves a total population of 600 to 900 people. This gives the construction of the ACE a per-beneficiary cost of \$10 to \$15.

An important advantage of the ACB's was that they could be filled by tanker-trailer as well as by falling rainwater. With the improved accessibility afforded by the reconstructed MC77 and Rohia-Jmilet roads, this represented a real potential. In the dry summer of 1979 several ACB's

were so used. Of course, the effectiveness of this project could not be measured by a spot check of the level of water in the tank, since this level was a combined function of supply of and demand for water. I learned this by taking several visitors to the ACB on the Rohia-Jmilet road, a convenient one to get to. It was invariably dry when we arrived, while an old surface-runoff catchment basin across the road invariably held water, albeit filthy water. The explanation is not that the ACB was not serving its purpose. Rather, it was serving its purpose too well. The people of the area preferred to draw their water from the ACB, and continued to draw it so long as there was any inside.

Table 4

## ARTIFICIAL CATCHMENT BASIN SITES, 1977-78

<u>Location</u>	<u>Map Coordinates</u>
Rohia Delegation	
Smirat Sector (Spalla or Sidi Moh. Erregaig)	265.5-436.0
Jmilet Sector (Jmilet)	258.5-440.5
Jmilet Sector (El Graoua)	261.4-441.3
Hababsa Sector (Fraschich)	257.5-438.5
Hababsa Sector (Kef el Agab)	254.5-453.5
Rohia Sector (Ouled Blel)	262.2-427.5
Rohia Sector (Oued Labiadh)	260.2-428.8
Kasra Delegation	
El Garia Sector (Ouled Bouafia)	271.5-460.5
El Fdhoul Sector	270.5-459.5

## (c) Génie Rural Wells and Springs (Project 0285)

\$19,000

The Direction du Génie Rural (Rural Engineering Division) of the Ministry of Agriculture is entrusted in Tunisia, under the terms of the Code des Eaux, the basic water legislation, with the improvement and maintenance of all public water points, wells or springs (all springs are in the public domain, by definition).

In Siliana as in other governorates, the Arrondissement Génie Rural of the CRDA has a long-term program for improvement of water points. Our project financed in part the improvement of three such water points in the project area. (See Table 5) All were completed on schedule during 1978.

Table 5

## GENIE RURAL WELLS AND SPRINGS SITES, 1978

Ain El Hamada	Sector: Sayar	283.2 - 438.1
Ain El Hassien	El Garaa	284.8 - 440.5
Bir Ali Ben Nacer	Saddine	279.2 - 429.7

## (d) Hababsa Water Project (Project 0285)

\$126,000

At issue in the design and implementation of the Hababsa village water supply project was the important question, for micro-development decision-making, of cost per beneficiary. In the case of this project, a decision was reached on the basis of this single criterion.

Hababsa village is a "regroupement" of newly built houses located on a bare hilltop in Hababsa sector. It is the site of a weekly market, and the intention of the people who planned the "regroupement" was to turn a place of a weekly gathering into a place of permanent habitation for a certain number of people who frequent the market. The RDA office of USAID had received a copy of the avant-projet for the "regroupement" as early as October 1975, together with a solicitation of aid. As the "regroupement" was not exactly the USAID idea of rural development, no positive sign was given this solicitation, although Hirsch included support for the construction of a planned dispensary in the village in his PP as an action that could be undertaken immediately as evidence of USAID's seriousness of purpose.

To date some 30 houses, the dispensary, and some shops have been built, all with HDR funds. The houses are allocated to families on the basis of a cost subsidy. Recognizing that a dependable water supply would vastly increase the attractiveness of the village to settlers, the

government early on decided to install a water system by putting in a storage tank and public tap in the village, connected by pipeline to an all-year spring known as Ain Kouky some six kilometers away downhill. The cost of this installation was originally estimated at 53,000 dinars (\$132,500), and the délégué of Rohia asked, at our first meeting at his office in September 1977 whether I saw any objection to including this system in the projects to be financed from our third project agreement. The agreement provided for funding of potable water projects in rural villages, and left the final choice of sites open-ended. Accordingly, I replied that I saw no objection, although I pointed out to the délégué that the Hababsa water supply system as it was planned would absorb almost the entire amount of AID funding for potable water projects in the project agreement.

Hababsa is the home of Achmed Habassi, secretary-general of the PSD coordinating committee for Siliama, and there is no doubt in my mind that the whole "regroupement" project at Hababsa had considerable political pressure behind it. That political influence has something to do with the allocation of scarce resources in rural areas is not necessarily a bad thing in itself, since such a process is one means, perhaps the most efficient one, whereby the obstacle to development posed by the low priority accorded areas like Maktar and Rohia can be broken down. That Mr. Habassi, having risen through the ranks of the PSD, was in a position to channel development resources to his native community in a way that would benefit a large number of people was, I thought, a fortuitous circumstance that we should take advantage of.

