

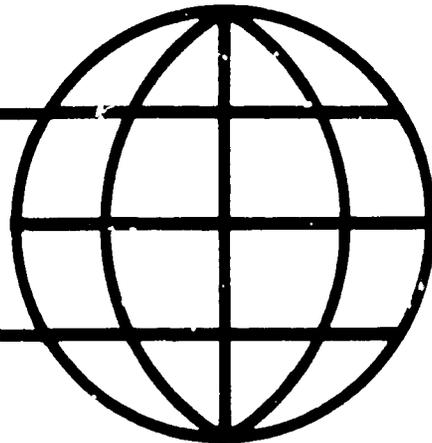
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**COOPERATIVE AGREEMENT ON HUMAN SETTLEMENTS
AND NATURAL RESOURCE SYSTEMS ANALYSIS**

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Mission to the Commissariat Général au
Développement Régional (Tunisia):
Report and a Proposal to USAID/Tunis

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Cooperative Agreement on Human Settlements and Natural Resources Systems
Analysis

Agency for International Development, Institute for Development
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I. INTRODUCTION

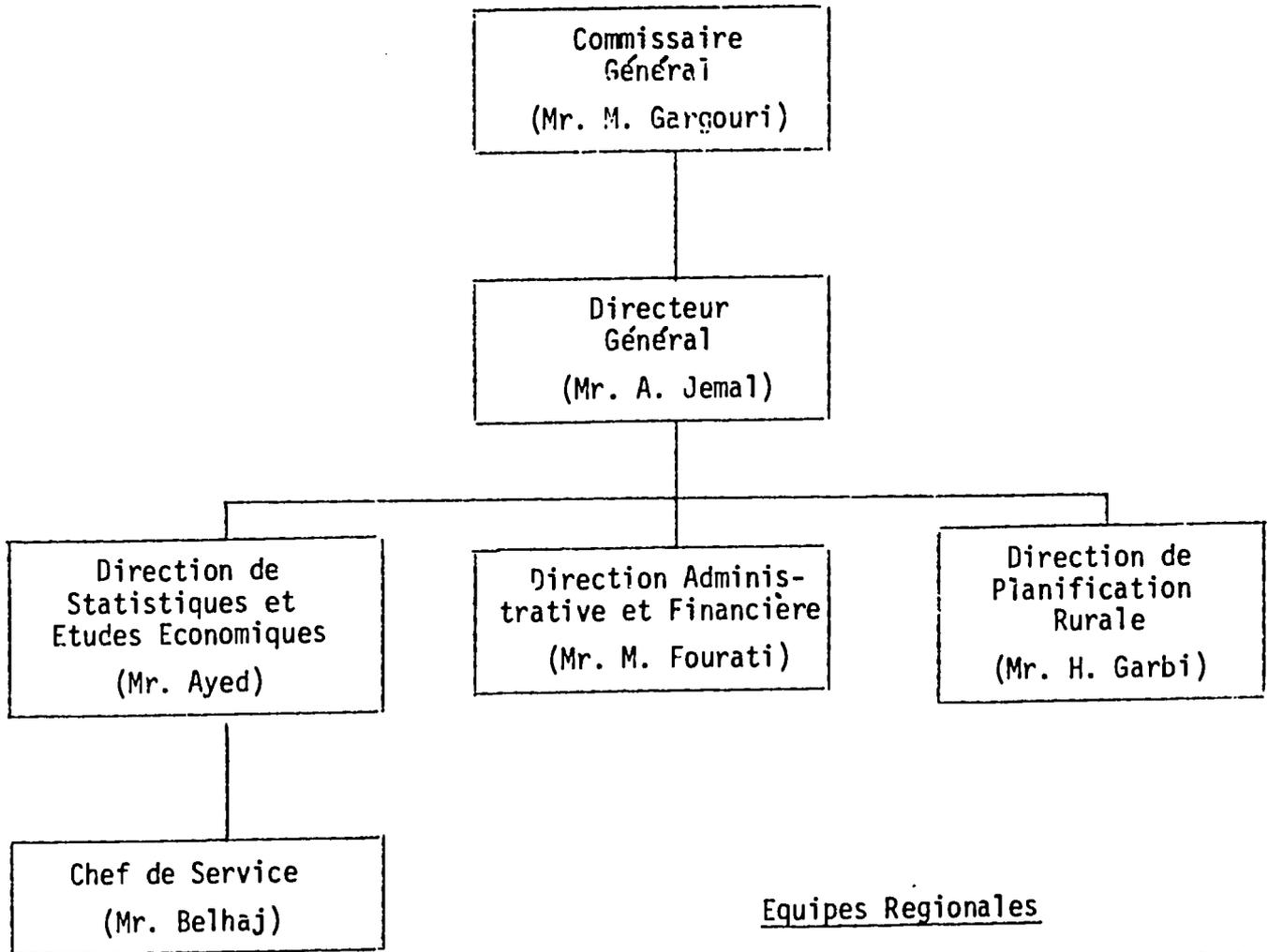
On the basis of our brief period of observation, the Commissariat Général au Développement Régional (CGDR) is a dynamic organization, evidencing an unusual degree of commitment and competence in the fields of regional and rural development planning. Possessing a small (about 22 people, at the moment) but relatively well-trained staff of officials and technicians, the CGDR has made an impressively good start in responding to the demands placed upon it. The primary objective of the organization is to "regionalize" the Tunisian planning process: that is, its task is to plan and coordinate public and private sector investment activities with a view to promoting the development of the poorer, less-developed regions of the country: the south, the center-west, and the northwest. The multiple intentions of the CGDR are to reduce regional disparities, to reduce rural to urban migration, and to alleviate poverty. These are laudable goals. It is increasingly recognized within Tunisia that the long-term stability of the country necessitates, in addition to overall economic growth, both social justice and regional equilibrium. CGDR is a fundamental instrument for the current Tunisian move toward political and economic decentralization, and to the increased participation in political and economic life of all Tunisians.

This is not to imply that Tunisia has neglected these issues heretofore. As a 1980 World Bank report on Tunisia noted, "Overall social progress as measured by about every thinkable social indicator is very good..." Problems of regional equilibrium have been major preoccupations of Tunisian decision-makers since the independence of the country in 1956. Yet serious disparities remain despite splendid accomplishments at the national level and despite a large number of efforts to reduce regional inequalities. These problems are perhaps even more acute today than at the moment of independence. It is thus generally recognized that a great deal remains to be done. CGDR is a significant step in the right direction.

Better balanced regional development will require a joint effort by Government and the private sector. The Plan proposes an important decentralization in the present administrative and decision making structure so as to give more power to the regions. A beginning has already been made in the last years by the successive creation of a number of regional development authorities, culminating in the establishment of a Regional Development Commissariat at the central level. This ought to help implement the Plan strategy of improving and expanding public infrastructure in the most backward regions (IBRD 1983:x).

In the context of Tunisian administrative tradition, the CGDR is quite a novel kind of organization. Since Tunisia has both a small population and a modest geographic extent, organizations specifically oriented toward sub-national, regional development were not, until recently, thought to be necessary. Created within the 6th Plan, the CGDR does not yet possess a "statut" of organization, hardly surprising given its youth and the relative newness of its task. This lack of a formally sanctioned structure is an advantage, since the structure that ultimately emerges will be the one that best responds to the requirements of its activities. For now, CGDR is flexible, pragmatic, and unofficial, with the following organization:

CGDR ORGANIGRAMME (OFFICIEUSE)



Equipes Regionales

- | | |
|--------------|-----------------------|
| Nord-Ouest | Chef: Mr. M. Khaled |
| Nord-Est | Chef: Mr. H. Bedhiafa |
| Centre-Ouest | Chef: Mr. S. Triki |
| Centre-Est | Chef: Mr. S. Omzine |
| Sud-Ouest | Chef: Mr. N. Karafi |
| Sud-Est | Chef: Mr. H. Slim |

Each regional team has
between 2 and 4 people

The six regional teams will soon be reduced to five, as the two southern regions are collapsed into a single unit. In principle, these regional teams report to the Direction de Planification, but this is not rigidly fixed, and they can and do seem to work easily with the other components of the Commissariat. Overall, the CGDR shows the strengths of a youthful unit charged with important tasks and not hung-up on bureaucratic formalities. There is a general and welcome atmosphere of "we all work together to get the job done; the purely administrative arrangements will sort themselves out later." There is thus an unusual opportunity to participate in an organization which is relatively free of the bureaucratic arteriosclerosis that so commonly affects governmental units in formerly French colonial countries.

CGDR staff members are well trained. The Commissaire holds a Cornell University Ph.D. in economics, with specializations in planning and econometrics. A few members of the senior staff possess the Doctorat en Troisième Cycle in economics from the University of Tunis. Several have had post-graduate training in economics, geography, statistics and administration. Others have undertaken post-License studies in law and in documentation. The minimum training for the existing staff is either a License in economic sciences from the University of Tunis; or a degree from the Institut National de Statistique et de l'Economie Appliquée in Rabat, Morocco; or two years post-baccalaureat training in statistics at a special government training center. From the point of view of academic credentials, the CGDR is well endowed, although there is a decided lack of persons whose training directly relates to social and farm-level aspects of regional and rural development (such as rural sociology, social anthropology, and agricultural economics). Most of the younger staff have had little work experience but this shortcoming is to some extent offset by their evident enthusiasm for participating in this new and important organization. One cannot but be impressed by the open and collegial manner in which the Commissariat is run, and by the ease of access which junior staff have to their senior colleagues.

A most striking indicator of CGDR's competence is the quantity and especially the quality of the documents and studies already produced in the short period of its existence, and the detailed knowledge of local issues and officials displayed by the regional teams. It is clear that staff members are expected and willing to travel from Tunis to the interior.

The members of our mission were universally persuaded that CGDR is worthy of encouragement and support. The Commissariat needs reinforcement because, despite its good performance to date, it will shortly have to face major tests that will stretch its competence to new limits, while at the same time expanding considerably its activities and its staff. The major tasks completed to date include:

- ° production of studies showing the regional aspects of the 6th Plan;
- ° identification of the poorest delegations in the country, and preparation and supervision of a system of integrated projects to attack the problems of specified poches de pauvreté;

- preparatory work for CGDR's primary tasks, the production of fully elaborated regional plans for the Nord-Ouest, the Centre-Ouest, and the Sud, which will form the basis for the 7th Plan (1987-1991).

The demands of this last task are growing at an accelerating rate, and will call for the transfer of resources from the industrialized regions of the country precisely at the time when government revenues will be strained by the transition to a post-hydrocarbon economy. Background studies (termes de référence) have already been produced on the three least-favored regions, and the very difficult job of converting general policy statements into specific, defensible action programs and projects is getting underway. This is an extremely complicated process from both theoretical and practical points of view, and the task will call for external technical assistance in a number of areas. Further, the CGDR intends to create, in a series of steps taken over a few years, sub-offices in each of the country's 23 governorats. It is assumed that finding staff both qualified and willing to reside in the more remote governorats will prove to be more difficult than attracting talented persons to the central office in Tunis. It is likely that persons with lower formal qualifications will have to be selected, and these persons would profit from specialized on-the-job training of a type not easily found within Tunisia today.

