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LOCAL DEVELOPMENT II URBAN PROJECT

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Submitted by
WILBUR SMITH ASSOCIATES

in association with

PUBLIC ADMINISTRATION SERVICE
DEVELOPMENT CONSULTING OFFICE

DELOITTE HASKINS AND SELLS
ENGINEERING AND GEOLOGICAL
CONSULTING OFFICE

**GIZA GOVERNORATE
MANAGEMENT INFORMATION SYSTEMS
NEEDS ASSESSMENT**

DECEMBER, 1989

LOCAL DEVELOPMENT II URBAN PROJECT

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December 1989

H.E. Mr. Mohamed Omar Abdel Akhar
Governor of Giza

Mr. Jack Gisiger
Chief, Urban Development Section
Office of Local Development
USAID/Cairo

Gentlemen,

We are pleased to submit the final copy of the Assessment of Information System Needs for the Giza Governorate, which was prepared by the LDII (Urban) MIS Technical Assistance team. This document is the final deliverable under task 6; Programming, Budgeting, and MIS of our contract with USAID Cairo No. 263-0182-C-00-8017. The final report reflects USAID comments on draft report findings and recommendations.

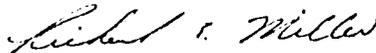
This technical report identifies departmental areas in the Giza General Directorate which could benefit from the application of computer technology. The scope of this task defined in the LDII Urban Final Diagnostic Report is limited to an examination of financial departments only. The General Secretary of Giza requested our assessment include 17 additional administrative departments in the governorate, effectively tripling the scope of work.

The analysis provided by this document serves to identify areas in which automation could substantially improve decision making through the availability of information. It is a survey of automation needs and should not be confused with the "system analysis" required for the design and programming of any particular system. For each potential system identified in the assessment an estimate of resources required to perform detailed analysis is included.

We hope that you will find this paper useful as a strategic guide for ongoing MIS technical assistance. We look forward to your response and stand ready to address areas of concern or further interest.

Respectfully submitted,

WILBUR SMITH ASSOCIATES



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Chief of Party

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SECTION 1

INTRODUCTION AND EXECUTIVE SUMMARY

This document, entitled Assessment of Information System Needs for the Giza Governorate is the final deliverable under task six (Program Budgeting and Management Information Systems) specified in the Local Development II Urban Project Final Diagnostic Report. The primary purpose of this assessment is to identify areas in which automation can be effectively applied within the GIZA governorate for the direct benefit of the organization. To this end, the report presents a functional description of departments within the General Secretariat and assesses potential information systems, their benefits, and the time required for detailed system analysis. The report provides a starting point for an automation strategy within the governorate, and a guideline for AID funded technical assistance.

Throughout the assessment, careful consideration is given to the capability of the existing Information Systems department in Giza. At present, this capability is quite modest. The department has four IBM microcomputers that were implemented by LDII. The MIS staff have received training in basic computer operations, system analysis, programming, and some software packages. So far, they have supported systems that were developed by other organizations, but have not successfully developed systems of their own. Most of the potential system projects identified in this study are well beyond the scope of technical, financial, and personnel resources available in the governorate. Nonetheless, these findings have been included to give a comprehensive overview of need that should remain useful as technology and abilities advance.

The fact finding interviews which form the basis of this assessment cover 23 departments. These areas of concentration were specified by the General Secretary of Giza and the steering committee assembled to oversee this assessment. They represent the core functional and administrative organization within the General Secretariat and impose a sharp expansion to the terms of reference specified in the LDII Urban Project Final Diagnostic Report which call for assessment in the financial area alone. The general scope of work for this task was thereby increased three fold.

The results of our interviews and analysis show sixteen potential areas of automation which could impact decision making in the governorate (Table 5.1). Each of these has been evaluated on the basis of technical complexity, potential benefits, and desire on the part of the user department. From these criteria, the systems were ranked into a recommended developmental sequence using a weighted average measure. The sequence recognizes that simpler systems must be developed first in concert with the capabilities of the existing MIS department. Within this framework, priority

evolves on the basis of benefits provided. The third factor, user desire, is considered in recognition of its critical importance to the successful implementation of an information system.

Comparatively small microcomputer applications represent eleven of the sixteen potential systems identified in the assessment. Specifically they include the following:

<u>SYSTEM DESCRIPTION</u>	<u>USER DEPARTMENTS</u>
1) Inventory Management	Inventory, Stock Control, Procurement
2) Project Tracking	Planning and Follow-up
3) Wordprocessing	Analysis and Follow-up (Central Agency for Accounting)
4) Budget Planning and Monitoring	ORDEV
5) Wordprocessing	Conferences and Committees (Central Department for Local Units and Councils)
6) Demographic Database	General Department for Local Units
7) Election Administration	Election Division
8) Vendor Database	Procurement
9) Statistical Analysis	Statistics
10) Loan Tracking System	ORDEV
11) Vehicle Management	Mechanical Campaign (Administrative Affairs)

This caliber of system can be implemented using the types of hardware and software resources currently available in GIZA. The applications are good projects for the MIS department and will help apply the skills they have learned in LDII training. The software resulting from development of these systems would be useful in all the governorates with little modification.

One systems identified in the assessment represents a more sophisticated level of application requiring a microcomputer network environment:

SYSTEM DESCRIPTION

USER DEPARTMENT(S)

- | | |
|--|---|
| 12) Wordprocessing Network
(20 users) | Secretary and Archive
(Administrative Affairs) |
|--|---|

This system would require the implementation and linking of many (up to 20) microcomputers. The size and technical complexity of this system substantially exceed the current capability of the Giza MIS department. New hardware and software will have to be introduced to the governorate along with substantial training in network and multi-user operating concepts.

The remaining four system groups identified in the study must be implemented on a centralized minicomputer. They include the following core administrative functions of the governorate:

SYSTEM DESCRIPTION

USER DEPARTMENT(S)

- | | |
|--|--|
| 13) Integrated Personnel
Administration. | Personnel |
| 14) Payroll | Accounting, Personnel |
| 15) Integrated Accounting
Accounts Payable
Accounts Receivable
General Ledger | Accounting
Treasury, Accounting
Reconciliation |
| 16) Budget Monitoring | Budget Control Dept. |

These systems, implemented together would create a 40 - 60 user environment. A New programming language, operating system, and a host of utility software would have to be mastered by the MIS department to successfully maintain the systems. Off the shelf software should be examined as an alternative to developing such large applications. A substantial ongoing financial commitment will be required by the Giza Governorate and/or AID to implement and maintain systems of this caliber.

An important policy issue emerges from this report with respect to AID funded technical assistance. Any attempt to provide automation to the governorate should be tempered by an understanding of what can be independently be maintained. Applying technology without upgrading the knowledge base of the GIZA MIS department will result in systems that cannot stand alone. A more practical strategy calls for the systematic, albeit slow, development of capacity within the MIS department itself. Under this framework, systems will emerge gradually alongside the skills needed to maintain them. We strongly recommend this approach for ongoing technical assistance.

Our recommendation for developing MIS capacity in GIZA calls for a three phase program which systematically addresses the applications identified in this assessment and develops the technical infrastructure needed to perpetuate them. The Governor and General Secretary should be consulted to define the actual order of system development. In all phases, development efforts should be undertaken jointly by the MIS department in Giza and the TA Contractor. The Contractor will guide and assist the GIZA MIS department in the actual system analysis, design, development, and implementation required for each system. The MIS department will retain maintenance responsibility for all implemented systems.