The cost, however, was high, particularly when one compared it with the costs incurred by other potable water projects in the same environment. CARE-Medico, for instance, was rebuilding wells for approximately \$55.50 per beneficiary, while the average cost of ten SONEDE water systems being funded by AID loan was \$127.61 per beneficiary. A Génie Rural-type ACB could expect to incur a per-beneficiary cost of only \$10 to \$15 (see above). When the eventual number of inhabitants of the "regroupement" was not even known yet, it was clear that the cost per beneficiary would be much higher than that of other technologies available.

Worse yet, as time went by, the estimated cost of the proposed Hababsa water system kept going up, either because the Génie Rural, responsible for planning, had done its homework badly or because of inflation, or both. At one of our regular weekly meetings at the governorate on June 7, 1978, the cost was put at 82,000 dinars (\$205,000), and Rekhis suggested the matter be taken to the Ministry of Plan for a decision. By the time we assembled at the Ministry of Plan, with both Rekhis and Ben Slimane attending on June 20, the cost estimate had risen further to 90,000 dinars (\$225,000). On the following day, the decision was made to establish a special committee to look into the situation on the spot, review the feasibility and cost of alternative solutions to the water problem, and report back to the Ministry of Plan.

What came to be known as the Ad Hoc Four-Man Commission on the Hababsa water system, consisting of Kohida, Mohsen Hammami of Génie Rural, Zghidi of CNEA, as an "independent," and myself, held its first meeting in the délégué's office of Rohia on June 27. In addition to Ben Youssef, Sheikh Hussein, omda of Hababsa, was present. The latter reported the estimated number of beneficiary families would be 247, but it was clear this figure encompassed many families living in villages scattered over a wide area in the vicinity of the "regroupement." Various alternative systems to the pipeline were discussed and their costs calculated.

These cost comparisons were reviewed at the commission's second meeting at Rohia on June 29, which was also attended by the secretary-general of the coordinating committee of the PSD circumscription of Rohia, Mr. Delmani. The purpose of this meeting, as stated by Délégué Ben Youssef, was to draw up a recommendation to submit to the Ministry of Plan. A vote was then taken by the members of the commission and it was decided to urge adoption of a plan to construct seven large storage tanks with artificial impoundments to be located in and around the "regroupement." In addition, a tractor and mobile cistern with water pump would be purchased to keep these tanks filled. Even counting the salary of the tractor driver and maintenance costs of the tractor and pump, this system worked out to be much cheaper than the estimate for the pipeline scheme.

In addition to the seven artificial catchment basins at Hababsa, this project also provided funding for the rehabilitation of seven derelict surface-runoff catchment basins in Rohia Delegation.

This project affords an example where an economic criterion was applied to a development project as a basis for an operational decision. Later on, Lemouset and I were to try to apply the same principle to the grab-bag of potable water projects proposed for the CTRD program.

(c) SCHEME Water Distribution Systems in Ksarra, Rohia \$777,400

SCHEME is the Tunisian national agency responsible for water supply in urban areas. USAID negotiated a loan to SCHEME for improvements and construction work on a total of 11 water systems in Siliana Governorate. These included a new system to distribute piped water in Ksarra town and to pipe it as far as Harran-Ksarra, a "regroupement" located on the main road below Ksarra, and another to pump water from a well south of Rohia town by pipeline to the existing Rohia distribution system, which suffered from low pressure.

The Rohia part of the project was constructed during our stay in Maktar, partly with the help of idle equipment that SCHEME borrowed from CAJE-Medico, a good example of inter-agency cooperation in the interest of rural development. The Ksarra system was also started before we left.

This may be the place for a brief discussion of the Maktar water situation. The old spring in the town had long since become inadequate for the needs of the growing town population, and water was severely rationed

22.

All sorts of things were learned from the SCF project. Many had application to rural development. Before implementing any project, the SCF staff conducted a thorough socio-economic survey of the families to be affected by the project and filed these data away for baseline use. Moreover, the SCF staffers operated on a daily basis with groups of people, holding meetings and so forth, in the course of which many ideas were exchanged. One of the directly useful lessons learned by the SCF experience was that communication with the women is always through the men. This meant that before any project could hope to reach the women of a particular community, the confidence of the men had to be gained. But it also worked in the opposite direction. Women in the project area communicate with the cnada (ie. exercise their "upreach") through their husbands and not through the cnada's wife, who plays no communicating role whatsoever.

The question of the cost effectiveness of Project 0307 is a legitimate one (and one that will be addressed during an interim evaluation of the project scheduled in September 1979). But the results recorded are incontestable and many-sided, many of them difficult to quantify. Mr. Ben Slimane, after visiting several of the SCF project sites, freely acknowledged the accomplishments, as did others who saw them on the ground. It is important to note that nothing similar had ever been tried in the area before. Some felt that the accomplishments could not have resulted from the work of the regular government services, and some would have been skeptical of the results achievable by community organization had they not seen them for themselves.