In sum, the CGDR is a very promising organization, responding to extremely important concerns. The fact that it is well-managed and well-functioning at present augur well for the future. The fact that demands on the Commissariat are going to increase greatly in the very near future means that it needs and deserves external technical assistance. The present mission proposes to USAID/Tunis that it fund a modest projet de collaboration between CGDR and the Institute for Development Anthropology (under Cooperative Agreement No. DAN-1135-A-00-1078-00) in the amount of \$250,000 for a period of three years, beginning October 1, 1983 and ending September 30, 1986. Details of the proposed project are described in the body of this report. The main activities will be:

- to provide counsel, technical assistance, and studies to the CGDR, both in terms of the strategy and the methodology of regional development planning and execution in Tunisia;
- to assist in the improvement and enlargement of the CGDR's regional information system, including assistance in creating and maintaining a "project bank";
- to provide specialized training in information system management and regional planning social, economic, and spatial analysis;
- to provide "state of the art" studies on regional development issues;
- to undertake field studies with the view of generating in-depth analyses of the determinants of poverty and production in rural Tunisia; and, within the limits of the budget,
- to respond to such other issues as may arise that are within the competence of the Institute and its Associates.

II. STATEMENT OF WORK

A. Comparison and Analysis of Development Information Systems used in Regional Development Programs.

The mission team brought with them information on development information systems in use in Malaysia, the Philippines, Brazil and several other countries. The brief period of time available prior to departing for Tunisia precluded an exhaustive search, although consultations with experts at the World Bank, the U.S. Department of Agriculture, and at several universities were held. The bulk of this analysis had to await the mission's return to the United States, and is presented in this section. Even this rather lengthy excursion is merely indicative of the huge volume of material available, and we are therefore suggesting as one of the first actions to take place under the proposed collaborative project the production of an in-depth synthesis of a representative sample of development information systems. This state-of-the-art paper would describe what has been tried elsewhere, what have been the major successes, and what are the pitfalls and lessons to be learned in elaborating a system directly reflective of Tunisian requirements. This current section is, therefore, a point of departure for the more comprehensive applied study to be undertaken under the proposed project.

1. Introduction.

There is nothing fundamentally new or magical about management information systems. All large organizations, and especially those that implement projects, must have some system of keeping track of what is going on in the field. Although the term "management information system" is used here in its narrow sense of information organized for the purpose of facilitating administrative action, such information systems are an intrinsic part of what one means by a bureaucracy dedicated to implementation. It is impossible to conceive of such a bureaucracy without some kind of information system.

What is new is the increased pressure on agencies and on countries -- especially the less developed -- for improved management information systems. This pressure arises precisely because countries are developing. That is, central governments take on new responsibilities or they have indirect responsibility for organizations and events in the countryside. Related to these pressures are the demands of donors who desire an accounting of their money and an evaluation of the results of the projects they sponsor. There is another side to the donor pressure. Many developing countries need to upgrade their information system in order to be able to claim the funds that the donor agencies have promised. Otherwise the country ends up paying for projects that the donor agency promised to finance, or the projects are never started, and the money goes to waste.

A second aspect of this pressure for improved management information systems is the creation, in many middle income countries, of special agencies for accomplishing a task that the regular ministries or administrative units seem unable or unwilling to accomplish. The major examples of such special purpose agencies are River Basin Authorities, found in many parts of the world. These semi-autonomous agencies have been organized to deal with semi-arid regions of border problems. Presented with such new and uncharted problems, these special purpose agencies require tight but flexible administrative control and a capacity for innovation. This requirement, in turn, means a new kind of information system which has the capacity for rapid change and elaboration.

The introduction of computers should be seen in this perspective. This new technology is simply an incremental improvement on already available systems. Its particular contribution is to permit experimentation at low cost and to facilitate innovation. It also performs more accurately and more efficiently the old task of organizing information. Nonetheless, a computer can still be compared to hiring a group of tireless, accurate, and docile clerks who never complain even if they must change their procedures at moment's notice. It is the difficulty of finding such clerks that makes it cost efficient to buy computers and integrate them into the information system.

It is no accident that computerized information systems were first introduced for financial accounting, airline scheduling, library and other inventory control problems. These systems were already standardized and their concrete and delimited character facilitated computerization. The present challenge is to computerize the more ambitious and amorphous activities,

such as medical diagnosis, land ownership and use, and, of course, aspects of development projects.

We define a management information system as: information organized for the purpose of facilitating administrative action. This is meant to focus on those explicit record keeping activities that most administrators see as directly related to decisions on projects. Yet there are two categories of knowledge that fit this definition but which are not typically considered part of an information system. The first consists of all the unsystematic but nonetheless significant information that impinges on the director and the senior staff. This category includes a legal mandate for the agency, directives from senior officials, pressures from significant people both in and out of the government, traditional and historical considerations such as the belief that water is the most important resource for dry areas, etc. Such information resists codification (to say nothing of computerization) but nonetheless determines the direction of many administrative decisions on projects.

The second category of information can hardly exist without computers. It is at present quite rare. Whether it becomes important in administrative decision making in the future remains to be seen. This category refers to systematic socioeconomic information, in the form of variables, that is collected and analyzed for the relevant administrative units in the region where the agency is working. In other words, this is comparative socioeconomic description, and analysis, of the context of development projects. It is true that most agencies use the census and other official statistics if they are available, but this information is rarely "squeezed" as hard as it could be. The relationship between generalizations that derive from such research and administrative decisions is not well worked out. It is this class of knowledge that is the focus of research in economics and sociology departments in universities and it is becoming increasingly important. However, studies show that administrators rarely use such information in any explicit way. In sum, management information systems constitute only one of the categories that bear directly on administrative decisions. These categories are described and discussed in an article that grew out of the work by the Cornell team in Kasserine (Young, Bertoli and Bertoli, 1981) and helps to put into perspective the project-oriented aspects of the information system that is the focus of this review.

This review of management information systems associated with regional development programs is divided into three sections, each of which reflects an important historical phase. They are labeled according to their prototypes. Thus:

The Malaysian Red Book System (1960s), Facilitating rural mobilization
The Kenya PIM System (1970s), Rationalizing development activity
The Egyptian/Kenya System (1980s), Computerized accuracy and flexibility

2. The Malaysian Red Book System (1960s), Facilitating Rural Mobilization

After its success in the elections of 1959, the Malaysian government created a new Ministry of Rural Development with a mandate to spearhead

a major rural development drive. A new ministry was attached to the Prime Minister's Office. The Deputy Prime Minister, Tan Abdul Razak, was put in charge. This initiative was conceived just after the communist insurgency was put down and at a time when the Malay portion of the population, which controlled the government and constituted a majority, was recognized as the poorest segment. The central government proposed to continue the anti-guerilla mobilization of the district and state governments for peaceful purposes. The organization of the rural development management system was located in the same "operations room" that had been previously used at the district, state and national levels for anti-guerilla activities.

The "Red Book System" as the Malaysian scheme has been called, takes its name from the fact that rural development planning was initiated at the district level and summarized in large red-covered books, these contained instructions, a map of the district, tracing paper for making maps of the location of particular projects, and plastic bags to hold the verbal statement of the plan. The district officers were required to make three copies of their proposals, one of which they kept. The other two were forwarded to the state and national levels. The sections of the Red Book were as follows: a basic district map, land map, road map, rural water supplies, minor irrigation works, river clearing proposals, schools, health centers and playing fields, rural processing and marketing facilities, rural industries, cooperative development, telecommunications facilities, and rural electricity supplies. The particular projects were proposed in meetings of local politicians and district officials. The system required them to keep minutes of these meetings. Priorities were set, and if approved by the higher levels, work was initiated almost immediately because the Rural Development Ministry controlled small sums (about 1 percent of the total development budget) and distributed these funds quite freely and with a minimum of red tape. Note, however, that the line agencies were usually called in to make estimates of costs.

Although the Red Books were quite dramatic and received a great deal of publicity, an equally important component of the system was the "quarterly progress report" that was required from each district and which were summarized by the central office. These forms asked for the month and year that planning was initiated, that contracts were signed for land acquisition, laborers, or materials, and the progress of the work to date. There was also a category "reasons for delay" and these were standardized according to the following categories: site selection, land acquisition, project plan, detailed plan, expenditures funding, site preparation, equipment supply, staff shortage, staff appointment, allocation, materials, inclement weather, contractors, utility services, other reasons (explained separately). On the basis of these quarterly reports, large wall charts were constructed. The most important of these existed in the National Operations Room where, once a month, the Deputy Prime Minister reviewed progress of the development projects. According to Bowden (1981:64) these charts summarized about 20,000 projects, "ranging from small village water supply schemes up to major investment undertakings" but it is unlikely that all this detail appeared at the national office. On the other hand the system permitted the Deputy Prime Minister to pinpoint lagging districts and these were often the objects of his surprise visits as he tirelessly toured the country. According to one report (Esman 1972:105)

the Deputy Prime Minister logged 43,000 miles in one period. Needless to say, the Deputy Prime Minister exhorted the cadre to work harder, to change their rigid bureaucratic habits left over from the colonial era, and to deliver the goods to rural people. Successful officers were praised and rewarded and the unsuccessful were criticized and sometimes ridiculed. (This shows the importance of high-level political interest and support.)

The Red Book system -- the combination of planned proposals and monitoring -- was supplemented by technical assistance from the ministries and facilitated by a special unit of the Rural Development Ministry concerned with troubleshooting and evaluation of administrative problems or particularly important projects. However such evaluation was not systematic and was not a major component of the work of this unit. In the early days, no evaluation, in the sense of determining how many and what type of farmers were benefitting from these projects, existed. However, such a unit was formed in 1980.

The relevant actors at the different levels met at regular intervals to discuss the program. At the highest level, a "National Action Committee" consisting of the senior economic development ministers, and chaired by the Prime Minister, had access to and reviewed the progress of the Rural Development Program. A second committee that made use of the information was the Conference of Governors. Although each governor had copies of the proposals from his district, and probably had a wealth of additional information, a governor could only grasp the national picture at these meetings. At this level there was a great deal of two-way communication, and the same is true for the interactions of the central administration with the district. For example, when a district application was rejected, the officers in the Central Office were required to inform the applicant of the reason for the rejection (Ness 1967:146). The point is that simple meetings are very much a part of any "information system."

The Red Book phase of this program is still in use in some of the isolated Malaysian states but according to Bowden (1981:64), the system was completely redesigned and computerized in 1978. Now, in addition to the 100 or so officers required to run the "implementation coordination unit," an additional 55 staff manage the computerized system, which is based on an IBM 370/158, and includes approximately 50 computer terminals scattered around the Prime Minister's office.

In sum, we see a system that was conceived at a particular moment in the political history of Malaysia. It made use of easily understood and manageable components, it focused on collective goods that were both feasible and politically important (including the generation of rural employment), and it probably had a great deal of dynamism in its first five years or so. It has now been updated and computerized and it is a routine unit of the Prime Minister's office. From the limited documentation available on the second phase of this system, it is impossible to tell whether it has been expanded beyond its initial emphasis on infrastructure, but there are hints that it has been. There is probably more concern with detailed analysis of the larger projects and with formal evaluation of project benefits. Welfare concerns are almost certainly more prominent.

3. Analytical Summary

The development management system pioneered in Malaysia in the 1960s manifests a number of features which tend to recur in other similar systems:

(a) The management system arises in the context of a national and extra-bureaucratic program of development. Such programs often respond to emergency situations at the national level and incorporate substantial elements of public relations and a strategy of placating the rural masses.

(b) In the Malaysian program, the size and cost of projects was stratified according to administrative levels. The districts proposed and implemented the minor projects, the states managed the medium-sized projects, and the central government implemented large projects. Indeed, it is difficult to imagine any other way to divide administrative responsibilities.

(c) The Red Book system and the associated administrative monitoring exemplifies the two lines of communication -- top down, bottom up -- that are nearly always found in these programs. They contrast with rigid command economies (although even here one finds considerable feedback from below) and with radically decentralized systems where local units have the power of taxation and may claim any right not specifically assigned to a higher administrative unit. This is the system embedded in the United States Constitution and copied to some extent in a number of industrial countries. Such radical decentralization is rarely found in third world countries and in fact it does not always work as envisaged in the United States.