In Phase I, simple microcomputer applications will be attempted. Existing hardware and software will be used as the development platform thereby utilizing resources presently in the governorate. This will give the MIS department a chance to apply what they have learned, receive hands-on experience, interact with user departments, and develop a sense of purpose in the organization. Technical documentation should be produced for each system to permit easy understanding modification and portage for use in other governorates. Likewise, microcomputer software developed in other governorates will be made available for implementation in GIZA. Given the current level of AID contractor support, we expect Phase I to take between 2-3 years with existing technology. Emphasis should be placed on building a capable MIS team with skills necessary to implement and maintain more sophisticated systems.

In Phase II, more complex microcomputer based systems will be attempted. A multi-user operating system and application development tool will be introduced which can serve the governorate as its automation needs expand beyond microcomputing. Advanced programming and data management training will be given which cover; Local Area Networking, System Security, Multi - User application Development, and Data Management. Systems developed in Phase I will be upgraded as needed to multi-user configurations, and off-the-shelf Arabic application programs will be evaluated as they become available.

In Phase III, lengthy system analysis activities will be undertaken to define requirements for the Personnel and Accounting Functions in the governorate. Hardware specifications from this analysis will be used for implementation of a central minicomputer which will be maintained by the MIS department. Off-the-shelf software will be evaluated against requirements and utilized if possible. A new operating system will be introduced which can take advantage of the more sophisticated hardware environment. Existing applications which have outgrown their microcomputer platforms will be migrated to the new minicomputer for production.

Throughout this strategy, training will be an integral component. Each phase will have specific technical areas for which formal training must be administered. As new hardware and software is applied in the governorate, a direct proportion of skilled personnel will be required to maintain it. These people must receive training as part of each implementation. In addition, MIS strategy and management concepts must be taught to decision makers in the governorate.

Over time, the approach outlined here will yield comprehensive information systems throughout the governorate. A simultaneous development of skills and application of technology will be accomplished with minimum waste of programming time and hardware resources. Each phase builds upon the infrastructure developed in a previous phase without obsolescing equipment, software, and training in the process. The MIS department will become a support organization for the rest of the governorate, armed with the knowledge and tools necessary to address ongoing information needs.

SECTION 2

STATUS OF GIZA MANAGEMENT INFORMATION SYSTEMS

The MIS department in Giza is typical of those operating in conjunction with the LDII project in other the Urban Governorates. A single room approximately 8 x 12 meters in size has been allocated by the governorate to house the department which is part of a larger information center that includes the documentation department, computer department and publications department. Ten employees and one manager have been appointed by the General Secretary to operate the computer facility. The LDII Urban Project has implemented four IBM XT microcomputers which are used respectively for the following purposes:

1. Project Tracking System (Developed by the TA contractor to monitor BSBS projects status).
2. Current Budget Development System (Developed by the TA contractor to support OMED current budget development).
3. Capital Improvement Program (Developed by the TA contractor to support OMED multi-year capital budget development -BAB 3).
4. Training.

All of the computers have been equipped with the following software:

IBM DOS Ver 3.2 (Microcomputer operating system)
dBase III + (Data base development environment)
Lotus 123 (Spreadsheet - Financial)
Harvard Graphics
Nafitha (Utility for Arabic character generation)
Sidekick (Text Editor)

The MIS staff in GIZA have received extensive training through the LDII Urban Project. The curriculum has included most of the above mentioned software packages as well as courses in basic System Analysis, Feasibility Studies, and MIS management.

To date however, the department has not successfully utilized its training to develop and implement an information system on its own. Joint efforts with the TA contractor will be required to provide an example of how to apply skills that have been academical acquired. The hardware and software currently available in the

department can support the development of one or two small systems however more equipment will have to be purchased to place such systems in production.

There is some limited information system activity outside the MIS department in Giza. Two IBM AT compatible microcomputers have been implemented by the LDII Urban Project in the OMED department. These machines are currently used for financial forecasting. In addition, a single IBM XT microcomputer has been implemented in the ORDEV department. This system contains a dBase III application program which reports LDII provincial project data to the central ORDEV administration in Cairo.

A project initiated by Central Cabinet Affairs Office has promised to install two microcomputers with a sector database on them for use as a reporting tool to the Cabinet. They have provided extra training to the MIS center staff in DOS and Dbase III plus. They have also provided special training in the use of their own application, which the department will be expected to maintain. The computers are to be installed in early 1990.

Cairo university supplied the governorate with a microcomputer personnel application which was never implemented. The program is by its nature too small to handle the volumes of data processed by the current manual personnel system. There appears to have been no training or support provided with the software to insure its use. The application does not consider the unique organizational environment in the governorate and the special system requirements that this presents.

To date, we can see no meaningful attempt to provide automation to the governorate for its own administrative benefit. All systems currently implemented at Giza are reporting mechanisms for one or another oversight organization. The information needs of the governorate itself have gone attended.

SECTION 3

METHODOLOGY

Classic strategic system planning methodologies break down quickly in the Government of Egypt operating environment. These methods presuppose an organization in which boundaries are easily crossed or synchronized with the apparent flow of information. Within a Governorate this is not the case. Ministries and other oversight agencies dictate much of the administrative process and departmental structure. The manual procedures and formal institutions currently in place are therefore not easily changed for the sake of a coordinated information system.

Knowledge (information) of the organization is held closely by each administrator, who may feel threatened by the probing questions required to identify potential areas of automation. In addition, the ongoing role of a fledgling MIS Department (and automation in general) is not well understood. There is concern that a department whose charter is to collect information would quickly rise to prominence. As consultants, we remain very sensitive to this and emphasize the cooperative nature of our undertaking at every turn.

Another primary consideration in developing our methodology was the involvement of the MIS staff in the governorate. The assessment project presented a valuable opportunity for them to see system investigation and planning in action. To encourage this, we insisted that an MIS department staff member accompany the TA interview team at all times.

With these factors in mind, we proceeded to establish clear goals for the assessment project, which included:

1. Examine the existing level of automation and technical skills.
2. Determine attitudes and prejudices toward computers.
3. Study the business processes of each department and document them in a summary narrative.
4. Identify beneficial applications of automation and provide a high level data flow diagrams where applicable.
5. Discern the technical and organizational feasibility of each application notwithstanding resource requirements.
6. Provide an estimate of system scope and technical sophistication.

7. Prioritize the developmental sequence into an implementation plan.
8. Provide a concise recommendation.

Although we have included resource estimates as part of our objectives, we do so with explicit caution. Resource requirements cannot be accurately defined for any system before a thorough analysis has been performed ending in a logical design document. Attempting to defining hardware, software, and manpower requirements with any degree of accuracy is impossible without imposing the logical parameters that result from such analysis. With this in mind, We have at least provided estimates of resources required to perform a system analysis, and whenever our professional judgement permitted, a potential hardware and software configuration has been established based on an early assessment of requirements.