11. Social Projects (Project 0285) \$56,000

On March 28, 1977, Governor Saïbi requested AID to finance a number of projects of a social nature in the towns of Maktar, Kesra, and Rohia. These were implemented successfully. They included construction of a day care center in Maktar, equipping of public libraries in Maktar and Rohia, improvements to the Maisons du Peuple in Maktar and Kesra. The implementing agencies were the municipality in each case, with whose officials I entertained good working relations.

12. Participant Travel and Consultants (Project 0285) \$136,495

The budget of Project 0285 included funds for sending selected Tunisians abroad to observe rural development in action. In the summer of 1978, project funds were used to send Governor Saïbi, Mr. Naïja of the Ministry of Plan, and Mr. Abdelhafid Jabour, Director of the Public Irrigated Perimeters Division of the OMVM, the principal Tunisian office concerned with irrigation, to Mexico to visit the IBER-financed PIDER project. Mr. Jabour was at the time one of several candidates for the post of Director General of the CTDA, and Director Davis decided it would be good politics to include him in the group. I was not consulted about this decision. In my view it would have made better sense to have sent some of the Tunisian cadres who had worked with us on the Siliana project, as was stated to be the purpose of the funds in the project agreement. Mr. Jabour did not get the job at CTDA, which went to Mr. Rachid Bougatef, who was Chef de Cabinet at the Ministry of Plan.

In the summer of 1979, a second group of eight participants, including Mr. Djemel, Mr. Gana, and Mr. Mohammed Naïja at Siliana, and Mr. Ben Slimane and Mr. Bechir Montaceur at the Ministry of Plan, was sent to observe rural development projects in the United States (Appalachia and Southwest) and Honduras.

The budget of Project 0285 also included generous funds for consultants, both American and Tunisian. Some of these funds went to finance project design studies (e.g. arboriculture, small industry development) by TDY experts. Some went to finance baseline data studies by CNEA.

13. Data Collection (Project 0285) \$54,000

The two major accomplishments under this provision in the project agreement were the CNEA Hababssa survey and the NIN nutrition status survey.

The Hababssa survey,<sup>1</sup> mentioned previously in this report, was a comprehensive socio-economic study of one of the 20 sectors in the project area. The study covered geographical and historical background; demography; production, capital assets, land tenure, inputs, marketing, labor use, and costs and revenues of the unit of the production-consumption entity, the household; and social and cultural aspects of the region and its people.

<sup>1</sup>CNEA, "Monographie de Hababssa; Etude Socio-Economique d'un Secteur Rural," 2 volumes, July 1978.

Such a detailed study had never been done before at this level of disaggregation in the project area, or anywhere in Tunisia that I am aware of. The raw data are on file at the CNEA, Tunis.

The results of the nutrition status survey were disseminated in French in typewritten form, and a copy is in the USAID files. The results concern anthropometric measurement (skinfold measurement, muscle circumference) of malnutrition in young children and mothers of young children; food habits; sources of nutrition information; and beliefs in values of foods for children. As Table 11 shows, malnutrition is quite widespread in the project area.

Table 11

MALNUTRITION IN THE PROJECT  
AREA:  
SKINFOLD MEASUREMENT RESULTS

Age Group	Number in Sample	Per Cent of Sample Having:			
		Less than 70 Per Cent of Norm.	70-90 P.C. Norm.	90-100 P.C. Norm.	More than 100 P.C.
<u>Children</u>					
Less than 1 yr.	28	25	36	21	18
1-2 years	16	31	50	6	13
2-3 years	22	-	41	14	45
3-4 years	21	13	29	29	29
4-5 years	19	5	53	16	26
5-6 years	12	17	42	8	33
6-7 years	6	33	-	17	50
<b>TOTAL</b>	<b>124</b>	<b>16</b>	<b>39</b>	<b>17</b>	<b>28</b>
<u>Mothers</u>					
Less than 20 yrs.	5	20	40	20	20
21-25 years	16	69	19	12	0
26-30 years	15	80	3	7	0
31-35 years	10	30	40	30	0
36-40 years	15	34	40	13	13
41-45 years	12	25	50	25	0
46-50 years	5	80	0	20	0
<b>TOTAL</b>	<b>78</b>	<b>50</b>	<b>29</b>	<b>17</b>	<b>4</b>

As can be seen from Table 11, no less than 55 per cent of the children in the sample and 79 per cent of the mothers exhibited malnutrition in either the moderate (70 to 90 per cent of the norm) or the severe (less than 70 per cent of the norm) form when skinfold measurements were taken.

4.

## Section (b)

### 1. U.S. Agronomist (Project 0285)

The inability of AID/W to recruit a full-time U.S. agronomist, in fulfillment of the Mission's repeated requests, to continue the exploratory work of Rudy Vigil was one of the biggest failures of the project. The project designers had talked about this from the beginning of design work on the project as an essential element, and the Tunisians had indicated their acceptance of this thesis. AID/W failed to produce a viable candidate.