(d) The Malaysian administrative system maintained, and even strengthened, the conventional mode of administration which depends on face-to-face contact. Officers and other relevant people were required to meet at definite intervals and to record their deliberations. Meanwhile the Deputy Prime Minister moved about the country making surprise visits and using the oldest known administrative weapon: the power of persuasion by words and actions.

(e) Although the first 15 years of the administrative system involved no technology other than the pen and paper -- with great emphasis on maps -- the system was computerized in the late seventies. From the fragmentary accounts that are available, the computerized record keeping maintained many of the same procedures.

4. Other Examples

On the basis of scattered and vague references as well as the verbal (and sketchy) accounts of people who have lived in these countries, it appears that both Thailand and Brazil used management information systems similar to that of Malaysia. We do not have details of the systems, but it is doubtful that they varied in essentials. The most important point is that like Malaysia, both of these countries were responding to an emergency situation. Thailand's Northeast was threatened or thought to be threatened by communist guerillas in the late 1950s, and a major development and "pacification" program was mounted for that region. Later, the same principles of rural development, emphasizing infrastructure, were used in other regions, notably,

the southern Thailand "panhandle" which was also threatened by guerillas that moved north from Malaysia. In Brazil the threat to the Brazilian Northeast was internal and consisted of a combination of harsh weather conditions (drought) and a militant peasantry, some of whose leaders raised the specter of secession from Brazil. Again, the national government set up a special agency, usually referred to by its initials SUDENE, which succeeded in making some changes in the overall economy of this region. Hirschman's (1963) account of Celso Frutado's brilliant efforts as director of SUDENE are still worth reading and relevant to contemporary efforts.

5. The Kenyan PIM System (1970s), Rationalizing Development Activity

A number of innovations important to regional and rural development planning and management have come out of Kenya. One of these was the Programming, Implementation and Management, or PIM system. Developed by University of Nairobi researchers in the early 1970s, PIM was a method to routinize, rationalize and integrate the procedures of government officers in Kenyan rural areas. PIM also had important implications for project monitoring and evaluation by higher level management. PIM was more than an information, or data-management system; it was a method of organizing all work activity. However, information and reporting aspects were important parts of PIM.

The authors of PIM started from a realization that "the great mass of existing government reports...were devoted to routine observations and statistics unrelated to on-going projects or the problems which they faced" (Chambers 1974:40). Their first goal was to find a way to link reports to key areas of performance. This seemingly simple first step led to an ever-widening involvement of the researchers into matters of management, procedures and project implementation. Over time, with much experimentation and borrowing from other management methods, the PIM system was constructed.

At the heart of the PIM system were three critical components: programming exercises, management meetings, and action reports. Of the three, the programming exercises were the most important. These exercises gathered together in one room all the people (usually officials only) concerned with a project or set of projects in one locale. Through open and lengthy discussion the project was broken down into its logical, natural components; its parts or steps. Through discussion with the officials who actually had to do the work, the programming exercise specified what was to be done, when each part of the process should start and end (this automatically reveals the proper sequence of events), and who was responsible for the implementation and supervision of each stage. The programming exercise combined several aspects of well-known management tools. For example, the emphasis on target-setting by discussion of superiors and subordinates was reminiscent of "management by objectives" approaches. The breakdown of a project into component parts and the sequencing of these components according to priority was drawn from methods such as critical path analysis. The display of project status by means of colored bar-charts featured prominently in PIM; this procedure had, of course, been widely used elsewhere. What made PIM so interesting and unusual was that it combined these several aspects and then simplified them -- through extensive field testing -- to make them applicable to third world rural development project work.

The main stages of the programming exercise were:

- (a) Listing and agreeing on the steps of the project to be carried out;
- (b) identifying and agreeing on who is responsible for each operation;
- (c) agreeing on start and completion times of each operation;
- (d) agreeing on targets and a completion indicator for each operation;
and
- (e) discussion of implementation; review of targets and indicators.

Thus, the programming exercise scheduled activities, indicated what exactly should be done, by what date, and indicated who was responsible for seeing that all was done on time. Each participant in the exercise was then provided with a simple form showing all these stages and information (see attachment marked Appendix D -- Specimen Annual Phasing Form). This was both a record of what had been agreed upon, and a guide for future action.

Management meetings were periodic, often monthly, but the timing depended on the nature of the project or projects. These were gatherings of the chief coordinating officer of the locale and all officials and people directly involved in the implementation of the projects. At the meetings the status of all projects was reviewed. This could be done at a glance by reviewing the Programming Chart, which simply and graphically depicted the implementation status of each effort (for an example, see the attachment marked Appendix E -- Annual Programming Chart). Projects which were on schedule were simply noted; projects which were behind schedule called for explanations by the designated official. Remedial actions, where possible and necessary, were discussed. Actions forthcoming were noted, and special information relevant to project implementation was put forward. The instructions for the meetings stressed that they should be brief, informal and should concern only those persons directly related to the implementation of the projects being discussed. What made these meetings different from ordinary review meetings was that the programming exercise and chart provided a means to check on precisely where and why a project might be stalled. While not providing any sort of guarantee that the problem could be overcome, the system at least specified the bottleneck and indicated who should now be contacted in an attempt to put matters right.

This leads to the third component of PIM; the action report. This was "an operational control device for securing action, not a means of communicating routine information" (Chambers 1974:47). The officer coordinating the management meeting wrote up the results immediately after the meeting. The resulting report was brief, and stated in the simplest possible way what was to be accomplished in the month or period just ended, what was actually done, and what action was required to get late projects back on time. The person responsible for seeing that the necessary action was taken was identified. Whether or not they attended the meeting, they were sent

copies of the report with their name or initials, or the initials of their organization, circled in red. The idea was not simply to clearly identify who was responsible; it was also that busy officials should read only those parts of the report that directly concerned them. (See attachment marked Appendix F -- Specimen Monthly Management Report.) A second, narrative -- but still brief -- part of the report went into a bit more detail on what needed to be done and what were the implications of delay.

Action reports, or monthly management reports as they were sometimes called, were sent to the center from the various field offices using the PIM system. (PIM was used only in an experimental group of administrative units, and only applied to certain sorts of projects. A reading of Chambers is essential for a full understanding of the PIM system.) Central officers in the Ministry of Finance and Plan were thus provided with a monthly status report on development projects. These could be displayed on a large bar-chart form in the central office, indicating overall levels of implementation. (In Kenya, use of this system revealed that one very common cause of project delay was failure of the budgeting officers in the central ministries, and especially the key Ministry of Agriculture, to release expenditure authorities in a timely fashion. While the PIM system could not correct this problem, it did identify it and show that central officers, who had long dismissed subnational officers as lazy and incompetent, were often as not the main cause of project delay. The PIM system showed that frequently the fault lay in Nairobi, and not the field.)

In its first three years of operation, the PIM system was used in only a few areas. It received four evaluations, all of which were favorable. The PIM system was seen to introduce a more participatory, democratic style of management. It reduced the number of wasteful meetings. Reports were limited to materials directly related to objectives; useless paper work was reduced. Departmental coordination was enhanced. "Top-down" target setting and regulation were reduced, though by no means eliminated. Better estimates of needed resources, and available manpower were produced. The flow of work was much more efficiently programmed. In sum, there were many solid gains.

Yet despite the apparent improvements, major problems remained. PIM had been created by expatriate researchers and supported by expatriate advisors in the capital. When these people left Kenya, in spite of considerable enthusiasm for PIM from lower level Kenyan staff, much of the push for the system went with them. Perhaps Kenyan officials at the center were suspicious of a system which showed that some of the fault for poor performance lay with them. Certainly there was no senior Kenyan official committed to PIM, able or willing to support it after the departure of the expatriates. Perhaps it was simply that PIM was not tried for a long enough period, or in a sufficiently large number of Kenyan divisions, to reach the "critical mass" stage for an administrative innovation. For a variety of imperfectly understood reasons, the PIM system did not succeed in replacing the older, standard forms of work programming and reporting. Some influence of the system remains behind, but its impact has been much less than its initial promise would have suggested.

6. Other Examples

The system that was recently taught to the staff of the Central Tunisian Development Authority in Kasserine by two consultants from Development Alternatives, Inc. follows the Kenyan PIM system. Copies of the DAI training materials are available in French from AID, but the core idea is that of the PIM system. What this approach attempts to do is to break down the components of any project and then to organize these components into sequences, into funding and implementation, and a basis for identifying trouble spots. As an introductory example the consultants from DAI guided the Kasserine staff in identifying the basic components involved in planning a party. In case the reader has not given thought to this particular problem, the training handbook finds that parties consist of four major components: invitations, hall, food and drinks, and entertainment. These categories, in turn break into 8, 8, 8 and 7 sub-categories.

The subsequent exercises in the DAI training manual are much more serious, and indeed were selected from the very projects that CTDA was currently dealing with. There is no question but that this approach is generally useful and necessary. Nonetheless it prompts several comments. The first is that this type of analysis comes almost automatically to anybody who has any experience at all with project planning. It is almost synonymous with thinking, and the codification taught by DAI does not solve the basic problem of what to do if the project does not break down easily into these kinds of components or, on the other hand, if the planners get out of control and list too many components. Additionally, it de-emphasizes the coordination that is so important in project implementation. In other words, this kind of standardization is no substitute for good judgment and experience. The other comment is that some kind of breakdown such as this is assumed in the computerized systems that are reviewed in the following section.

a. The Egypt/Kenya System (1980s), Computerized Accuracy and Flexibility

One can say much or little about the recently introduced computerized information systems for rural development programs. For those who are familiar with microcomputers and electronic spread sheets, it is obvious how budgets, project monitoring, and even certain kinds of evaluations can be codified by using these flexible and efficient tools. However, that summary statement omits the key element in these (and all) information systems: the difficulty and importance of constructing the categories, variables, and their combinations, together with a workable and accurate data collection system. In short, the basic problems remain, although the introduction of computers has certainly upgraded a significant component of management information systems.

b. The Kenya Experience in Managing Finances at the Ministerial Level

A recent paper by Pinckney, Cohen and Leonard (1983) reviews the (rather loose) patterns of financial management in the Ministry of Agriculture and Livestock Development and describes how the introduction of several Apple II computers, using Visi Calc software, improved the situation. Now, there are two rather startling assertions embedded in the foregoing sentence. The first is that a very small computer has the capacity to manage the basic

budgetary facts of a whole ministry. The second is that a standard software package, purchased "off the shelf" and capable of being operated by regular Kenyan staff, was the only computer program necessary. It is true that the system was introduced and elaborated by two senior expatriates and now that they have returned home, the system might not be so flexible, but it is highly likely that it will continue in essentials.

How is this possible? In the first place the Apple II computer with a working capacity of 64,000 bytes is not, despite its small size and low price, a toy. Twenty years ago just about any university physics department would have been delighted to have it. On the other hand it is not in the class with the IBM PC or more expensive machines like the Apple Lisa or Hewlett-Packard. As for the software, the particular "electronic spread sheet" that goes by the name of Visi Calc (short for "visual calculations") is well established for this type of problem. For example, as one makes up a budget it is often necessary to add categories or new columns. If one is using paper and pencil, this means starting over or writing between the lines. The computer makes these changes instantly. Imagine also that one has completed the budget and is just about to submit it to the minister and you are informed that all the categories must be reduced by 5 percent. One simply enters this command ("reduce all figures by 5 percent") in the "command box," strike a particular key, and it is done. Then the new figures are printed out instantly.