Having established our objectives, the next task was selection of a site where these objectives could be met. Of the six urban governorates, Giza was chosen for the pilot assessment for several reasons. First, our experience in implementing microcomputer application in the MIS department indicated that a cooperative environment was present at Giza. Also, Giza has both urban and provincial jurisdiction which renders a study of the organization more universally relevant than would otherwise be the case. The site was also proximal to the Cairo based LDII project office, and a strong relationship existed between the LDII Staff and the General Secretary, whose endorsement of the project was essential for it's success. These factors made Giza a logical choice.

The Project Implementation Coordinator arranged a meeting with the General Secretary to review our objectives and solicit his support. The General Secretary was asked to define the scope of our study and to assist us in establishing a steering committee to guide the process. This committee was subsequently formed, consisting of the General Secretary himself, The head of each department to be assessed, the AID MIS coordinator, the Project Implementation Coordinator in Giza, and the consultant interview team.

Our next step was the development of a structured interview form, a condensed version of which is included as Appendix C. The objective of this form was to provide consistent and complete assessment of each department, while remaining flexible enough to apply in all cases. The form sought to capture; reporting requirements, business processes, use of standardized documents, data storage (filing), volume and velocity of data, manual procedures, relationships with other departments, existing automation, education, and readiness to accept technology. To improve the productivity of our interviews, we also developed pre-

interview instructions (Appendix B) which outlined the subject matter of the interview, and requested that certain materials be assembled beforehand by the interviewee.

A meeting of the steering committee was held at the Giza Governorate to kick off the needs assessment. The purpose and goals of the study were explicitly stated. The General Secretary re-emphasized the cooperation of the department heads who would be involved. Pre-interview preparatory materials were distributed and discussed. It was agreed that the Project Implementation Coordinator would arrange the schedule of interviews. Finally, the interview team was formally introduced to the department heads with whom they would work in the coming months.

The Interviews themselves were designed to be brief yet comprehensive. In most departments, six to ten hours of interviewing was spread across one to three days. In some cases information was uncovered which affected other departments and required a follow up interview for verification. Figure 3.1 shows the departments of the Giza general directorate (those outlined in bold were subject to our interviews).

From the fact finding interviews, a narrative was written for each department describing significant findings and areas of potential automation. These were reviewed with the department directors for concurrence and additional comments.

From these narratives, we reviewed potential system opportunities and coordinated those spanning organizational boundaries within the governorate. Feasibility measurement criteria were established as follows:

- The proposed system must be technically feasible within the current state of the art.
- Proposed systems must provide substantive benefit to the department or governorate apart from a reduction in manpower. (Manpower saving is not perceived as a benefit by the department directors in the GOE).
- The user department must be willing to accept automation, and to cooperate with system analysis and implementation efforts on the part of the MIS department.
- The system must not propose obvious violation of procedures dictated by a ministry or other oversight organization.
- The department manager must be willing to dedicate staff to the maintenance of the automated system and provide for dismantling of any manual system.

Feasibility is not considered from a cost perspective. (Again, costs cannot accurately be determined without specific analysis of each potential system). Likewise, technical expertise and manpower available in the governorate were not determining factors in feasibility although they constrain the scope of what can be sustained by the governorate.

For each system determined to be feasible under the above criteria, data flow diagrams have been developed (Appendix D). These diagrams document the information storage, reporting, communication, processing, and movement within the department. They provide a benchmark for establishing the boundaries of an automated system within the existing manual process. They also establish information relationships with other departments and considers the technical consequences of such relationships. In a complete analysis for any proposed system, this document would be expanded to reflect the detailed processing and data requirements of the system.

SECTION 4

SYSTEM INVESTIGATION AND ANALYSIS

The following analysis is a preliminary step toward understanding the functional structure of a General Secretariat (in this case GIZA). From it, we can develop an overall picture of the physical organization, information flows, and manual processes occurring there. The investigation in Section 4 seeks to document existing manual and automated systems as well as information requirements. We acknowledge at the outset that in most cases, procedures within the governorate are defined by an oversight agency or ministry and therefore cannot be inherently changed as part of an automation effort. Through our observations, interviews, and study of physical documents we have obtained, as closely as possible, the major workflows, data stores, reports, and processes occurring in the governorate. These are depicted below in process narratives and in Appendix D in diagrammatic form.

This report is not itself a complete system analysis for any proposed system. It is an organizational investigation for the purpose for assessing areas which might benefit from the implementation of computer technology. Areas identified then become candidates for analysis and design tasks from which resource requirements and system specifications can accurately be determined. The narratives in this section should therefore not be regarded as "system analysis", with a disposition toward any specific system. They are an investigation of the organization that assesses information needs and considers the feasibility of applying automation to satisfy those needs. To this end, the following information has been recorded for each department:

- Functions: Definition of the work performed by the department. This includes all manual processes, coordination of tasks, oversight responsibilities, and origination of data.
- Resources used: Details related to the number of personnel engaged in the performance of various tasks, the number and type of machines in use for specific operations, the number and types of forms or reports generated.
- Operational data: A description of the empirical nature of various tasks and activities performed, the time taken to perform them, their volume, and frequency. It also includes details of bottlenecks and delays in the system as well as other system strengths and weaknesses.
- Communications: The flow of information within the department, between departments, between the department and internal or external organizations. It also includes

evaluation of functions which cross departmental and organizational boundaries. This can indicate the nature of the communication which will be demanded of a proposed system. Thereby defining technical need for on-line terminals, access to a database, or distributed processing.

Again, the objective of this study is to make a preliminary assessment of departments or functions within the scope of work that are worth automating. The analysis is structured by department and includes fact finding, observations, and recommendations that can be used by governorate management as a basis for establishing priority. In areas where a potential system is identified, an estimate of time required for a specific analysis task is included.

4.1 CENTRAL STATISTICS DEPARTMENT

The Central Statistics department is responsible for assembling statistical data required by the Central Agency for People Mobilization and Statistics (CAPMAS). This data includes demographic profiles of each governorate and an assessment of educational, health, agricultural, and basic infra-structure capacity.

To collect this data the department distributes 30 specialized forms by mail to the 48 local units. Each form includes instructions for completion to collect the required data. The department sends a notice every six days asking the local units for the results of the data collection activity. In cases of confusion or misunderstanding, a researcher is sent to expedite the process.

When completed forms are returned to the Central Statistics department, the researchers analyze the data and categorize it by the type of activity (e.g, educational, health, agriculture, and food security). The data is compared to historical data from previous year. If there is any major discrepancy or area of concern, the department sends a letter to the local unit requesting verification.

The compiled data is sent annually to the CAPMAS in eight separate reports. Three of the reports contain demographic or "people mobilization data" which is classified and could not be reviewed in this analysis. The remaining five reports concern the following areas and information:

- o Education: Number of students, teachers, schools.
- o Health: Number of hospitals, clinics, doctors, nurses, beds.

- o Civil Infrastructure: Status and No. of roads, water projects, sewage system
- o Food Security: Number of distribution outlets and production projects (eggs, chickens, cows, dairy products)
- o Agriculture: Land utilization, type of crops.

The Central Statistics department employs 14 people. It occupies one room, which is crowded and noisy. The department has a small calculator and one manual typewriter. There is no air conditioning and little space for computer equipment.