Such an expert would obviously have had to establish his temporary home in the project area, unlike the PISA technicians working for the F&A Division who lived in and worked out of Tunis. The combination of the prospect of living in Maktar, having sufficient expertise in steppe-zone agronomy to have proved useful, and speaking French and/or Arabic appears to have been an impossible set of conditions. In view of this situation, I should have followed up Demongest's suggestion that we try to recruit a third-country national, for instance a qualified Syrian.

In the absence of a resident agronomist, I acted also as the project agronomist, although my knowledge of the species of grasses and shrubs of North Africa, their nutritive value to sheep, goats, and cattle, and their relationship to soil conservation is strictly limited. I managed, I think, by relying on my more knowledgeable Tunisian counterparts in Maktar and Siliana to avoid embarking on any dead end roads. Nevertheless, the presence in the project area of a U.S. expert would quite probably have been a boon to the Mission and saved AID thousands of dollars in T/A funds later spent for consulting advice on the design of the CTED dryland agriculture and irrigation projects. Fortunately, we were able to recover the \$100,000 allotted to the position of resident agronomist and reprogram this money elsewhere in the project.

### 2. Small Industry Development (Project 0285)

There is plenty of small industry in Maktar and Rohia. This is not a new idea. Workshops to provide the needs of the agriculture of the area have undoubtedly existed since Roman times and before. Today one only has to look at the streets of Maktar to gain the impression of an enormous activity of repairing and making things. The weekly souk has its stands selling simple agricultural implements and forged or carpentered tools. There are half a dozen blacksmiths and a dozen carpenters in the town. While we were there an entrepreneur who had just returned from several years in Belgium established a machine tool shop with imported lathes and other precision instruments. Another opened a textile workshop employing about 20 seamstresses. A demand for construction materials resulted in the reopening of the Maktar brick factory, employing more than 30 workmen, and supported a brick quarrying and rock-transporting industry.

The problem is not one of lack of entrepreneurship or capital--- there is plenty of both in Maktar and Rohia. In fact, the widespread practice of families of having one or several members working in Europe or in Libya and sending money home accounts for a constant inflow of capital into towns like Maktar, and helps to explain the large number of tractors and Peugeot camionnettes one sees. The basic problem is institutional. The small industry base of Maktar and Rohia could be broadened if entrepreneurs with valid ideas were furnished some assistance to cope with the considerable burden of paperwork involved in establishing enterprises, as opposed to merely investing in fixed assets like machinery. A U.S. consulting team from the Georgia Tech Research Institute, which was commissioned by the Mission to look into the prospects of encouraging small industry in the project area, was able to say very little of use about this institutional problem. What was needed, obviously, was some development authority armed with a mandate from the central government to tackle the problem by establishing an information exchange center and providing direct assistance to businessmen in simplifying investment procedures. Such a scheme was beyond the resources of our small project. This is a matter that rested until the designers of the CTRD program took up the idea.

### 3. Rural Community Health (Project 0296)

Of all the aspects of underdevelopment of Maktar and Rohia, the most detrimental to the well-being of the people, next to the lack of clean water and linked to it, is the lack of health services to provide preventive and curative care and, above all, to provide education. This situation is entirely man-made. Tunisia boasts many medical school graduates and fine hospitals. They are badly distributed in relation to population but well distributed in relation to wealth, as may be seen from the data in Table 12.

Table 12

#### NUMBER OF INHABITANTS PER TUNISIAN DOCTOR BY GOVERNORATE

Governorate	Population	Number of Tunisian Doctors	Number of Inhabitants per T. Doctor
Tunis	1,033,439	611	1,691
Sousse	268,534	85	3,159
National Average	5,901,904	988	5,974
Siliana	196,530	2	98,269

Source: Data developed by Dr. Cliver Harper, USAID/Tunis. Ref. date 1977-78.

At the time of our arrival in Maktar there was one 40-bed hospital in the project area (located in Maktar town) and one doctor. An expatriate Palestinian doctor was on duty at Rohia. We soon heard of the hardship and suffering this situation imposed on the people. We heard of pregnant women in need of medical attention being transported over the rough pistes on tractors and dying en route. Once we came across a man who was hiking 20 kilometers from his home to Maktar to fetch the single ambulance to trans-

port his pregnant wife to hospital.

Here again, as in the case of the agricultural extension service, the outreach capability is very low. The explanation lies in the fact that Tunisia has no national system for assigning doctors to work in rural areas on the pattern of primary school teachers. A bill to establish such a system was apparently introduced to the National Assembly several years ago, but was defeated by the country's powerful medical lobby.

The Tunisian Ministry of Public Health faced an admittedly inequitable situation, and lacked resources to cope with it. It was a marvelous opportunity for AID to come to the help of needy people and their government. The Mission had a Family Planning and Health Division, and this division, with the help of outside consultants, designed a health project to be an adjunct to Project 0285. This project, known as Project 0296, was to operate in the whole of the governorates of Siliana and Sidi Bou Zid, and would have an important impact on the Maktar-Rohia area: Rohia town was to receive a hospital (Délégué Ben Youssef talked excitedly of this to visitors in my presence on more than one occasion), and a three-person medical team based permanently at Maktar was to train paramedical personnel to fill, at least partially, the enormous gap created by the permanent absence of doctors. I looked forward eagerly to the arrival of this team so I could work with them.