In one sense, there is nothing really new in this program; on the other, its ease of application is a great relief and may even seem miraculous to those who previously had to make all the changes in large columns of figures. However, the Pinckney *et al.* article is not primarily concerned with this technical innovation. Rather, they try to demonstrate that it facilitated some truly major reforms. For example, the process of devising categories for the Visi Calc program required the distinction between three types of expenditures: old projects, new projects, and parastatals. It was instantly apparent that the third category (which also included several sugar companies and two large agricultural schemes) consumed 77 percent of the development budget. Such a fact raised obvious questions of priorities and allocations and stimulated a number of review conferences among the senior officials. In the same way it was discovered that the records on expenditures for projects that were supposed to be financed by outside donors were inadequate. As a consequence the donors were sometimes not billed. Once these projects were identified and the bills presented, the budgetary situation of the ministry was considerably eased. More generally, the process of codifying budgetary information revealed ignorance and gaps, and led to review conferences on the part of senior officials that most certainly improved the administration of the whole ministry.

Of course, the major improvement that a computerized system brought was the capacity to keep track of expenditures so that under- and over-expenditures were known within a week of their occurrence. Such knowledge was important in deciding whether further requests could be approved or denied or, in some cases, whether whole projects had to be reorganized. Again, it must be emphasized that it is possible to keep up-to-date expenditure records with pencil and paper and a disciplined and devoted staff.

It is also true that efficiency on the part of the data collectors and data entry people is required even with computers. The introduction of microcomputers does not automatically increase office efficiency. On the other hand, they do bring the efforts of many people to a focus. The knowledge that data collected in one week will be used in the following week is both a reward and a type of discipline for the people who supply the numbers that eventually get into the computer.

It is also noteworthy that the Kenya system did not produce new money. Despite all the efficiency and record keeping, the proposed budget was still 80 percent above that likely to be granted by the treasury. This fact led to a meeting of the senior officers of the ministry who decided on priorities and went as a group to the treasury to argue their case. They at least maintained their autonomy and their control over their own ministry. In previous years the agricultural ministry had simply forwarded an unrealistic budget and allowed the treasury to make cuts, thereby setting priorities for the ministry. Thus, although the computerized information system cannot produce new money, it can assist the senior officers in making the best of a bad situation.

In a summary section Pinckney et al. list the lessons learned, many of which are implicit in the foregoing review. Two of their prescriptions, however, deserve special comment. The first is that they recommend the presence of a full-time specialist to introduce the microcomputer for the first year of use. They find, and experience at Cornell corroborates their judgment, that a "teacher" is almost always necessary in getting the system off to a good start. As in learning to drive a car, a little tutorial greatly facilitates the kind of coordination that is required to make these machines (and the software) produce results. But there is a second reason why these teachers are necessary, which relates to another of their generalizations: "microcomputers facilitate experimentation with data formats, thereby promoting easier analysis and contributing to better decision making." If the teacher is really skilled, he will communicate the most important thing that must be learned in this type of system. That is an attitude of experimentation and an openness to revisions in one's categories. The Pinckney et al. paper records a great deal of trial and error in making up categories, in finding combinations of numbers that reveal important facts and, perhaps equally important, ways to eliminate unnecessary data.

Much more is involved in this process of experimentation than simply finding new labels for columns in a computer. These new labels often require a reorganization of the accounting staff and very likely the field staff. After all, the computerized system is not introduced into a vacuum. People are already collecting data and making up reports. In Kenya, these reports were 100 pages long and doubtless employed the time of a great many people, some of whose jobs may have been eliminated. Similarly, the field staff had already been trained to collect certain information and perhaps now had to collect new information or to stop collecting certain facts. The process even affects the senior officers. One particular computer output, a listing of "trouble spots," revealed that a major source of delay was not in the field, but in the tardiness at the top in releasing funds. The new system also forced a number of meetings that had not been held before (although it reduced the total number of meetings). On the assumption that

no agency likes to change its habits, one must ask what are the conditions under which such changes can be introduced? As is well known, Kenya has been in a state of financial crisis in the last several years, and the government has experienced some instability. Perhaps these national conditions made it possible to introduce a system that would have been resisted in other circumstances.

c. Project Monitoring in Egypt

The computerization of the ministerial budget in Kenya was a significant and probably a difficult feat, but it was relatively simple compared to the task of developing a project monitoring system for rural development efforts in a country like Egypt. After all, most of the budget categories in Kenya were already well established and when they were not the information specialists at least knew that they were dealing with money. But rural development projects involve more than money. They involve people with many different skills, they involve a great diversity of materials, and most of all they involve sequencing and coordination. Apart from budget and expenditures, there are few common denominators across projects.

There are two ways of dealing with this problem. The first is to develop new abstract categories such as "progress toward completing the project." The amount of time spent on a project would seem to be a common denominator. The same is true of man-days of labor, although this must be specified. The second approach is simply to use the capacity of the computer to list all of the variety that one may encounter and assume that the diversity of projects in any one region will be manageable. This second strategy is exemplified by Table 1 from the April 1983 report of the consulting firm that is responsible for developing an information system for the Basic Village Services project in Egypt. As the code at the foot of the table shows, there are ten different active projects in this governorate, beginning with "water" and ending with "community hall." A footnote indicates that two categories, youth centers and markets, have been rejected.

This table is a copy of an actual printout of data organized by a computer program called ISIS. Although this program is designed to perform social statistics, it has the capacity to create files and tables such as this. If the intent of this classification is to move on to statistical analysis, then this is a correct starting point. However for ordinary monitoring purposes it would probably be easier for the staff to use the standard Visi Calc program which, of course, is based on the same matrix format.

The next table, "Reported Rate of Completion of BVS Projects," illustrates one way that progress can be summarized. Here the numbers represent the percentage of projects of a given type that were completed in one of the three months listed. Thus in the governorate of Fayoum 21 percent of the water projects, 31 percent of the road projects, and 51 percent of all the other projects were completed in June. The average percentage for all projects was 34 percent which qualifies Fayoum as 5th in rank. The governorate of Qena is 1st with 68 percent of all projects completed in June. Looking at September, it appears that the basis for computing percentages has changed, because now the governorate of Fayoum has zero percent of the water projects

completed. We do not know whether this refers to the remaining projects or to the combination of continuing projects and new projects, but presumably another computer output could report this information.

We do not have a complete report on the Egyptian information system but these two tables demonstrate the possibilities. Different categories would apply in any case to a country like Tunisia. What is important to know at this time is that a monitoring system for projects is possible and that it differs from the budget and expenditure accounts that are so important in the central office. Someday summaries of project progress will be considered as important as expenditure data. Even now general summaries would be extremely useful to officials in the central office.

7. Some Generalizations about Management Information Systems

(1) The three types of management information systems reviewed here reflect developments over the last three decades but the essentials of the systems are the same. The Kenya PIM system refines earlier work in the direction of finer classification, while more recent systems introduce flexibility by using microcomputers and electronic spread sheet software.

(2) There is a tendency in all of these reports to concentrate on the formal information system, ignoring the many organizational and conceptual problems that are involved. It is important to understand that all information systems include data collection, training and monitoring of data collectors, conceptualization of categories and variables for inclusion in reports, meetings with senior officers as problems are revealed, a corps of data handlers (which in recent systems involve knowledge of microcomputers), and a separate monitoring and trouble-shooting team.

(3) Information systems can work well without computers, but these machines make the work easier and they may contribute to continuity (after the consultants leave) and innovation as new problems arise.

(4) Enthusiasm for these systems fluctuates, depending on the interest of senior officers, the needs and challenges of the ministry or agency that sets up the information system, and the presence of expatriate advisors.

(5) These information systems tend to operate at three levels:

(a) Ministry level, where the major ongoing problem is budgeting, financial monitoring and control. Reports on implementation are also considered at this level, but such consideration is not yet routine.

(b) Agency level: The major ongoing problems at this level are planning, programming, and coordination which translates into the project monitoring and evaluation components of the information systems described here. Budget and expenditures are important at this level but they operate as pre-conditions for administrative operations.

- (c) Project level is concerned mainly with data collection that feeds into the information system. If the system is functioning well, each project would receive up-to-date reports which would constitute a type of feedback. Such reports could help a project manager to put his work into perspective and they might also stimulate problem solving in the field.

A more general theme that runs through all of these reports, but which is admittedly speculative, is the proposition that information systems as defined here are simply components of the overall organization of an agency or ministry. If this is so, then the information system can only be as efficient as the encompassing organization. Thus, if the agency's purpose is unclear or if the senior officials are involved in political conflict, it is quite unlikely that the information system will function efficiently. Said another way, the overall capacities of the agency set limits on the kind of data that can be collected and how it will be used. Information systems, even when computerized, do not have a life of their own. They are simply components of a larger organization and their quality rises and falls with the organizational level of the agency.

B. Reinforcement of the CGDR, Training and Technical Assistance Needs, and Appropriate Institutions for Training.

CGDR has clear need of technical assistance in devising its overall strategy and in elaborating appropriate methodologies for its work. The Commissaire General repeatedly stressed his organization's acute need for answers to fundamental questions:

- Why have the many actions in regional development previously undertaken by the Tunisian Government had such modest results?
- How does one establish objectively and empirically the social costs and benefits of investing in less-developed regions? That is, how can one assess scientifically the long-term social worth of an investment, and then balance this off against what often appears to be a negative, short-term purely economic worth?
- What are the precise programs and projects that one should undertake that will have maximum impact on better integrating the poorer and wealthier regions?

In sum, the CGDR is wrestling with the most complex of social issues -- how to reconcile the trade-offs between growth and equity. In the Tunisian context this translates to the following: how can one direct public investment, and encourage private investment, in the less-favored regions in an economically productive and profitable manner? The requirement is nothing less than creating social justice in a cost-effective manner. The admission that this is an enormous problem, generally unresolved the world over, does not diminish its importance.

1. State-of-the-Art Studies.

It is not suggested that this project will find the optimum solution to this universally troubling problem. Rather, what is suggested is that a part of the project will be the production of state-of-the-art studies on those various aspects of this issue that are most critical and relevant to the Commissariat. The proposal is that the CGDR, in consultation with their IDA collaborators, will commission applied inquiries (articles oriented primarily for academic readers are not what is needed) on topics that inform directly on fundamental issues.

Examples of the kind of studies to be produced are the following:

- Comparative Experience in Regional Development Information Systems.
- Policy Constraints to Rural and Regional Development in Tunisia.
- An Analysis of Decentralization Policy and Practice in Tunisia and Morocco, and its Relevance to Regional Development.

- Trade-offs between Growth and Equity in Tunisia.
- Experiences in Regional Planning and Development: Successes, Failures, and Lessons Learned.

External technical assistance is required to undertake these studies because the CGDR senior staff have little time to reflect on these concerns as deeply as is desirable and because their disciplinary specializations do not speak to all facets of the critical issues. The Commissaire General has the requisite credentials to undertake parts of the reflective task, but his heavy administrative responsibilities leave him with too little time to pursue them. The Institute for Development Anthropology proposes to serve as a broker between the CGDR and the academic community in focusing the attention of the most competent specialists, and in assuring the adequacy of French translations where these are required.

Methodological issues being faced by the CGDR would also profit from external examination, as the CGDR is seeking means of integrating regional planning into the national Tunisian planning process. The questions it is being asked -- and is asking of itself -- are:

- In what specific ways does regional planning differ from national planning?
- Are the methods and procedures identical, and merely matters of more limited geographic scope? Or is there a fundamental distinction between them.
- Are the tools of social cost/benefit analysis sufficiently sharp and subtle to reveal the long-run socio-political utility of investing in presently less-developed areas? If not, can such analysis be modified to take account of these issues without distorting its validity?
- What are the likely competitions for funds and attention as Tunisia enters a post-hydrocarbon economy?