The department's personnel have a high degree of experience with automated systems. Mrs. Taghreed, the head of the department has taken courses in programming with COBOL, BASIC and PASCAL. She is studying now for her diploma in computer statistics. Ten members of the staff have attended courses in DOS, BASIC, and PASCAL or COBOL. Mrs. Taghreed is highly receptive to the concept of implementing an automated system in her department. She believes that hardware should be located in the department to provide adequate security given the classified nature of the information that would be handled by the system.

Recommendations:

A microcomputer system could be developed to compile statistical information reported to the department using their existing forms and procedures. The system would be capable of generating different types of reports currently produced by the department and required by the CAPMAS. The system will provide improved accuracy and better administration of data, more sophisticated reporting, and graphic reporting. A single microcomputer should be sufficient based upon preliminary estimates of data volume.

The Cabinet Affairs system now being implemented in Giza may provide some of the functions required by the Central Statistics department. Analysis of the manual existing system will be needed to determine actual requirements and assess the applicability of the Cabinet effort. This coordination will be requisite to development of an application for this department. We estimate that 6 man/months of analysis will be needed to define requirements for this system.

4.2 GENERAL DEPARTMENT FOR PLANNING AND FOLLOW UP

The General department for Planning and Follow Up consists of two departments: Planning department, and Follow up department. The General department undertakes the responsibility of preparing the General Directorate's Five-Year Plan, estimating annual Capital Budget requests, and following-up on the implementation of the appropriated Capital Budget.

4.2.1 Planning Department

The Planning department organizes and coordinates the development of the strategic plan for the governorate. This represents the Chapter 3 Expenditures (capital investment applications) of the Budget structure. The process occurs as follows:

- 1) At the beginning of the Fiscal year, the department receives a letter requesting budget estimates from the Ministry of Planning.
- 2) A circular and investment forms are issued by the Financial Directorate in the governorate, requesting budget preparation.
- 3) The department notifies the City Councils and districts to prepare their statement of needs, and submit it to the Executive Council and Popular Council for approval.
- 4) The consolidated, approved, and reviewed district and City Council projects are submitted to the Planning department where they are reviewed in light of the five-year plan and surveyed according to the central needs.
- 5) Finally, the consolidated Capital Budget is submitted to the Executive Council, Popular Council, and Ministry of Finance for approval and appropriation.
- 6) The Planning department receives the appropriated capital budget from the Ministry of Planning. An amount is retained for central needs and remainder is re-allocated among the local units.
- 7) The approved and re-allocated budget is approved by the Executive and Popular Councils, then submitted to the City councils and districts.
- 8) The City Councils and districts distribute the funds according to activities and projects. The following priorities are observed in the distribution:

1. Completion of unfinished projects
 2. Renewal and replacement of old components(maintenance).
 3. New projects.
- 9) The Planning department receives the finalized, re-allocated, distributed, capital budget and files it to start the follow up process.
- 10) The National Investment Bank is notified of the finalized capital budget in order to reserve allocated funds for the governorate.

4.2.2 Follow up Department

Upon receipt of the appropriated budget, the local units at the governorate level begin implementation of the approved projects. They convey their fund re-allocations to the following agencies:

- o MOP : Through the first follow-up report.
- o AMANA : Through additional follow-up reports.
- o NIB : Through special data forms designed by NIB showing proposed time schedules for disbursement of funds.

The NIB disburses funds quarterly in the form of a deposit portfolio placed at the Central Bank or one of its branches. Disbursement is based upon the receipt of the following documents:

- o Time schedule for finance and percentage of execution.
- o Follow up reports.
- o Account balance statements.

The Follow up department receives different types of follow-up reports from different agencies. These reports, are received monthly from the local units and include information about the location, completion status and expenditure for each project. Similar reports are submitted quarterly by the directorates.

A quarterly progress report is prepared by the department stating the implementation status of the projects. It is sent to three organizations, each in special format to meet the needs of each one. These organizations are the Ministry of Planning, National Investment Bank, and AMANA. They include summary information from the monthly reports of the local units, and are used as a tool to report the progress in the annual plan.

Another responsibility of the Follow Up department is solving problems which arise during the execution of the projects in order to guarantee adherence to the work plans. These problems could be

technical problems or financial problems that are observed during the monthly follow-up trips conducted by the follow-up staff.

Execution and follow up of projects planned by the service ministries are the responsibility of the Service Directorates in the governorate.

Currently there is no automation in the department. Out of 35 employees, only two have had some exposure to computers. All the employees that were interviewed were quite ready to have automation applied in their departments, they were aware that automation could improve the quality of their work and save time and effort.

Observations:

The existing Capital Budget System used by OMED is a data base system that provides a total appropriation request and allocation information by government, sector, and department. It holds detailed information about the projected need of each local unit. This information includes the budget required, resources, units to be executed, the local and foreign currencies used...etc., these needs are integrated into a summary plan for the governorate and is sent to (MOP).

Another application existing in the governorate is the LDII Project Tracking System which is a database system, implemented in the LDII Urban governorates, primarily to track LDII projects. The system meets the needs of the governorate from the LDII follow-up perspective

Recommendations:

A system for follow up of projects (Bab 3 expenditures) implemented by the governorate is recommended. The system should handle all projects regardless of the source of funding, and should be capable of producing periodic and ad-hoc reports required by the governorate, MOP, AMANA, and NIB. The existing capital budget system which is currently used in the OMED forms a good basis for a follow up system.

The Planning department could get a summary plan produced by the system and submit it to the Ministry of Planning for approval. Once the allocation is approved, the Planning department can re-allocate funding (as mentioned in the process above) and track performance data with the system.

We estimate that 4 man/months of system analysis will be required to determine user specifications and assess the possibility of upgrading an existing system. Based on the analysis, an evaluation of the existing CIP System and LDII tracking system can be conducted to determine the extent of modification required

for a follow-up system to assist the Follow up department. The new system would monitor the execution of projects conducted directly by the governorate or supervised by the local directorates. It should also generate reports and queries required to assist the department employees in their continuous follow up of projects and point out immediate discrepancies.

4.3 CENTRAL DEPARTMENT FOR FINANCIAL AFFAIRS

4.3.1 Inventory Department

The department is responsible for storage and distribution of supplies for the governorate. These supplies include; office equipment, stationary, car spare parts, furniture, and publications. They are stored in eight stockroom, positioned in two places: some are located in the old building (main governorate building), the others are located on the ground floor of a new building. These stock rooms respectively contain:

- Paper and work supplies (150 types of items).
- Cleaning supplies and furniture parts (110 types).
- Publications (all the publications related to service directorates and city councils (63 types).
- Valuable paper (checks, fuel tickets, mail permits (51 types).
- Remainder items (five categories of items to be sold).
- Car spare parts (42 types).
- Quarry leases (30 types).
- Service taxis permits (40 types).

The department prepares part of the Chapter 2 budget related to the supplies and equipment needed for the General Secretariat. In preparing the budget, needs are forecasted by averaging the quantity and price of stock for three previous years and adding a 25% inflation factor. This budget is submitted to the budget department for inclusion with the rest of the governorate's Chapter 2 budget request.

The Inventory department receives delivery sheets from the Procurement department containing specifications and delivery schedules for all purchased items. A control clerk monitors actual receiving in the stock rooms and issues receipt vouchers for all incoming goods. These vouchers are sent to the Procurement department and a reconciliation clerk in the accounting department. (Sometimes a receiving committee is convened, including members of the Procurement department, Inventory department and representatives from the requesting departments). In FY 1988-89 there were 1,757 deliveries made to the department. The stockroom clerk adds newly delivered items to his physical inventory. The

vendor's invoice number and amount are added to the warehouse books.