Months went by, and then years. Nothing happened. On the technical assistance side of Project 0296, no U.S. team showed up because contracting for this team had run into procedural snags in Washington. On the capital construction side, however, an American consultant made several trips to Tunisia to confer with the Tunisians about architectural designs. Since there were already rural dispensaries in the project area that I hardly ever saw manned, such as the one in Hababsa village (see above), and training was the obviously critical need, this seemed to me not only to be placing the cart before the horse, but to be the most wasteful process imaginable. When I discussed the situation with the Mission, no sense of urgency was detectable. Again, it was a question of priorities. The Mission's Family Planning and Health officer, meanwhile, left to take a highly-placed administrative job at Johns Hopkins University. I eventually wrote the project off completely as a bad show. This was a clear case where the bureaucracy in Washington had failed to produce. Without this component, the name written on our project Land Rovers, "Integrated Rural Development Project," remained, regrettably, without its full meaning for the 60,000 inhabitants of the project area.

What improvements to the public health situation in Maktar and Rohia were made during our two years there? A rural dispensary, consisting of five rooms, was opened at Hababsa village, integrated with the "regroupement" there. A male nurse occasionally commuted to the dispensary from Rohia, a distance of over 30 kilometers over pistes, on his Mobylette. I had the satisfaction at least of seeing one of the artificial catchment basins of our project constructed next door to this dispensary, thereby providing a source of water. Aside from this, a cornerstone for a new

rural dispensary was laid in El Haria, next to the primary school; the CARE-Medico wells sanitation teams became operational; and two Japanese Peace Corps volunteers arrived in early 1979 to work as midwives at the Maktar hospital.

#### 4. Data Collection Follow-Up

One of the failures of the project, certainly, was to follow up more systematically on data collection. Many of the project components were of such a nature that their impact could scarcely be expected to show up during the short life of the Maktar project. Others, however, could have been measured as project implementation progressed (for instance, the impact on the economy of the area of the reconstruction of the MC77 and Rohia-Jmilet roads).

I can only plead that there was a lack of time to do everything. Large chunks of my time, particularly during the summers of 1978 and 1979, were taken up with duties in Tunis connected with the CTRD program: had I had this time available for work on the Maktar project, I would surely have given priority to work on data collection follow-up in conjunction with the CNEA and other competent Tunisian professional social scientists. Let us hope this deficiency will be remedied by those who will be coming to work with the CTDA.

#### V. EVALUATION AND LESSONS LEARNED

The reader will have found, at numerous appropriate places in this report, observations of an evaluative kind on the conduct of the various project activities. Some of the lessons learned will already have been discussed. In this concluding section, which will be brief, it is my purpose to ask the broader question: How well did the Maktar project live up to its goals and purposes? Finally, an attempt will be made to draw some lessons of a general nature from our experience.

The broad question of how well the Maktar project lived up to its goals and purposes can best be answered by asking four subordinate questions:

(1) To what degree did the project reinforce existing institutions?

The main institutions reinforced by the project were the CRDA and the PDR. We made multiple demands on the former and, while these demands were not always met satisfactorily,<sup>1</sup> at least our activities forced the CRDA to face a set of realities brought to its attention by a project

<sup>1</sup>As pointed out elsewhere in this report, the CRD Commissioner failed to budget for fuel and drivers' salaries for use of its tractors (which AID had furnished) in the 1979 sheep dipping campaign. The Arrondissement Production Animale, however, showed more enlightenment and provided for the necessary funds for chemical supplies for dipping.

that was focused on the poorest of the poor in the CRDA's area of responsibility, and therefore, almost by definition, out of its ordinary line of action. The Ministry of Agriculture in Tunisia has traditionally followed a very orthodox approach to agricultural development, especially since the disastrous experiment with cooperatives in 1969. This approach, of course, benefits mainly the larger, wealthier farmers and the producers of high-value crops and animals. It leaves the poorer farmers on the sidelines. Nationally, the subsidization of prices of inputs like fertilizer and the heavy concentration of the meager extension effort on large-scale irrigated production serve to reinforce this bias. No one in Maktar-Rohia uses chemical fertilizers except the big, commercial farmers who use tractors and can afford to rent combines at 10 dinars an hour. And of course irrigated production is a minority production, and the extension effort does not even reach the few truck farmers along the Oued Haleb and Oued Kouky, situated too far away from the main roads on bad pistes (over which they nevertheless haul their produce to market).

Thus, I feel the demands we made on the CRDA helped to draw resources away from traditional uses to where they are most needed---the vast majority of poor, dryland farmers and those who develop their small-scale irrigation potential where they can, from a well here or a riverbed there. This is by no means to say these resources were great enough to make any sizeable, even measurable, impact on these people. They certainly were not. But an awareness of greater need and equity may have been created within the CRDA. And that counts for a great deal.