These are complicated issues, and distilling current thinking in the field into brief, focused, practical papers will require special expertise. Making the conclusions specifically relevant to the Tunisian situation will be a demanding job, but it can be done.

2. Field Studies.

Field studies are proposed for the CGDR for a number of reasons. First, field studies will enable the CGDR to pursue at greater depth issues raised in the state-of-the-art papers and to provide them with Tunisian data against which hypotheses may be tested. Second, the field studies would illuminate issues that arise in the course of CGDR work. Examples of studies that emerge from these first two reasons are the following:

- the nature and analysis of revenues and expenditures at the regional level;
- implications of decentralization for regional administration;
- the kinds of data systems that should be developed at the regional level;
- incentives and constraints toward popular participation in development among various Tunisian regions (i.e., why are people in some regions rather than in others apparently more willing to invest resources -- capital, land, labor -- in local activities);
- what kinds of public actions encourage or constrain development-oriented private sector entrepreneurship;
- what kinds of policy changes will contribute to redressing regional inequities in development.

Third, field studies can be used to provide on-the-job training to CGDR staff in methodologies appropriate to its task, especially the method that has come to be known as "rapid rural appraisal," while avoiding the errors that can transform such appraisal into rural development tourism. Field work provides a human reality base on which to predicate development actions, a base which is too often obscured when the planners are presented only with aggregated statistical information. That is, field work facilitates the elaboration of development actions that are socio-economically and ecologically sound.

Finally, field studies are necessary to identify the kinds of data that will allow for effective project monitoring and evaluation.

The selection of field problems and field sites can be made more efficient by prior analysis of available qualitative and statistical information. For example, there is often a high correlation between the development of urban centers and the level of welfare in their immediate hinterlands. One can refine this relationship by controlling on the distance from the capital city (or from the nearest port city), on whether or not the town is a governorate capital, and, if the information is available, on the character of urban development -- proportion of industries of various types, proportion of service employment, etc. However, it is virtually impossible, even with adequate data, to account for all the variation. Some cities have welfare levels that are much lower or much higher than they "should have" on the basis of the variables that the analyst has explicitly manipulated. Correlations are never perfect and there are always "deviant cases." Modern statistical analysis can identify these unusual cases and provide an estimate of how much they deviate from expectation. These exceptions then define the task of the field investigator: to find out why some towns are deviant. Sometimes the reasons are particular, as is true of new governorate capitals; they simply have not had time to influence welfare levels. But other factors, once noted, can be generalized and later added to the prediction equation.

Another outcome of statistical analysis that calls for field study is the "skeletal conclusion." In a recent study of Central Tunisia ("A Baseline for Rural Development in Central Tunisia," 1981), it was possible to show that the infrastructure and services -- electricity, clinics, market place, water system, etc. -- of the towns followed a common sequence despite the fact that the work of the responsible ministries was apparently uncoordinated. This was an unexpected finding, since it appeared that orderly development resulted from uncoordinated projects. A testable implication of the finding is that much of the concern expressed for the lack of coordination among ministries may be misplaced. However, such a finding confounds common sense. The statistical methods used to demonstrate it were sophisticated, but something is missing, namely an understanding of the process by which it operates. The problem must therefore be investigated in the field. Have the ministries noticed such a sequence? Do they operate in such a way that their separate efforts could result, unintentionally, in this sequence? Up to the present, no field study of this result has been undertaken.

The unanticipated relationship is a type of statistical result that calls for field investigation in its explanation. For example, the above-cited study of Central Tunisia found that those secteurs (administrative sub-divisions) with many mosques and/or saints' tombs reported fewer ecological problems, including erosion, deforestation, and flooding, than did the others, and the relationship was sustained even when level of urbanization, type of agriculture and extent of sedentary herding were controlled. The relationship seems to be confirmed, but why? Why should those secteurs with more religious infrastructure report lesser degrees of environmental problems? A number of testable hypotheses present themselves, which require field study for their falsification. The favored secteurs are concentrated along the road from Kasserine to the Algerian border. Perhaps this is a naturally favored strip, and the presence of religious infrastructure is accidental. Perhaps there is a greater sense of community cohesion in this area, manifested both in support for religious structures and in environmentally sound behavior. Perhaps wealthy merchants who support the mosques dominate the land-holding group and therefore need make more modest demands on the land. The number of plausible hypotheses is very large, and the significance of sorting through them is patent. But only field work can provide the necessary data.

3. Upgrading and Enlarging the CGDR Information System.

CGDR already has a functioning information system, one based on paper files. It consists of administrative records of various kinds; of qualitative and quantitative data on planned projects and activities; of qualitative and quantitative data on the gouvernorats and delegations in which it works; and a library of 300 plus books, documents, and journals dealing with regional and national development. It was clear that the system is being used by CGDR staff. Files are kept organized and up-to-date and are regularly consulted. In several areas, the system is already operating

efficiently or requires minor systematization to improve it, and therefore computerization in these areas is not recommended. The cost would not justify the marginal improvements achieved thereby. Neither the administrative records nor the library requires computerization. The latter does require both a classification system and a card catalogue. One such classification system has already been proposed by the Institute for Development Anthropology, and is attached as an Annex to this report.

There are a number of areas in which computerization would be cost efficient, especially as the workload of CGDR is expected to increase disproportionately to any increase in professional staff. In-house reports, for example, could be kept track of with a computer file utilizing the Apple IIe data base program that the Commissariat already possesses. Data base programs are well suited to the storage of bibliographic citations that are retrieved and manipulated by a system of key words, such as "evaluation," "rural development," "rural-to-urban migration," "women in development." Working up the list of key words is relatively simple, and the Institute for Development Anthropology library classification system provides a ready made starting point. Authors must be encouraged to indicate the key words in the abstracts to their reports. The retrieval and search system used by the Centre National de Documentation Agricole is based on key words; it is just bigger, more complex, and much more expensive than anything reasonable needed by CGDR.

An important component of CGDR's present information system is the file on projects proposed by officials in the gouvernorats for immediate implementation on the grounds that they would aid in confronting the "pockets of poverty" that exist in almost all the gouvernorats at the sub-sectoral level. Ultimately CGDR will have to deal with records on about 260 of these projects. Work is supposed to begin on two projects per gouvernorat during the first funded year, increasing annually to four and then to eight. Anticipated first year funding is 23 million DT. The Commissariat is supposed to plan the projects in cooperation with gouvernorat officials, fund them and monitor their progress. Actual implementation will be the responsibility of the line ministries, especially agriculture. Although the projects are small and generally oriented toward local improvement of agriculture, they are complex, involving upwards of ten or more components, and therefore constitute a challenge for the computer.

The quantitative data, such as costs, number of farmers served, changes in budget, increments of investment, measures of progress, and the like are readily handled by an electronic spread sheet program. This may be compared to a blackboard where the rows represent sites within the sub-districts and the columns refer to different kinds of quantitative information. Columns and rows can be changed, manipulated, totalled easily and accurately. CGDR owns the Visicalc program, and a Commissariat secretary who is familiar

with the Apple IIe is currently typing the data from a study of 185 delegations into the Visicalc format. Visicalc is not, however, an appropriate program for statistical analysis. Statistical programs are more complex and more difficult to use than Visicalc, and the CGDR does not own one presently, nor is the current staff trained in its use.

A question that is likely to arise is whether CGDR staff should be trained in writing programs. Our assessment of the situation is that the ability to program the computer is unlikely to be required for the first several years of the Commissariat's operation. At some future point it will probably be useful for several of the CGDR staff to understand how to do simple modifications of programs written in BASIC (a widely used micro-computer language), but for the present a huge library of programmed material already exists for the Apple IIe which is well suited to the kinds of materials and problems CGDR deals with.

Thus, the quantitative data on projects (any set of them), can be stored and, to a certain extent, manipulated with Visicalc. But what about all the qualitative information in the files? How does one keep track of the different groups that proposed the different projects and all the details of the projects that are presently written up in the dossiers? Some of it could be managed with the data base program; and the remainder is best left in paper files. Computers reduce the amount of paper but they do not eliminate it.

It appears then that CGDR has a functioning information system and some parts of it could be usefully computerized using the Apple IIe and the two packaged programs already available. The initial phase of this process would require about a year, assuming the present staff and workload, and might follow a sequence approximately as follows:

(a) Have the secretary who is familiar with the machine and the two programs teach another secretary, and let the two of them supervise a "computer room" which should be established close by her office. This room need not be elaborate, but a separate room is necessary so that other people can work with the machine without crowding the office where the machine is located now, and so that the machine be kept in a smoke-free atmosphere.

(b) Solicit interest in the computer by permitting a member -- it need not be the chef d'équipe -- of each of the six regional teams to spend a small portion of his time learning the programs. One or more personnel from the statistics section and from the library should also be authorized to use the room. The secretaries can introduce them to the machine and make sure that they do not smoke near it and that they learn the other rules of procedure. After that the staff members must demonstrate their motivation and capacity by reading the manuals and becoming familiar with the computer. Over the course of several months some of those who were initially enthusiastic will lose their interest, while others will volunteer to take their places. At the end of this testing period, a stable "user group" should emerge.

(c) The next step is to make practical use of the two programs. One way to accomplish this is to bring in CEGOS, a Tunisian firm that teaches Visicalc, and have them conduct a course for the user group for about three hours a day for one week at an approximate cost of 700 DT. This presents a problem in that the staff at CEGOS has little familiarity with the kinds of files that are in use in CGDR, and their instruction might be affected thereby. An alternative is to use a consultant. In a week s/he could familiarize her/himself with the substantive aspects of the files, and then be able to discuss these problems with the use group as they worked with the computer. Some questions: what key words should be used for the project files; what is the best way to conceptualize the quantitative information in the files? Even the labels for the Visicalc columns contain simple concepts that must be defined by the users themselves, not by the teacher. The point is that even with these relatively simple materials and at an early stage in computerization, substantive knowledge comes into play. The computer is nothing more than a tireless, flawless clerk; it is only capable of doing what it is instructed to do, either by the program routines or by the additional commands, and the latter embody substantive knowledge.

At the end of a year, the process of up-grading should produce the following results: (a) the in-house documents should be organized using the data base program; (b) a "bank" for the projects of the integrated rural development program should be functioning in two parts: the qualitative facts organized by the data base program and the quantitative facts organized by Visicalc. Each of the six teams should have its own file. The user group representative from the statistical section should master both programs and apply them to the problems of that division, but the major statistical applications will come later on, as is discussed below.

All this will take effort and coordination, which means the time of an administrator. Note also that although there is only one computer and one room, the system has now spread to many sections of the Commissariat. The link between these other offices and the computer is the diskette(s) that holds the information. (The programs stay in the computer room, of course.) When a team wants to add or modify its file, the member of the user group takes the relevant diskette from a file drawer where it is protected from dust and scratches, and goes to the computer room. Eventually it may be cost effective for each team and section to have its own microcomputer, but that is several years off.

During the first year, the process of computerization can move forward with little cost or outside help. However, the next step, which involves adding functions not now present, will involve moderate costs and allocation of the time of several people. The specific enlargement that is recommended is the acquisition of a statistical package for the Apple IIe and its use in managing the information on the delegations and the gouvernorats.