A reconciliation clerk from the Accounting department records and audits all delivered items in a separate set of books. He issues a permit for additions to physical inventory which are signed by the control clerk, head of the warehouse, Inventory department, and are filed in the Inventory department. The receipt procedures are reviewed by auditors who approve such voucher and addition permits. At the end of the process, the control clerk sends the vendor invoice, receipt voucher, and addition permit to the Procurement and Contracts department to be filed. The Procurement and contracting department conducts a monthly review of the stockroom reconciliation books. Any discrepancies trigger a physical inventory count.

The Inventory department is responsible for distribution of supplies to other departments of the General Secretariat. The necessity, volume of work, and stock quantity determine the priority and supply for each department. Supply levels are carefully administered to retain some stock for the duration of the year. In FY 1988-1989 there were 4,287 distribution activities conducted by the department.

Recommendations:

We strongly believe an inventory management system could benefit this department. The system would track inventory levels for various types of commodities, and in multiple warehouses. It would record physical inventory and voucher information, and could report the value and amount of any item currently held in stock. It could also be used as the basis for formulating budget request amounts needed to sustain inventory levels. The system will reflect physical inventory records, requisition, issues, transfers, scrap, and surplus transfers. It will provide accurate and timely reporting of inventory status for any given commodity.

The system will also provide reports for the Stock Control department to keep track of stagnant item sales. A complete inventory report from this system will eliminate the need for duplicate record keeping by the Stock Control department. Also reports can be produced from the system to facilitate the monthly, quarterly, and annual physical inventories. The system will serve the Procurement department by reporting physical delivery of items purchased on an installment basis.

Inventory management can save money, improve forecasts, ensure the availability of components and products for customer delivery, and help maintain stock levels. It will provide a means of reconciliation with books and physical inventory process. It will improve accuracy and timeliness of information, eliminate

duplicated between the department and the Stock Control department, and improve reporting capability and estimates of future commodity needs. We estimate that 8 man/months of system analysis will be required to adequately define requirements for this system.

In a secondary development phase, the system could be enhanced to track the capital assets of the organization and allow for detailed tracking of fixed assets including the user, location, purchase cost and source, and expected life span. This will provide the financial and accounting records showing the aged value of the stock of goods at a particular time. It will also enable the department to track inventory as it moves among different warehouses.

4.3.2 Stock Control Department

The department's primary responsibility is to audit the records of the Inventory department and the physical inventory in each warehouse. The Inventory department reports the status of the warehouse on a daily basis and tracks the receipt or withdrawal of commodities from the stock. This information is recorded in a duplicate set of books by the stock control department. Quarterly, a reconciliation of the two department's books is conducted. A physical inventory is performed at this time to eliminate any discrepancies.

The stock control department identifies items which stagnate in inventory, (an item is considered stagnant after three years without use). Stagnant items are then auctioned by the Procurement department to provide revenue. Typically, the funds from sale of such items are allocated to the department which originally ordered them. The stock control department monitors the sale of stagnant items for the Local Units and Service Directorates. A report is received monthly from these organizations specifying stagnant inventory and selling activity. The Stock Control department reports monthly to the Financial Directorate and the General Agency for Governmental Services regarding stagnant inventory and sales for the whole governorate. It is informed annually by the Inventory department about planned supply purchases for the upcoming year. These plans are compared with stagnant inventory to avoid purchasing of already stagnant items.

Recommendation:

We do not believe an automated system is required by this department. However, the department could benefit from the development of an Inventory Management System within the Inventory department. The information requirements of the Stock Control department should be considered in the analysis of an inventory control system. A report of physical inventory from the system

would be used in conjunction with the quarterly audit of the warehouses. Likewise, a report of inventory aging could be used to evaluate stagnant items.

The Inventory Control System would eliminate the need to maintain duplicate paper inventory records in the department. Employees freed from this activity could be used to conduct audits of stagnant inventory in the City councils and Service Directorates.

4.3.3 Procurement and Contracts Department

The Procurement and Contracts department is responsible for procurement of all supplies and equipment for the General Secretariat, Fire Brigade, and Traffic Directorate. In some cases, Local Units in the governorate request that purchase be administered by the Procurement and Contract department. The request in this case should be must approved by the Governor or the General Secretary.

The procurement process occurs as follows:

- 1) Annually, the Inventory department prepares a Bab 2 budget request.
- 2) According to this budget the Procurement and Contracts department initiate purchases for the items in the budget. In some cases where the items are not included in the budget the department for which the item or service is needed submits an approved request which is signed by the department head or general secretary.
- 3) Purchase orders are cut containing technical specifications for the items to be purchased and estimated cost to be applied against the budget.
- 4) The Procurement and Contracts department decides what purchase process will be administered. This can be either a direct purchase process (which needs no tendering) or a competitive tendered bid.
- 5) Before initiation of purchase process, the Procurement and Contracts department contacts the Accounting department to allocate funds from the budget.
- 6) If a tender is required, an advertisement is run, soliciting bids.
- 7) Bids are reviewed by a committee responsible for the opening and administration of bids.

8) Another committee decides on the bid, this committee contains representatives from the Procurement and Contracts department, Legal affairs, Financial Affairs, and the department for which the purchase process is conducted.

9) All potential vendors are reviewed to determining the status of their credit and insurance.

10) A letter authorizing purchase is sent to the selected vendor. Approximately 15 tendered bid operations are conducted each year.

In cases of tendering that require no advertisement, the department sends letters to vendors dealing in the items to be purchased requesting quotation. A vendor is selected for the final purchase based upon price. The selected vendor is notified with a purchase order and the Inventory department is informed of the purchase amount and terms of delivery.

If it is a direct purchase (less than L.E 2,000), representatives from the department conduct a market survey and purchase the items directly. Approximately 200 direct purchase operations such as this are conducted annually.

Delivery data is received from the Inventory department indicating the status of the procurement which contains invoice, delivery check list, and an inventory addition permit. In cases of delayed delivery or violation of contract terms, legal actions are taken by the Procurement and Contract department against the vendor to insure administration of the contract.

The procurement department maintains records of foreign and domestic vendors. These records include information about the company, it's credit status, and it's products.

For each procurement, the following forms are maintained:

- o Letter of Credit & letter of insurance are sent to the accounting department for administration.
- o Contract terms (foreign, tendered, conference bid, and direct purchase)
- o Sample record (descriptions of samples provided)
- o Notification of award
- o Minutes for opening of tenders
- o Minutes for award committee
- o Procurement status and history

The department is also responsible for auctioning of aged inventory and used items from the warehouses. This is done in conjunction with the Stock Control department. The Stock Control department specifies which items should be auctioned, and the

Procurement and Contracts department runs advertisements for the items to be sold. Auctions are conducted by the Procurement and Contracts department in the presence of members from the Stock Control and Legal Affairs departments.

Recommendations:

We believe an automated system could benefit the vendor tracking functions performed by this department. The system would track vendor records, including company information, inclusion status, products, and performance history. It would follow the completion status of each procurement operation. The system would be able to assess the delivery of items pursuant to the awarded contract and maintain a record of performance. The system will provide administration and tracking of direct purchase orders to determine the volume of purchasing for the same item. It can be used to provide an instant record of contract delivery terms.