The FDR has customarily focused on the poorer sections, and by making loans for home improvements, improving pistes, and other small-scale actions has had a greater impact, as an institution, by and large, on the population of the project area than the CRDA. The Maktar project served to reinforce the capacity of the FDR in this regard. AID funds flowed through the Ministry of Plan into the Siliana Governorate FDR budget (total for 1979: 770,000 dinars). There, these funds merged with the regular FDR funds provided from the Tunisian central budget to support specific activities which we had previously agreed upon after consultation with the local administration and technical services. This procedure resulted in the case of each project activity in a joint effort, since for instance AID was free to purchase fruit tree seedlings for the Maktar nursery but not to pay the wages of laborers there. Under our project agreement, the Tunisian government was called upon to contribute at least 25 per cent of the financial cost of each activity; in reality, of course, the Tunisian government's contribution was often much larger, if one counted the salaries and per diem of cadres, fuel, and other project costs.

An examination of the Siliana FDR budget for 1979 (o. file in USAID) shows that AID funds supporting the Maktar project contributed a significant share of this budget in several major categories: namely road-building (42 per cent), potable water (30 per cent), and employment generation in agriculture (35 per cent). When it is realized that these

shares were entirely allocated to the delegations of Maktar, Kesra and Rohia, it is obvious that our project helped swing investment in these categories towards these three neediest delegations of the governorate and away from the other five delegations, which are better endowed.

(2) To what degree did the Maktar project achieve the integration it set out to achieve?

Integration in a rural development project comes about from having a number of different services working together for the same end---the improvement of the livelihood and living of the population of the project area. Although we described our project as an integrated one, it was not quite that. The absence of any health component other than the education activities of the CARE-Medico-trained Ministry of Public Health teams has been noted. Likewise, the absence of a small industry component left outside of the project a wholesector, and an important one, of the micro-economy of the region. Both these failings were unforeseen by the designers of the project, but they arose largely because of problems these designers did not foresee either.

On the other hand, a large measure of integration was achieved in the sheep dipping campaign, an important path-breaking activity in the agricultural field. This involved the Production Animale and the Génie Rural of the CRDA, as well as the territorial administration. Another instance where integration was achieved was in the planning of the potable water infrastructure, in this case between GR, which had over-all responsibility, and CARE-Medico, and in the case of the Rohia well between CARE-Medico and SONEDE. Likewise, integration occurred in SCT's planning of its small-scale irrigation projects in Hatabza, where the GR played a key engineering role. These instances are not of negligible importance given the tradition in the region of government services working quite independently of one another.

(3) To what degree did the project change perceptions of priorities on the part of the Tunisian government, and accordingly its actions?

In trying to answer this question, it is useful to see how the project designers described their view of the intent of the funding of the Maktar project. After pointing out in the FF that the Tunisian implementing agencies could be expected one day to incorporate into their budgets many of the activities initiated by the project, they went on to explain another way in which the project could be expected to produce change:

The real issue, in any case, presents itself in other than strictly budgetary terms. The limitations on a given agency's total program are usually more than those related to financial resources; they are as often related to management staffing and technical capacity. There is, then, a natural tendency to focus these limited resources on concentrated and relatively more responsive population

groups. Initially, the additional financing provided to these agencies from rural development funds, whether GOT or AID, may function primarily as pump-priming to encourage some redirection of their activities toward the relatively neglected areas such as our project area. In the longer run, though, additional financing required to maintain activities in the area may be quite marginal, e.g. the cost of more gasoline, more frequent vehicle repairs, bonuses to encourage technical personnel to stay in the area, etc. Even if the operating agencies were unable or unwilling to absorb these marginal costs, it would be entirely reasonable for the GOT to continue to subsidize them to this extent from its Rural Development Fund.<sup>1</sup>

Here, the authors of the PF had laid out the argument for pump priming. To me, this aspect of our project was important, because if we could prime the pump of government allocations of scarce resources (funds, cadres, etc.) to the project area we would be, in effect, re-adjusting the government's priorities, and this would give us a good chance of making a lasting impact beyond the termination date of our project.

I had already observed pump priming at work in the case of the 1979 sheep dipping campaign. We had provided the tractors and other equipment to the CRDA for use in the project area. The CRDA had made effective use of this equipment in the range management, arboriculture, apiculture and other agricultural components of our project. But when it came to using this equipment for hauling water for the sheep dipping campaign, because this was something entirely new, the CRDA, as noted above, had failed to budget the necessary support funds for fuel and drivers' salaries. It was easy for the CRDA Commissioner to overlook the requirements of the sheep dipping campaign when it came time to program the use of the equipment because the sheep dipping campaign coincided with a peak period of agricultural activity and the heads of the various services (Génie Rural, Forestry Service, etc.) were all clamoring for use of the tractors. However, we forced the issue. Supported by the Governor (and by the Maktar veterinarian), we forced the CRDA Commissioner to allocate the three project tractors for a period of five weeks to the Production Animale. The Commissioner had to go to the Governorate and plead for funds from the FDR for the purchase of fuel and for salaries of drivers. I was personally determined to see the campaign successfully carried out, and so I made up gaps here and there by drawing small amounts from the project revolving fund to buy fuel until the government's procurement procedures caught up. The campaign started right on schedule, I think to everyone's amazement. An important precedent has been created. Next year if the sheep of Maktar-Rohia are not dipped the crada and the délégués and the Governor are going to feel the heat, and they are going to put the heat on the CRDA Commissioner. So he is going to have to ask his ministry in Tunis for funds in his 1980 budget, or negotiate with the FDR in Siliana. We are not concerned where the funds come from. As

<sup>1</sup>Pages 3-17 and 3-18.

the FF pointed out, our job is done: we have primed the pump.