At the moment, the statistics section has compiled information -- about 100 variables from various official sources -- on each of the 23 gouvernorats. This information is presented in a set of reports entitled "Statistiques et Indicateurs Régionaux: (name of gouvernorat)." Similarly, the statisticians have compiled quantitative data -- 16 variables from mainly official sources -- on the 185 delegations. This information presently exists on large sheets of paper and has been partially analyzed (using the university computer) by using factor analysis and simpler indexing techniques. The result is a composite index of development which, when mapped, shows that most of the gouvernorat of Kairouan and some delegations in Kasserine are the poorest in the country, rather than areas in the South or Northwest. This conclusion is reported in the document "Carte des Priorités Régionales."

Similar information exists at the level of the secteurs, but is limited to basic demographic facts and perhaps some characteristics of agriculture. Expanding the files at the sub-district level would require some type of survey, such as that reported in "A Baseline for Rural Development in Central Tunisia" for the 80 secteurs in the zone of responsibility of ODTC.

How should these data be analyzed to illuminate practical problems? In order to do this CGDR will need a statistical program, which first stores the information and then, without changing the basic data, allows one to describe the variables more precisely, find relationships among them, and assess the strength of the correlations. It helps in their distribution by computing frequencies, means, ranges, etc., and by producing bar charts and other kinds of graphic representations. The statistics for relationships consist of cross-tabulation (including percentaging), correlation, and regression. Some programs include combinations of these, such as breakdown analysis, reliability analysis, or the examination of residuals from regression. Currently available statistical programs are impressive in terms of their power and their ease of use.

As before, one must have substantive knowledge and a strategy (theory) for attacking the problem. This is a rare talent, even among people who have been trained to solve problems. The usual remedy for this deficiency -- unless one happens to have a very imaginative and talented person on the staff -- is to adapt the work of others. After all, every nation has the equivalent of gouvernorats, delegations and secteurs and some countries have both population and agricultural censuses -- the usual sources -- over many years. Many different ways have been found to analyze these data. The problem is to find the approaches that are relevant to the work of CGDR.

What is needed then is, first, a computer program for statistics. There are several on the market and the choice is fairly easy. Then several members of the staff -- mainly in statistics, but perhaps also from the planning teams -- should be designated as analysts and as much as half

their time committed to this work. They will probably need some outside help in the form of guidance for reading and in understanding available models. A specialist consultant could visit CGDR during the second and third years to assist the statisticians. Success would consist of producing analyses that contribute to the strategy and daily work of the Commissariat and the creation of the capacity to continue such analyses after the collaborative project has ended.

In order for CGDR to realize the program of upgrading and enlargement recommended above, it will have to maintain its present strong ties with official sources of data. The fact that several members of the statistics section used to work in the National Institute of Statistics is a great asset. The diverse sources of information already in the files attest to their ability to obtain data from other agencies of government.

Under certain circumstances, CGDR may want to collect its own data on gouvernorats and delegations. Outside contractors, such as the Groupe d'Etudes du Sud in Sfax, can undertake the study, though it is likely to be costly. Alternatively, CGDR can organize its own surveys, using recently devised short-cut methods appropriate to the various administrative levels.

In addition to sources of data, the statistical staff should use the library to read and understand the models already in use in countries like Tunisia. The library should acquire the relevant documents and the analysis staff should hold weekly seminars for the purpose of reviewing them. It is important that the staff be kept apprised regularly of library acquisitions and that the catalogue be scrupulously maintained.

After several years of work with the Apple IIe, it may be necessary to increase the Commissariat's computing capacity. The most likely choice at present is an IBM Personal Computer which will probably be sold and repaired in Tunis by that time. Meanwhile, as already suggested, it may be efficient to add to the number of Apples, depending on the progress the staff has made in using the one it already has. However, no provision for computer hardware is contained in this proposal.

The more important expansions involve different uses of the programs. For example, if the Statistics section demonstrates that a few key variables will summarize much of the social and economic structure of the gouvernorats (or delegations), then it can institute reports to the governors with annual up-dates and perhaps annual workshops for appropriate staff working at that level.

Another possibility is the expansion of the "project bank" so that it becomes a monitoring system. In order to do this, the six planning teams would have to cooperate to establish a monitoring office that would collect telephoned reports, and using an "input program" guide the conversion of the verbal reports into data suitable for a computer file. In other words, one or two "monitors" would be assigned to telephone the project leaders each month or each quarter. They would report progress according to

previously established criteria, and the monitor would type it into the computer as s/he hears it. The input program helps the monitor maintain accuracy and completeness. Later, it assists the transfer of this new information to the basic Visicalc file. Then, if the regional team leader wished, he could have an up-dated progress report sent back to the project leader. The point to note is that with the exception of the input program -- which is easily acquired and learned -- the only new element here is the organization of the system for a new purpose. New staff would have to be hired and trained, and a staff member representing the six regional teams would be needed to supervise the monitoring operation.

How can the Commissaire Général be kept informed of all this? That would require another, relatively simple, operation. The six regional teams would have to devise a plan for summarizing the information in the monitoring system, devise and adapt the Visicalc program for this task, and then work with the C.G. until all are satisfied that the summary is complete and clear. If needed, the summary results could be transferred (by hand) to a large wall chart. Such charts are useful for visitors or meetings, but they become cumbersome as soon as one is dealing with many different summaries. It should be remembered that these proposals use the present set of projects as a running example; very soon the Commissariat will embark on other programs, and these will require similar but separate monitoring systems.

One last general question. How can one be sure that the proposed information system, modest as it is, will be accurate, valid, cost-effective and useful? The short answer is that one can never be sure. A somewhat longer reply is that even approaching adequacy on these criteria is a complex and never-ending process. There are a lot of simple procedures, like double-checking data input and scanning data for extreme values, that can be taught and made routine. There are also procedures for internal checks on consistency that the analysis can apply. In selected cases, a field team can make spot-checks on data sources. More generally, one attempts to create a "culture of accuracy and questioning" among the staff.

But it is still possible to prepare accurate analyses of trivial or irrelevant questions. But applied research is not a random process. What is required is continual and probing communication among analysts, planners, and senior administrators. And this will require a good deal of time and commitment.

Discussions of information systems and research tend to stress quantitative analysis and results, but in fact probably half the information and conclusions of a development agency is qualitative (and another 25 percent minimally quantitative). One does not need a computer to decide that project money was improperly redirected or that the materials for a new road did not arrive until six months after they were needed. It is true that even these facts can be stored and retrieved with computers, but

certainly no complicated statistical analysis on them is required. The fact is that quantitative analysis is only a minor part of an information system. Aside from administrative records, which are outside this discussion, most of the information needed for project planning and monitoring can be handled by the two basic programs mentioned at the outset: data base management and the electronic spread-sheet. The thrust therefore is to learn how optimally to exploit already available materials.

4. Staff Training.

(a) Core Staff. The major resource of CGDR at the present time is its young, vibrant, and well-trained professional staff. With preparation mainly in statistics, economics, and geography, the core staff acknowledges a lack of adequate background in socio-economic spatial analysis that would permit them effectively to appraise project proposals emanating from the gouvernorats and delegations, and to monitor and evaluate those under implementation, and to assure the socio-economic soundness of regional development plans. Because of the high quality of their general preparation, it does not appear necessary to introduce long-term or medium-term training to make up the gaps. We suggest, rather, that CGDR institute a program of short-term, intensive training seminars, plus continuous on-the-job training, all of which should be carried out in Tunisia.

Under the Cooperative Agreement, we propose to offer an intensive seminar in socio-economic and spatial analysis of rural/regional development projects for core staff members (i.e., those based in CGDR/Tunis) plus provincial project officers (i.e., CGDR representatives at the gouvernorat-level). A maximum of 15-20 persons would take part.

The first component of the seminar would be an intensive session of two to four days, conducted in a small hotel in close proximity to Tunis. (It is important for the participants to be out of reach of their offices and telephones, but not so far from Tunis that a good deal of time is spent in travelling. The advantage to using a hotel is that sessions can be held in the evening as well as during the day.) "Text" material -- to be prepared in advance -- would be a sample of project proposals, emphasizing those in agriculture. Participants would be guided through the kinds of questions that should confront these proposals, the kinds of data that are required to respond to the questions, and where these data are most likely to be obtained. What kinds of information should accompany the proposal? What kinds can be found in the CGDR Development Information System (DIS)? And what kinds call for field inquiry?

The point is not to create professional socio-economists and spatial analysts in a two-to-four day session, but to provide enough direction and familiarity with the process so that the bulk of learning can effectively take place on-the-job.

The second component of the seminar, for CGDR core staff and for those provincial project officers at the gouvernorat-level who are able to remain, would take place at the CGDR headquarters. Seminar staff members would follow-up with CGDR staff on a one-on-one basis over a one to two week period. That is, the seminar leaders would sit with CGDR staff personnel at their desks and collaborate with them on a range of activities involving the application of socio-economic and spatial analysis. Small discussions might be held on the utilization of the development information system, including the library and the computerized information system.

The third component of the seminar could occur over a period of a year or more, in which the senior economist and regional planner would provide continuous follow-up on these issues and participate in short, highly focused fieldwork ("rapid rural appraisal") along with the CGDR staff member and/or provincial project officer responsible for specific project appraisal, monitoring, or evaluation.

b. Chefs de Projets. Starting in 1984, and running through the end of the Vlième Plan period in 1986, the Government of Tunisia will fund a special program of integrated rural development projects. The CGDR, working with and through gouvernorat authorities and regional officials of the Ministry of Agriculture, has identified 260 "poverty pockets" throughout the country. These are very small in size; usually a sub-division of a secteur, which in turn is a sub-division of a délégation. This effort, called Le Programme Rural Régional, evidently arose because of a perception on the part of Tunisian authorities that the previous major gouvernorat-level rural development activity, the Programme de Développement Rural, was not having the desired effort. The PRR will differ from the PDR in that it will be a multi-dimensional effort, limited to specific geographic zones. Two-thirds of all efforts will be devoted to agricultural development actions, but one-third of expenditures will go to infrastructure and social programs. The idea is that the CGDR's involvement will result in better planned projects, standing a better chance of creating a good rate of return, generating employment and production, and contributing to the eradication of poverty.

At present, the CGDR plans to implement the first 23 of these integrated projects in calendar 1984. Roughly double that number would be launched in 1985, with the rest beginning in 1986.

Because of the multi-faceted nature of the proposed projects, their implementation will require some out of the ordinary management. The various portions of the projects, the average projected cost of which appears to run about one million dinars, will need to be coordinated. To meet this need, the CGDR has proposed that each project be directed by a specially appointed Chef de Projet. It is likely that this official will be drawn from the Ministry of Agriculture's regional technical services. One can

assume, therefore, that the chefs will have basic technical skills. But one cannot assume that the officials chosen will have any special management capabilities, and it is almost certain that they will have no special expertise in fields outside of agriculture. To fulfill adequately their management/coordination roles, this group of people will require some special training.

This mission proposes an innovative solution: we suggest that the training of the Chefs de Projets be undertaken by the cadre, especially the younger cadre, of the CGDR. Roughly, the sequence is as follows: The CGDR staff will receive specialized training in project and socio-economic analysis from IDA. They, in turn, would pass on the perspective -- if not the precise skills -- to the local project chiefs. The experience would be mutually beneficial, as the CGDR would automatically learn more of what is happening in the field. At the same time, the project chiefs would learn what was expected of them, and gain some guidelines on how to respond to problems. This training role would also serve a useful legitimizing function for the CGDR. The design of the training sessions would be a collaborative effort between IDA personnel and the CGDR. Some IDA participation in some training sessions could take place, but the effort would be undertaken mainly by the CGDR.