The following reports could be produced by the system:

- 1) Listing of qualified vendors for procurement of a particular item
- 2) Individual procurement status, including the following:
 - Order type
 - Contract amount
 - Vendor name
 - Quantities
 - Items
 - Delivery order date
 - Delivery terms
- 3) Status report of deliveries pursuant to each contract.

We estimate the system analysis required for accurate definition of requirements for this system to be 5 man/months.

4.3.4 Accounting Department

The Accounting department consists of four divisions, Reconciliation, Accounts Receivable/Payable and Auditing, Revision, and Secretary. The following functions are performed by the department and cross through the divisional boundaries while following a rigid set of procedures: Salary and Benefits, Service and Maintenance invoice processing, Construction Contract Invoice processing, Loan administration, Procurement invoice processing, Revenue book keeping, and Ledger Keeping.

4.3.4.1 Salary and Benefits function

The salary and benefits function involves monthly payroll for approximately 5,000 employees in the governorate. In addition, benefits are paid to approximately 3,000 persons annually on an ad-hoc basis.

- 1) Blank payroll worksheets are sent by the accounting department to the personnel departments in the districts and general secretariat.
- 2) Personnel departments complete these worksheets using their own set of employee salary records.
- 3) The completed worksheet is returned to the Accounting department around the 21st of the month.
- 4) The Accounting department verifies the data against its own records, correcting any errors, and reconciling inconsistencies with the personnel records.
- 5) When the payroll worksheet is finalized, subtotals are calculated for expense categories and a total salary expense is determined for the department.
- 6) The Accounting department issues a cheque for total salary expense which is forwarded along with the final salary worksheet to the Treasury department for disbursement. Payroll checks draw on the BAB 1 account at the Central Bank.
- 7) Additional checks are issued for insurance and social security. In some cases, special vouchers are issued to employees requesting direct deposit to their bank account.

When a new employee joins the governorate, a memorandum is prepared by the Personnel department describing salary level, benefits, and withholding. This is sent to Accounting department where they create a new record in their employee master file. The record is placed at the end of the file so as not to disturb the alphabetical listing. When an employee resigns, the Personnel department prepares and sends a similar letter to accomplish elimination of the salary record for that individual. When an employee retires, a three month delay occurs before elimination of their record from the salary files.

At year end, the Accounting department revises its salary records to include new employees in the alphabetical listing. Resignee and retiree records are permanently removed. New salary records are verified against the newly revised personnel records.

There are some notable problems with the existing manual system. First, the respective personnel departments frequently commit errors in transcribing data from their records to the payroll worksheets. This requires the Accounting department to spend considerable time revising payroll worksheets. Second, difficulties in communication between Personnel and Accounting often result in disparity between their duplicate records. This is prevalent when an employee changes rank and a salary adjustment must be reflected in both records. Third, the payroll worksheets are returned from all the Personnel departments simultaneously, creating a substantial workload peak around the 21'st of each month. There are eight employees in the department dedicated to the review of payroll worksheets.

4.3.4.2 Service and Maintenance Invoice Processing function

The Service and Maintenance function processes invoices from utility companies and other organizations who provide routine services to the governorate. The funds for this activity are provided by BAB 2. The Revision division verifies each payable invoice. Cheques are issued by the Accounts Payable division to the department for which the charge was incurred. The department itself is responsible for distribution of the payment. There are five employees in the Accounts Payable division who issue approximately five checks per day.

4.3.4.3 Construction Contract Invoice Processing function

The Construction Contract Administration function processes invoices for all constructions contractors currently engaged in projects for the governorate. Coordination takes place with the Planning and Follow up department to define budget ceilings for payments to each contractor. The Ministry of Planning provides forms which are completed by the Project Engineering department. These forms are sent to the Revision division along with each invoice as justification for payment. The Revision division reviews each invoice with the Reconciliation division to be sure it falls within the approved budget. There are three persons involved in the review of these invoices. After approval, Form 61 is completed by the Revision division and sent to the Reconciliation division for posting. The volume of payments is approximately 100 per month. Funding is provided by BAB 3.

4.3.4.4 Loan Administration function

The Loan Administration function is a joint effort with the Investment Bank to monitor payments of loans by the governorate. There is currently one person who maintains loan payment records for the governorate. Payment for these loans is provided by BAB 4.

The Ministry of Finance administers the loans through the Investment Bank, and holds the authoritative payment records.

4.3.4.5 Procurement Invoice Processing function

The Revision department receives procurement documents from the Procurement and Contract department to review them and insure the legalities of the tendering and bidding process are observed. The required funds are then verified with the Reconciliation division to check the availability of the cash within the account. If the account's balance allows new withdrawals, the invoices are sent to the Reconciliation division to post the transaction in the relevant ledger and issue the cheque. If the balance does not allow the withdrawal, either the documents are sent back for adjustment to the Procurement department, or the Reconciliation department conducts a fund transfer between line items within the allowed limits. The purchase of inventory commodities follows the same procedures.

4.3.4.6 Revenue book keeping

The governorate receives its share of revenues from the different revenue collection organizations. The share is either sent in cash to the Treasury department, or a cheque is deposited directly to the Accounts Receivable division. In case of cash deposit, a receipt is issued by the Treasury department to the Accounts Receivable division where the cash/cheque transaction is recorded on Form 61 and delivered to the Reconciliation division for posting. Both cheques and cash are then deposited in the governorate's account in the Central Bank.

4.3.4.7 Ledger Keeping

The Reconciliation division maintains its ledgers by posting transactions received from the Revision division. The ledgers are divided in a manner similar to the local government budget, i.e Chapters, Groups, Items, and Varieties. A staff of 28 employees in the Reconciliation division are responsible for maintaining approximately 100 accounts. A month-end process occurs to post opening balances for the new month in each account. This is done to simplify the year-end processing and to facilitate the audit function by producing monthly balance sheets for the Auditing division.

Strict security procedures are followed in the manual system. Personnel are given access authorization only to those accounts for which they are immediately responsible.

Recommendations:

We strongly believe that an automated system could be implemented in this department to serve the salary administration function. It would be a large scale system, providing a core function in the governorate. Automation of this area should be part of a carefully planned integrated financial system. It should not be among the first projects attempted by the MIS department. It would require a substantial investment in time, hardware, and software. We estimate the system analysis required for automation of the payroll function alone to be 10 man months.

The payroll administration System would provide a current record of employees, salary information, benefits, and withholdings for the governorate and each district. The system will automatically produce complete and correct payroll worksheets and will provide reports of payroll expense required by the Ministry of Finance. This would eliminate duplicated effort between the Accounting and Personnel departments, reduce human error related to the transcription of data, smooth workload peaks, eliminate year end processes, and provide improved reporting accuracy.

The Ministry of Finance regulates the process of payroll administration closely within the governorate. Any attempt to automate the payroll process or alter existing forms and procedures must be done with their knowledge and cooperation. It should also be noted that a natural integration of data is possible between the Personnel and Accounting departments. The Salary administration system could be linked as subsystem of a comprehensive database structure for the governorate. The MIS center would require a central minicomputer which cannot be technically supported by the governorate at this time.