In the spring of 1979 the chef d'arrondissement of the Génie Rural proposed to me that the project finance the provision of electricity and water to the equipment depot in Maktar and the acquisition of a small amount of tools for basic maintenance of project equipment. After further consultation we decided that an AID contribution of \$5,000 would be sufficient to permit these improvements, and as we had funds left over in other activities which could be reprogrammed for this purpose, I drafted an amendment to the project agreement for this purpose and circulated it for review in the Mission.

The important aspect of the matter to me was that this was a request which came from the Tunisian government. The chef d'arrondissement, Mr. Hammami, and I had frequently discussed the problem of allocating project equipment among the services of the CRDA. Without a unified control system, the services competed for use of the various pieces of equipment and jealously kept them as long as possible when they got them. The equipment was now scattered all over the project area, some in the hands of the Forestry Service at the Denglos Perimeter, some in the hands of the Génie Rural at its wells and springs sites, and one mobile cistern even ended up spending several months at the house of the GR superintendent at Rohia serving as a water storage tank. Mr. Hammami was keenly aware of these problems, and he wanted to make the Maktar equipment depot not only a safe storage place but a control center so that the CRDA would know exactly at all times where each piece of equipment was located.

Unfortunately, my proposed amendment was turned down by Mr. Edmund Aughter, the Mission Program Officer. Mr. Aughter argued that the purposes of the expenditure were things the Tunisian government should be accustomed to financing routinely, and to have AID finance them would be lose an institution-building opportunity. He also questioned whether the recurring expenses associated with the improvements would be met, and asked why the government should not have maintenance done by private workshops in Maktar. His first point was the important one, because obviously one can never guarantee the second and we had been making extensive use of the services of private workshops and there would always be work for them to do. But here was a direct conflict between an institution-building objective of the project and a pump priming objective, since to my mind Mr. Hammami's request was proof that pump priming was working. Mr. Aughter's macro-economic view won out, and the amendment was never made. In his view, we stuck by the principle that the Tunisian government must be made to finance certain services routinely; in my view, we lost a splendid opportunity, and \$5,000 of project funds.

(4) To what extent did the Maktar project produce replicable results in accordance with the intent of its designers that it be a pilot project?

First of all, the fact that the project produced workable results has, I think, been demonstrated.

Secondly, the economic feasibility of these results has been demonstrated. Table 13 gives the calculation of the direct cost to AID of the Maktar project. The total cost per inhabitant of the project area, that is to say per beneficiary in the real sense of the term since virtually everyone in the project area has benefited from at least one project activity, works out to be \$112.63. This is an investment that should be replicable elsewhere in Central Tunisia.

What about the actual use made of the results to date? It is obviously still too early to point to examples of implementation by the CTD of projects based on the experience gained in Maktar-Rohia. However, an examination of the CTD's budget for 1950 is encouraging in this regard. This budget provides 858,500 dinars for investment in the improvement of rister agricoles in the five delegations of Kasserine and for Djilma in the CTRD program area: this investment will continue the achievement of the reconstruction of the M077 and Rohia-Juilet roads, and may even physically link with them. It provides 620,000 dinars for potable water projects. It provides 145,000 dinars for arboriculture, and another 12,000 dinars for an apiculture project that continues the line we pioneered in Maktar-Rohia. I think it is fair to say that on the Tunisian side the replicability of the results has been proved.

What about on the AID side? While there has been greater attention paid in recent months to the Maktar experience in designing the various components of the CTRD program, the initial manner in which USAID proceeded was rather disheartening to me. Once it had been decided at the top level to enlarge the project area to nine delegations, USAID's first step was to contract with the University of Missouri to make an agricultural assessment of the CTRD area from the bottom up. In other words, the same process of studying the physical and human resources of the area was begun as had been done by Carl Ferguson, Abraham Hirsch and others in the case of the Maktar project. This took several months and involved a high cost, and did not leave us terribly much further ahead than we had been at the same stage in the case of the Maktar project. The Missouri team compiled about as good an assessment as could have been expected from four men who were totally unfamiliar with the area. To my mind, however, technical assistance is most effectively used when expertise can be directed to help solve specific problems, and a little greater examination of the Maktar experience would have revealed many of these on which to focus. This is all I wish to say on this matter here.