C. References

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III. PROPOSAL

The Institute for Development Anthropology (IDA); under the Cooperative Agreement in Human Settlement and Natural Resources Systems Analysis (AID DAN-1135-A-00-1078-00, in which it collaborates with the International Development Program faculty at Clark University), proposes to assist the Commissariat Général au Développement Regional (CGDR), Government of Tunisia, in the establishment and utilization of a development information system to support the CGDR in (a) planning for regional development of the three major least favored areas of the country (the South, the Center-West, and the North-west); and (b) in appraising, monitoring and evaluating rural and regional development actions in these areas. The primary objective of the project is to assist in the regionalization of the Tunisian planning process; that is, to plan and coordinate public and private sector investment activities with a view to promoting the development of the poorest regions of the country. The multiple goals are to reduce regional imbalances, to reduce rural to urban migration, to alleviate poverty, and to promote national integration. These goals emerge from the increasing recognition that Tunisia's long-term stability, as it enters a post-hydrocarbon economy, necessitates both regional equilibrium and social justice.

We propose to USAID/Tunis that it support a collaborative project between CGDR and the IDA/CU Cooperative Agreement for a period of three years, beginning October 1, 1983 and ending September 30, 1986. The main activities will be:

1. To provide technical assistance to counsel, support, study, and advise the CGDR on the strategy and methodology of regional development planning and execution, with special relevance to the least-developed areas of Tunisia.
2. To assist in the improvement and enlargement of the CGDR's regional information system, including assistance in creating and maintaining a "project bank."
3. To provide "state-of-the-art" studies on regional development issues, such as:
 - a. Comparative experience in regional development information systems;
 - b. Policy constraints to rural and regional development in Tunisia;
 - c. Analysis of decentralization policy and practice in Tunisia and Morocco;
 - d. Trade-offs between growth and equity in Tunisia;
 - e. Experiences in regional development: successes, failures, and lessons learned.

(The precise topics will be identified in discussions between CGDR and IDA.)

4. To undertake a series of field studies on such issues as:
 - a. The nature and analysis of revenues and expenditures at the regional level;
 - b. Implications of decentralization for regional administration;
 - c. The kinds of data systems that should be developed at the regional level;
 - d. Incentives and constraints toward popular participation in development among various Tunisian regions;
 - e. What kinds of public actions encourage or constrain development-oriented private sector entrepreneurship;
 - f. What kinds of policy changes will contribute to redressing regional inequities in development.

(The precise topics will be identified in discussions between CGDR and IDA.)

5. To organize staff training seminars and to provide on-the-job training in computer, statistical, and research skills and methodologies.

6. To provide general backstopping for research and policy concerns of the CGDR.

IDA will provide overall management of the project and establish a project steering committee including specialists on regional planning and on information systems for regional development. These persons, among others, will be available also to the project as consultants on an as-needed basis. It is understood that the Commissaire Général, or his representative, will be involved in the steering committee, and no activities within Tunisia will be carried out without his concurrence.

A. Proposed Project Team

Administration:

*Michael M Horowitz, Director
Muneera Salem-Murdock, Deputy Director

Project Advisory Committee:

Michael M Horowitz, Chairman
Thayer Scudder (from January 1984)
John Nellis (through December 1983)
Frank Young

Professional Staff:

*John Waterbury, Regional Planner/Administrative Specialist
*Elon Gilbert, Economist
Frank Young, Consultant on Information Systems
*Monique Cohen, Consultant on Spatial Analysis
*Nicholas Hopkins, Consultant on Socio-Economic Analysis

* = French FSI 3+ or better.

Curricula vitae for project team members are attached.

B. Proposed Budget

	<u>YEAR I</u>			<u>YEAR II</u>			<u>YEAR III</u>		
	Days	Cost at 365/day	Sub-Totals	Days	Cost at 402/day	Sub-Totals	Days	Cost at 442/day	Sub-Totals
1. Technical Services									
Project Director	30	10,950		25	10,050		5	2,210	
Project Deputy Director	20	7,300		15	6,030				
Economist	45	16,425		45	18,090		20	8,840	
Regional Planner	45	16,425		45	18,090		15	6,630	
Consultants (Spatial Analysis, Information Specialist, Socio- Economist)	45	16,425	67,525	40	16,080	68,340			17,680
2. Travel									
International Airfare	6 @ 2500	15,000		4 @ 2750	11,000		2 @ 3025	6,050	
Per Diem	150 @ 80	12,000	27,000	120 @ 88	10,560	21,560	35 @ 97	3,395	9,445
3. State-of-the-Art Studies (4 @ 5,000)			20,000						
4. Information System Back- stopping, document, commu- nications, secretarial, miscellaneous, etc.			13,000			3,000			2,450
YEAR TOTALS			127,525			92,900			29,575

Budget Notes:

Three year total = \$250,000

- Daily rates are calculated as estimate average consulting rate (220) plus overhead (54%), F.I.C.A. and F.B. (9%) and DBA (3%). All figures are increased ten percent annually.
- No costs have been assumed for GOT personnel.
- Contract requests USAID accord maximum budgetary flexibility both for line items and from year to year to optimize ability to respond to project requirements within total budget amount indicated.

ANNEX I

Catalogue de Bibliothèque

PROFIL SELON LES SUJETS

A--	Production de la Nourriture
Ag-	Agriculture
Ags	Culture Pluviale, Culture Non-commerciale (pour subsistance)
Agc	Culture Commerciale, Agricommerce
Agi	Culture Irriguée
Agt	Technologie, Multiplication de Semences, Engrais, Stockage, Protection des Récoltes
Agf	Petit Fermier (Paysan), Exploitation Mixte, Traction Animale
Agr	Révolution Verte
Ago	Analyse des "Farming Systems", Evaluation de Secteur Agri- cole, Autre
Agy	Silviculture Agraire (voir aussi Sf-)
Al-	Bétail
Alr	Ruminants
Aln	Non-ruminants
Alp	Elevage, Pastoralisme, Gestion des Pâturages
Alc	Ranching, Commercialisation de Bétail, Feedlots
Alv	Santé Animale et Médecine Vétérinaire
Als	Relations Nomades-Sédentaires
Alo	Autre
Af-	Pêche
Afa	Pêche Artisanale
Ae-	Animation Rurale, Vulgarisation
Ar-	Recherche et Education
Ao-	Autre
D--	Développement, Stratégies de Développement, Politique de Dével- oppement, etc.
Dm-	Administration du Développement
Dr-	Développement Rurale, Evaluation du Secteur Rural (voir aussi Pc-)
Drb	Développement de Bassin de Fleuve
Drn	Besoins de Bases (i.e., besoins essentiels de l'homme au milieu rural)
Di-	Développement Institutionnel

E--	Economie, Etudes de Micro/Macro Economie, Econométrie, Information Socio-Economique, Analyse du Secteur Economique, etc.
Ef-	Facteurs de Production
Ef1	Terre, Tenure du Sol, Système Foncier, Réforme Agraire
Efb	Travail, Emploi, Distribution du Revenu, Main-d'Oeuvre
Efc	Capital, Epargne
Ec-	Crédit et Coopératives
Em-	Marchés et Marketing, Commerce
Ee-	Entrepreneurs, Petit Commerce, Petite Entreprise
Ep-	Réglementation et Politique des Prix, Financement des Commodités, Import-Export, Commerce Extérieur
Eo-	Théorie d'Echange, Autre
S--	Sociologie et Organisation Sociale
Ss-	Implantation, Réimplantation, Colonisation, Migration (voir aussi Pum)
Sss	Sédentarisation (voir aussi Als)
Sh-	Ménage, Famille, Parenté, Mariage, Divorce, Résidence, Généalogie, Système Lignager
Sp-	Politique, Droit, Stratification
Spl	Administration Locale
Spr	Réfugiés
Spn	Gouvernement National, Formation d'Etat
Sr-	Division Sexuelle de Travail
Sa-	Age
Sac	Enfants, Formation des Enfants
Si-	Religion, Idéologie, Art
Sc-	Communication, Langue et Parole
Se-	Ethnicité, Groupe Ethnique, Minorité Ethnique
Sm-	Militaire, Armée, Guerre, Crime
Sf-	Sylviculture Sociale (voir aussi Agy, Cew)
Sk-	Etude de Communauté
So-	Analyse Sociale, Analyse de Validité Sociale des Propositions de Développement, Autre
St-	Recherche en Théorie Sociale, Rassemblement d'Information

Catalogue

- P-- Planning et Analyse Régional, Développement Régional
- Pc- Développement de la Communauté
 - Pcp Participation (i.e., développement à partir de base)
 - Pi- Développement Rural Intégré
 - Pu- Urbanisation, Développement Urbain
 - Pum Migration du Secteur Rural au Secteur Urbain
- W-- Femmes dans le Développement (voir aussi Sr-, Kw-)
- H-- Santé et Nutrition
- Hd- Démographie, Fertilité, Population, Planning Familial
 - Hm- Morbidité et Mortalité
 - He- Ecologie de Santé et Maladie, Epidémiologie
 - Hn- Nutrition, Sous-Alimentation, Diète, Famîne
 - Hc- Services de Santé, Systèmes Médicieux Comparés
 - *Hcp Personnel
 - Hcc Concepts et Théories
 - Hct Techniques
 - Hci Infrastructure (i.e., bâtiments, équipement), Eau Potable
(voir aussi Id-, Ic-)
 - Hk- Protection Maternelle et Infantile, Soins Primaires
 - Hr- Recherche et Education
 - Ho- Autre, Pharmacologie, Drogue
- K-- Education
- Kp- Pré-Elémentaire, Elémentaire, Secondaire
 - Kh- Etudes Supérieures et Spécialisées
 - Kl- Alphabétisation et Education Non-formelle
 - Kw- Education des Femmes
 - Kv- Formation Professionnelle
 - Ko- Autre, Développement des Ressources Humaines, Formation de la
Main-d'Oeuvre
- F-- Industrie et Industrialisation
- Ft- Technologie
 - Ftv Industries Basée au Niveau du Village
 - Ftz Système d'Informatique, Système d'ordinateur

I--	Infrastructure
Id-	Barrages, Dignes, Systèmes d'Alimentation en Eau, Egouts, Assainissement
Ie-	Electrification
Ir-	Routes
Ih-	Logement, Communautés à Plan (voir aussi Pc-)
Im-	Marchés
Is-	Ecoles
Ic-	Hôpitaux, Cliniques, Dispensaires
Ip-	Autres Facilités Publiques
It-	Autres Facilités de Transport
Il-	Communications
Io-	Autre
C--	Environnement et Climat
Ca-	Agrostologie, Pâturages (voir aussi Alp)
Ci-	Etudes d'Impact du Milieu, Surveillance et Protection de l'Environnement
Cd-	Description et Voyage
Cg-	Formes du Sol et Géomorphologie
Cgw	Hydrogéologie, Eau Souterraine, Couches Aquifères
Cr-	Gestion des Ressources, Inventaire des Ressources, Préservation
Cs-	Téledétection, Photointerprétation
Cb-	Ecosystèmes, Biomes
Cba	Ecosystèmes de Forêts, Tropicaux et Subtropicaux
Cbb	Ecosystèmes de Forêts, Tempérés et Méditerranéens
Cbc	Ecosystèmes de Savanne, Prairies, Toundra
Cbd	Lacs, Marécages, Fleuves, Deltas, Estuaires, Littéraux
Cbf	Ecosystèmes de Montagne
Cbg	Ecosystèmes d'Ile
Cl-	Faune
Cc-	Climat, Météorologie
Ccr	Pluie, Sécheresse
Ccw	Vents
Cct	Température

Catalogue

Cm-	Minéraux et Exploitation de Minéraux
Ce-	Energie
Cew	Bois, Charbon de Bois, Reboisement pour Bois de Feu
Cef	Combustibles Fossiles (Charbon, Gaz, Pétrole)
Cez	Vent
Ceh	Eau
Cet	Thermale
Ces	Solaire
Cen	Nucléaire
Ceo	Autre
Co-	Autre
B--	Bibliographie et Résumés

ANNEX II

A NOTE ON THE PROGRAMME DE DEVELOPPEMENT RURAL (PDR)

by

J. Nellis

The PDR has been in operation in Tunisia since 1973. Each year, the gouvernorats receive a set sum. The poorer, interior gouvernorats receive more than the coastal gouvernorats. The idea is that these sums can be spent on projects initiated within the gouvernorat; they are supposed to be spent on small-scale, low recurrent cost projects which will generate employment and contribute to the well-being of the local people. While central authorities in Tunis must give final approval for expenditure, and have on occasion rejected proposals coming from the gouvernorats, the PDR is one of the very few resource allocation initiatives mainly controlled by sub-national officials. It is a popular program for Gouverneurs, who use the PDR to oil squeaky wheels and reward loyalty as "good behavior." By now the method of project identification and resource disbursement is well known. The VIème Plan, 1982-1986, calls for the expenditure of 170 million dinars in the plan period on the PDR.