As part of an integrated financial system, the Accounts receivable, Accounts Payable, Invoicing, and General Ledger functions should be automated. The Reconciliation division of the Accounting department currently accomplishes these functions. An integrated system could provide opening and closing balances, accept day-to-day transaction. The system would produce balance sheets, budget expenditure reports, accounts payable and accounts receivable reports. It would facilitate monthly and year-end processing, monitor expenses, and allow performance evaluation. A tremendous improvement in speed and accuracy would result.

We estimate the system analysis required for integrated automation of the Accounts Payable, Accounts Receivable, and General Ledger functions to be respectively:

Accounts Payable	10 man/months
Accounts Receivable	10 man/months
General Ledger	14 man/months

4.3.5 Treasury Department

The Treasury department is responsible for the receipt and disbursement of cash in the governorate. This includes the following functions:

4.3.5.1 Payroll Disbursing function:

The disbursing of cash of payroll is the primary responsibility of the department, and may occur more than once monthly according to the schedule of bonuses and incentives.

The Accounting department delivers the payroll worksheet and cheque for the General Secretariat staff each month to the Treasury department. The payroll contains a listing of salary, deductions, and incentives for each employee. An employee card containing employee number, full name, and net salary is prepared monthly in the department, and the employee number is added to the payroll sheet. The cards are serially ordered, so when an employee submits his number his card is picked out and his line item is pointed on the payroll worksheet for his signature. Each employee signs off on the worksheet as he is paid. The payroll includes 2,000 to 2,500 employees in the General Secretariat.

The signed payroll sheet is returned to the accounting department. Remaining cash (undisbursed salaries) is deposited in the bank as revenue. In the salary bank account. The bank receipt is sent to the Reconciliation department for posting.

4.3.5.2 Annual Emergency Loan Administration

The department cashes loan checks totalling about 1,500 L.E per year. These funds are used as cash-on-hand for emergencies approved by the governor or the secretary general. When a loan is disbursed, another cheque is issued to maintain a cash balance. At the end of the year the Treasury department prepares and submits a report of emergency expenses to the Accounting department.

4.3.5.3 Personal Loan Administration Function

The Treasury department is also responsible for the employee's personal loans. Each month the department completes a record of disbursement to employees for the Accounting department. The Accounting department is responsible for approval of loans, while the Treasury department disburses, and keeps track of the repayments. (Average of 128 loan forms each month)

4.3.5.4 Revenue Collection Function

The department is also responsible for collection of cash revenues. The Service Directorates and the General Secretariat issue deposit permits to the private sectors for deposit to the Treasury. The Treasury department collects the cash (average of 100,000 per week, on about 35 permits) and deposits it weekly in bank accounts grouped by Chapters of the budget. The deposit receipts and bank receipt are sent to the Reconciliation department. Reconciliation for cash balances and receipts are conducted weekly.

Recommendations:

We do not believe a computer application is needed by the Treasury department at this time. Automation of the cash receipt and disbursing function could be included as a module of an integrated accounting system for the governorate. Its development should not precede automation of the Accounts Payable, Accounts receivable, and General Ledger functions.

4.3.6 Budget Control Department

The budget control department is responsible for preparation of the consolidated annual budget for the General Secretariat, and Councils. The department is also responsible for monitoring the approved budget for over expenditure of line items and processing of budget changes during the fiscal year

The budget preparation cycle occurs as follows:

- 1) The Ministry of Finance sends a circular (Manshour No. 1) to the General Secretariat and councils, through the Finance Directorate, requesting the preparation of annual budget estimates for the coming fiscal year.
- 2) The Budget department coordinates the process with the other departments involved.
- 3) The Personnel department prepares Chapter 1 (Wages and Salaries)
- 4) Planning and Follow Up prepares Chapter 3 (Capital Expenditures),
- 5) The Financial Directorate is responsible for preparing the four Chapters of Revenue.
- 6) The Budget department prepares Chapters two and four (Current Expenditures and Capital Transfers).

- 7) Each department addresses its relevant department at the City Council and District level to survey needs and prepare draft budgets.
- 8) The district draft budgets are approved by the district Executive Council and Popular Council and then sent to the City Council for consolidation.
- 9) The City Council submits the consolidated district budgets to the Executive Council and Popular Council for final approval.
- 10) The approved, consolidated district budget is forwarded to the General Secretariat where each department receives its Chapters in a consolidated form for review and discussion with its authorizing agency.
- 11) Chapter 1 (Wages and Salaries) is negotiated between the Personnel department and the Central Agency for Organization and Administration (CAOA)
- 12) Chapter 3 is negotiated between the Planning and Follow Up department and Ministry of Planning (MOP).
- 13) After negotiations, the budget is sent to the Ministry of Finance through the Finance Directorate for appropriation.
- 14) The Ministry of Finance sends the appropriated budget to the Finance Directorate to be distributed among the involved departments mentioned above.
- 15) The departments re-allocate the budget among the local units according to the proposed budget as approved by the Executive Council and Popular Council.

During the fiscal year, the department receives requests from the local units and General Directorate to change line items within Chapter two and Chapter one. These budget revisions must be approved by the governor or his designee.

Budget changes occur in the following forms:

1. Remove prohibitions on some budget items to release funds.
2. Utilization of savings. (Some savings cannot be used unless approved by the governor).
3. Addition of items not included in the original budget.
4. Transfer of funds between budget line items.

In addition to the budget revision process, the department is responsible for determining if a request for purchase or disbursement will exceed the line item appropriation. This function entails working with the accounting section on obligation requests and account balances after actual expenditures. Requests or disbursements which would result in a line item over-expenditure are referred to the General Secretary for subsequent action which could be refusal of the request or budget revision. There is a considerable delay in line item volume of transactions. The current manual processing and posting procedures incur delays in recognition of exact daily line item balances. In addition, difficulties in ascertaining exact account budget status leads to subsequent delays in publishing final accounts status.

Observations:

The manual process of preparing the budget faces difficulties in the re-distributing of Chapter 2 appropriations and tracking of daily changes to line items. Another area of deficiency in the system includes preparation of budget estimates which are largely based on historical precedents with no performance, economic, or cost-benefit basis. Also, technical and financial justifications attached to budget requests are ignored because there are no validation criteria.

Microcomputer applications have been implemented by LDII in the OMED office which provide these functions. The Current Budget Development System provides for all four budget development phases in the General Secretariat (Request, Governor recommendation, Executive and Popular Council Approvals, and Allocation). The system also consolidates the four chapters of the budget for the Governorate as a whole, and provides an information database of historical budget line items. The Five Year Forecasting system includes a linear trend model and a quadratic trend model for generating five year forecasts of revenue and expenditure based on based on historic data.

Recommendations:

The department would benefit substantially from a system that could:

- 1) Track obligation requests against remaining budget line item balances.
- 2) Reflect actual expenditure transactions in a timely manner thereby reporting available balances.
- 3) Check obligation and expenditure requests against available line item balances.

- 4) Automatically interface the annual appropriation to the fiscal system and update revisions to the appropriation file.

The automation of budget monitoring would provide timely status reporting on available balances thereby improving flexibility in reallocation of savings early in the fiscal year. Automation of the Budget monitoring process would enable the governorate to expand their chart of accounts to provide needed cost accounting information for management of the governorate financial system while meeting MOF requirements.