63.a.

Table 13

DIRECT COST TO AID OF MANTAR PROJECT  
(obligations, incl. grant & loan)

Project 0295		
First FRC AG	\$120,000	
Second FRC AG	230,000	
Third FRC AG	320,000	
Fourth FRC AG	<u>305,000</u>	\$975,000
Project 0299		316,500
Project 0305		3,385,500
Project 0307		617,000
Project 0315		777,400
Trust Fund (apartment rent, fuel, vehicle maintenance, and other project support)		
	CY75 4,675 dinars	
	CY76 11,614 dinars	
	CY77 11,750 dinars	
	CY78 13,900 dinars	
	CY79 <u>7,850</u> dinars	
	49,812 dinars @ 2.5	124,780
AJD salary, 2 years @ 31,000		62,000
		<hr/>
	TOTAL	\$6,757,780
Cost per inhabitant (on basis of est. 60,000 pop.)		\$ 112.63

What were the lessons learned from the Maktar project?

(1) First, and perhaps least important, was the fact that the successful implementation of the Maktar project proved that Americans can work within a system of development administration that is essentially French, with its budgetary procedures, its fund flows, its bons de commande, and other features.

(2) The failings of the project were due, first and foremost, to man-made causes. Of all the obstacles encountered in the implementation of the project, none of a physical nature was found to be insurmountable. This is an ironic lesson, since in virtually all the initial assessments of prospects for the project, stress was laid on the physical obstacles. Ferguson, for instance, insisted on the inhospitable nature of the soil and terrain. Only Hirsch saw the institutional obstacles as looming large.

(3) In spite of the relatively small money totals required by a rural development project of the Maktar type, the demands on management resources on the spot are great. This is a somewhat surprising lesson learned, and one that will not give much comfort to USAID/Tunis, I am afraid. One man, whether he be American or Tunisian, is not sufficient to coordinate a rural development project of the scope of the Maktar project. I know I would have been more effective working with a resident agronomist and perhaps others, where fruitful interchanges of ideas could have occurred every day. Such ideas are badly needed in rural development projects, which do not lend themselves to implementation by fiat like savings bonds campaigns. At the very least, I should have been provided with an interpreter and a driver.

(4) It is a fundamental error to think of RD projects in terms of dollar amounts. To do so is to fall into the trap of thinking of RD projects exclusively in terms of "outreach," that is, services of government and others reaching out towards the population, and not in terms of the equally important dimension of the "upreach" capacity of the population. RD projects have to be thought of in terms of people. Because bureaucrats, either in Washington or in Tunis, normally think in dollar terms, they have difficulty in exercising sufficient control over RD projects. There is a double consequence of this state of affairs.

First, very few cents of every dollar spent actually reaches the target population in the form of real benefits. I have already pointed out that I made it my business to ensure that as many cents on every dollar funded for the Maktar project reached as far forward as possible. This was easy to do because, being with the people, I could foresee immediately what expenditures would have a direct impact on their standard of living, and what ones would not. How many cents on the dollar moved forward to the "front line" was in my view a much better measure of progress than how many thousands of dollars were obligated or spent.

The second consequence is that RD projects end up reinforcing tendencies already there in the system which favor the better off sections of the target population (e.g. inhabitants of irrigated perimeters) instead of directing investment against these tendencies. This result of insufficient control on the "front line" means that the RD project may end up exacerbating the existing maldistribution of income.

In the administration of RD projects, the question of priorities is all-important because RD projects, by their nature, demand painstaking attention to seemingly minute details. It is not sufficient for the project manager alone to give implementation of his project top priority. There has to be a matching priority accorded the project on the other end. I could easily have spent all my time trying to acquire the two Molyettes for the apiculture project or trying to locate a resident agronomist who met the qualifications that we needed. This would obviously have been a poor use of my time, and I constantly had to turn my attention to other things in the absence of priority being accorded by the Tunisian government or AID Washington.

I conclude that what is needed for RD projects to succeed in Tunisia is a fundamental rethinking of priorities on the part both of the Tunisian government and of AID Washington. Does the rhetorical commitment to helping the poorest of the poor really mean anything? Is the Tunisian government sufficiently motivated to make the necessary commitment of resources? Is AID serious enough to focus on a rural development project in Tunisia in a way that is necessary to ensure success of implementation, or is it viewed as just another bureaucratic exercise whose success will be measured in terms of thousands of dollars spent?

At the present juncture, when both the GOT and AID are about to embark on a more ambitious project in nine delegations in Central Tunisia, these are questions which, it seems to me, have to be asked. The scope of the CTRD program boggles the mind. Three governors, nine delegates, 76 oudas, all expecting to see the development that we all know in our heads is technically possible and we all know in our hearts is just and desirable. The baseline data have not even started to be collected. I leave with uncertainty in my own mind whether the GOT and AID will be able to assign the priority required by the project if it is to take up where the Medjar project left off and have an impact on the livelihood of the people, and not merely generate activity in offices in Washington, Tunis, and Kasserine.