In recent years, the PDR has come under attack and academics have accused it of being far too small a venture to deal with the large scale problems of rural and regional development, and poverty in Tunisia. Academics and officials both have criticized the program as being insufficiently planned. That is, the expenditures are seen as being a bit of non-productive welfare expenditure, a high cost way of putting a few people to work, and building a bit of infrastructure - which may or may not be kept up. Implementation is

slow, and many observers argue that the funds could and should be better spent on better thought out projects.

How does the PDR work? In theory, there is a rather elaborate process of popular and low level official consultation. In each délégation, supposedly, there is a Comité local, composed of the délégué, representatives of the party, the PSD, representatives of the various services techniques working in the délégation, representatives of the national organizations, and of any communes found in the délégation. These committees suggest projects to the Comités Régionaux. The areas in which they may propose projects are well known from the guidelines of the PDR; in practice this means that proposals will be put forward in the following areas: agricultural development, fishing, artisanat, housing, electricity, drinking water, roads, health and education, youth and culture.

Suggestions from the delegations are considered by the Comité Régional, chaired by the Gouverneur, and composed of all délégués, deputies, party representatives, technical officers including the Commissaire Régional de Développement Agricole (CRDA), and his associates. The regional committees frequently exceed 100 persons in size. This body, in theory, prioritizes the projects suggested by the local committees. In reality, though I was told that much open discussion is allowed, the Gouverneur is very important in making the choice of which projects will be submitted for funding. Those which are chosen are sent back to the service technique officials for elaboration of their technical aspects. There is one official at the gouvernorat level, the délégué attached to the PDR, who is responsible for all the paper work, gathering of project proposals, chasing up the technical reports,

arranging the meetings, forwarding the proposals to Tunis, etc. As an employee of the Ministry of the Interior he may be somewhat at a disadvantage when arguing with technicians; on the other hand, as a representative of the most powerful ministry in the sub-national hierarchy, he is invested with the authority of the Gouverneur.

In the past, after the decisions were made at the gouvernorat level, the projects went directly to the Ministry of Finance and Planning for review, and eventual funding. Now, the projects are submitted to the Commissariat Général au Développement Régional (CGDR), which, I gather, is now or soon will be responsible for reviewing the projects and recommending the approval or rejection of the projects by the Ministry of Plan. (With the separation of Finance and Plan in June, 1983, another administrative hurdle must be overcome; that of final financial approval.)

It is the dissatisfaction with the technical aspects and economic results of past PDR efforts which have led to their being reviewed by the CGDR. This is also the cause, I gather, of the present push for integrated projects in the "poverty pockets." This operation, scheduled to last for three years, and for which extra money has been promised (23 million dinars in 1984, and hopes of much larger sums in 1985 and 1986 to undertake some total of 250 projects, each costing on average one million dinars), is the effort which is presently taking up so much time of the CGDR. Whether this is a one time only effort paralleling the PDR, whether it is intended to eventually replace the PDR, or whether it may turn out to be a continuing effort of the CGDR are questions that are not yet answered.

ANNEX III

TRIP REPORT: VISIT TO SFAX, JULY 19-20, 1983

by

Frank W. Young

The purpose of this visit to two institutions in Sfax was to bring back a general appraisal, with any recommendations for improving their work and for possible relationships with the Commissariat Général au Développement Régionale. I was accompanied by Faker Zouali, a young urban planner in the Commissariat. He proved to be a good guide and a smooth and careful driver.

We arrived at the headquarters of the Groupe d'Etudes du Sud (GES), a branch of the Direction d'Aménagement du Territoire which in turn is a sub-section of the Ministère d'Equipement. GES has one floor of a government office building, a staff of about eight or ten, one secretary and a typewriter, a photocopy machine, a map copying machine, a drafting room and many hand calculators. The chief of the section, Mr. Karay (see attached list of complete names and titles) gave us a picture of their work as follows:

(1) GES is a government agency which gets its instructions from the Ministry, but some of their projects involve relations with other groups. In one important case they cooperated with a group of mainly European planners who designed an urban renewal/change project around a venerated cemetery called the Zone des Martyrs. This was financed by outside money, mainly Saudi Arabian, through the Banque du Sud. Ordinarily they plan for housing and traffic. Various members of the Faculté (see below) assist them on these projects and one such faculty member, Mr. Chaker, sat in on the interview.

(2) GES is also responsible for planning (but not financing) land ex-appropriation and traffic control, and this day-to-day work takes a lot of time. Indeed, Mr. Karay was involved in a rather tense argument the next morning with a man whose house was condemned to make way for a new road.

(3) GES does some descriptive research. It has compiled and is keeping up to date a data book on the gouvernorat of Sfax, called the "Tableau de Bord." It consists of about a hundred tables, with data disaggregated to delegation and, where possible, for previous years. There is a brief text.

(4) Although most of the work of GES is focused on the city of Sfax and its environs, it has assisted the urban planners at Tatatouine and elsewhere in the south.

(5) The production of the Tableau de Bord for Sfax cost about 4000 TD (\$6200±), which was received from the Ministry. That figure does not count local salaries. GES would like to take on more of such projects, but when we discussed doing one for Gabes, their estimate of costs was 8000 TD.

The next day, we had a brief visit with the Dean of the Faculté des Sciences Economiques et de Gestion. According to Dean Khemakhem's description, as well as my own observations, one can say the following:

(1) The Faculté is specialized in Business and Economics (at the present time). It is an American-style campus directed by a dynamic dean and has 1700 students now and will increase to 2000. It has good facilities on the edge of town and will doubtless become the "UCLA" of Tunisia

(2) Dr. Khemakhem (he holds the first American Ph.D. awarded to a Tunisian) has organized a business management consulting firm that uses the talents of a number of the faculty members.

(3) The Dean is concerned to put the school on the map, and among other things, he has organized two international conferences. Last year's dealt with the less-developed countries while this year's (which was in session during our visit) dealt with computing in Francophone countries.

(4) My impression is that the management section of the school is the stronger part, but I did not interview there. The other department deals with economic development and includes a research group ERED (Equipe de Recherche en Economie du Développement). There is also a department of Regional Economic Planning, but that seems to overlap with the work of GES. At any rate, Mr. Karay was designated as the spokesman.

(5) ERED has a small documentation center which houses the last several volumes of about 40 journals in several languages as well as a small number of specialized books. There are about 20 faculty members associated with this group and they work in three sub-groups (with a fourth being formed). These are: Natural Resources and Energy; International Division of Labor; Monetary and Financial Problems. The fourth group is designated Quantitative Methods. I got the impression that this research program was something of a paper organization but that particular faculty were working on essays and theses.

(6) The school has a well-equipped computing center. They have a Perkins-Elmer 32 bit computer (a brand that is unknown to me) which is probably big enough to handle student records and payroll. It also serves

about 20 terminals on which students learn programming, using manuals in English and English commands. (All terminals were in use during our visit.) There is one terminal that produces Arabic characters on the monitor and the printer can print them. One terminal was out of repair, and will sit there for six months. This large computer is hampered by power outages, sometimes several a day, and of course a lack of budget. However, the technical staff seemed adequate.

In a second room were seven Apple II computers and two printers. These work on 230 volts, 50 cycles and have a switch that shifts the keyboard so that one can type in French (as well as other special symbols). One machine was out of repair, waiting for a part. The technician in charge seemed to have diagnosed the problem, but had to order the parts from France.

The Apples are used to teach programming too. In addition to these classes, some professors in economics bring their students to the center for one or two sessions just as an introduction, but they seem not to use standard packages like Visicalc, etc. Perhaps the professors show them custom-made programs, but I doubt it.

Recommendations for Up-grading the Sfax Institutions

(1) The GES should attempt to extend its purview to the whole South. It should begin to think about the region as a whole, not just about Sfax, the gouvernorat, or the towns of the South, although these are all important.

(2) ERED should be encouraged to pursue low-cost do-it-yourself studies. Their present poverty will continue unless they show some initiative and innovation. After all, reading books costs little, and the calculations they would need can be done on hand calculators.

(3) Both organizations should move toward quantitative analysis. This does not necessarily mean econometrics. What is needed is the capacity to break away from the heavy emphasis on mapping and to manipulate variables in order to show relationships that cannot be mapped. Simple cross-tabulations would be a good place to start.

(4) The work of the computing center (Centre de Calcul) needs to be simplified in the direction of packaged programs. Right now the Centre (and the professors who use the facility) are busy teaching a select few how to build and repair "the automobile" when they could be teaching many more how to drive it.

Recommendations for Relationships with the Commissariat

(1) At present the work of GES is too narrowly focused on Sfax to be of much use to the Commissariat, but this group may be useful at some future time when the Commissariat needs basic data on the gouvernorats in the South. However, the data book that the GES put together on Sfax overlaps considerably with the information that the Commissariat already has in its rose-covered data books. What is needed is agreement on a limited number of significant variables and then an intensive effort to collect these reliably.

(2) At some future date, the services of Mr. Khemakem's consulting firm may be of use to the Commissariat.

(3) With respect to the Faculté and in particular ERED, it may be possible to commission some useful essays at a low cost (perhaps \$500 each). However, getting a product would require the coaching and editing of someone like John Nellis. Also, of course, some of the money now allocated to the "background papers" would have to be shifted.

(4) The Commissariat could help both GES and selected members of the Faculté by inviting them to the training sessions on package programs on the Apple II when they are held. The realization that it is possible to do serious work easily with the Apple II would be an important advance for them.

(5) Assuming that the support team concerns itself with repair of the Apple computer, the Commissariat might want to barter spare parts for technical diagnosis by their technician. They need the parts and the Commissariat's computer will eventually need maintenance.

List of Interviewees

Mr. Moureddine Karay, Ingenieur en Chef, Chef du GES

Mr. Khaled Chaker, Assistant à la Faculté de Gestion

Mr. Abderazak Habaieb, Assistant à la Faculté de Gestion

Mr. Najib Chaker, Associate in GES

Dr. Abdellatif Khemakhem, Dean, Faculté des Sciences Economiques et de Gestion, Sfax

Mr. Abdelleader Chaabane, Responsable in ERED (Equipe de Recherche en Economie du Développement)

Mr. Nouredine Chaffai, Assistant in ERED

Also, the technician in charge of the computer facility, whose name I did not get.

University telephone: (04) 43 777 Code postal: 3028

Telephone of ERED: 43 828, post 320.

In addition to these formal interviews I spent several hours with Faker's family and friends, but these contacts are not relevant to the purpose of the trip.