Monitoring changes to the budget line items, or testing available balances is not a capability offered by the existing OMEB software. The development of a transaction oriented system for monitoring daily financial obligation and expenditure could be developed. Given the high volume of transactions and the advisability of an expanded chart of accounts, a system to address these functions could not be developed on presently installed microcomputers. The need for multi-user access, large data storage capacity, and real-time processing imply the use of a minicomputer platform. The MIS department in Giza will not be technically able to undertake even the maintenance of such a system for several years.

4.3.7 Analysis and Follow-up Department (for the Central Agency of Accounting)

The Analysis and Follow-up department is responsible for coordinating the resolution of issues related to any financial report submitted by the governorate to the Central Agency for accounting. Annually, the Central Agency for Accounting (CAA) sends to the analysis and follow up department a financial report containing remarks regarding unbalanced statements or contradictions to financial legislation from the previous year's final accounts for the four budget chapters. The analysis and follow-up department gathers all remarks assigned to the General Secretariat, Service Directorates, and Local Units in Giza. They produce an index based upon page number of each remark and classified by account and unit (department). After that, an analysis of the remarks is conducted by the staff using the report as a guideline. Letters requesting explanation of the remarks are sent to the units in question.

On receiving an explanation of a remark from the organization in question, the financial analysts in the department analyze it and write their comments. A letter of explanation plus analytic comments is sent back to the CAA for filing. If the explanation in the letter is not convincing to the analysts, another letter is sent to the unit requesting further explanation of the subject. If the department in question does not answer this letter, follow up

letters are issued on a bi-weekly basis (The same form letter is used each time). The original copy is sent to the department in question through the central filing unit, one copy is kept in the department for filing, and the other copy is filed in the central filing unit. The CAA may also send special remarks, separate from the yearly report to the Analysis and Follow-up department for investigation.

Recommendations:

A need exists in the department for word processing capability to address recurrent composition and mailing of form letters. Each year, the department distributes approximately 45 custom letters to departments in the governorate. An additional 700 form letters requesting response from the departments are also distributed. Tracking of the responses from each department is divided among 3 analysts who accomplish the task easily. Although word processing could assist the department in some ways, we do not believe its implementation should be assigned high priority in the governorate.

4.4 ADMINISTRATIVE AFFAIRS DEPARTMENT

The administrative affairs department is functionally divided into three smaller departments. These are: Facilities Management, Secretarial and Archiving, and Mechanical Campaign department. The department's total staff includes 89 employees and 350 laborers and tradesmen.

4.4.1 Facilities Management (of the General Secretariat)

This department is staffed by 10 employees who are responsible for management of the main governorate building. This includes administration of office boys and security staff for whom shift schedules are developed. Periodical maintenance plans for sanitation, painting, furniture and other equipment needs are also prepared by the department. The department administers a service contract for the governorate cafeteria, and supervises the grounds maintenance staff. Management of the first aid clinic and information desk also fall under the responsibility of the department.

4.4.2 Secretary and Archive Department.

Mail and Distribution function: This department is responsible for receipt, sorting, and distribution of incoming mail to all departments. They also collect all outgoing mail.

Archiving function: This department records all internal correspondence between departments as well as incoming and outgoing mail. A physical record (copy) of each document is maintained for a period of five years, after which it is archived to a central archive.

Typing function: The central typing pool for the secretariat resides in this department, typing services are provided by this department for other parts of the governorate. There are 20 typists in the department, all of whom use manual typewriters. All documents produced by the department are filed for a period of 10 years, after which they are archived at a remote site. The daily volume of production depends on the required documents, and the full capacity of the typing force. However, we approximate the output at 400 pages daily. The average turnaround time is 48 hours. Due to the number of typists, there is no work backlog currently in the department. The department also provides a service to prepare administrative documents from its archive for different supervising organizations. These include, the governorate accounting department and the Central Agency for Accounting. In cases of suspicious criminal action, documents may be required by the general prosecutor or the administrative prosecutor's offices.

4.4.3 Mechanical Campaign Department (Motor Pool):

This department is concerned with the use and maintenance of personal transport vehicles owned by the governorate. Their tasks include; transporting governorate employees to and from their homes, administering travel orders for vehicles and motorcycles, monitoring utilization and fuel consumption, monitoring vehicle operating condition, monitoring maintenance and repair records, and administration of the fueling process.

4.4.4 Employee Register :

The general manager of the administrative affairs department has the employee daily register (where supervisory employees in the governorate sign in and out) under his direct supervision. By the end of each month the working hours for each employee are calculated and sent to the personnel department. In cases of excessive tardiness, the manager of the Administrative Affairs department must take the necessary disciplinary actions.

Observations:

The department currently has no automation. None of the employees have been exposed to computers or automation, and the department head has no strong opinion either for or against automation. The head of building affairs department, one of the main departments under him, encourages the use of automation in

some areas especially the archive, where he would like a microfiche system installed. The department is currently undergoing an administrative reorganization which will affect the division of tasks and responsibilities.

Recommendations:

One area where automation could be applied is the mechanical campaign (motor pool). A microcomputer application could be developed to administer the transportation process, track the maintenance status of vehicles, monitor vehicle operating condition, administer travel orders, and monitor and utilize fuel consumption. This system will help the managerial level to track the maintenance record of its vehicles and control cost and driver misuse. In Giza there is only one garage. A single microcomputer could adequately accommodate the vehicle management application. We estimate the analysis for this system would require 5 man/months.

The general secretarial section is a natural candidate for the use of arabic word processing. The potential benefits of such a system include:

- facilitate document production among the 20 secretaries
- Save time spent editing drafts of documents.
- Improve the quality of output.
- Reduce storage space currently required for paper documents.
- Streamline the archiving and retrieval process.

We estimate the analysis of a word processing network for the department would require 3 man/months. This system would be complicated from a file management standpoint. Coordinating the simultaneous productive capacity of 20 typists in an organized way would require the design of a local area network and file server. An administrative coding and retrieval system would be a primary system design challenges.

4.5 ORDEV DEPARTMENT

The ORDEV department is the representative department of the Organization of Reconstruction and Development of Egyptian Village (ORDEV) in the governorate.

The governorate ORDEV department is responsible for activities concerning village development projects assigned by the central ORDEV. These include:

- o Assisting local units with annual budget planning and follow up on the execution of the projects..
- o Administration of Local Development Fund (LDF) Loan repayment.

4.5.1 Annual Budget Planning

The projects supervised by the ORDEV lie in two categories:

1) Donation financed non-profit projects, and 2) Loan financed projects designed to generate their repayment through profit.

The procedures for developing and obtaining approval of annual budget for AID funded projects are as follows:

1) A session of the Governorate Local Development Committee (GLDC) is held at the governorate to allocate funds approved for the governorate by the Provincial Local Development Committee (PLDC) among the different City Councils.

2) Upon approval of the allocation for each City council, the villages prepare their annual plan within the available budget.

3) The village annual plans are submitted to the markaz and city council for approval.

4) The ORDEV department at the governorate level receives plans from the city councils and assembles them into a consolidated plan for the governorate which is then sent to the GLDC for approval. These plans include water project maintenance, roadways maintenance, maintenance centers (for equipment repairs) and new village development.

5) Funds are released to each village to start the implementation phase of the plan.

6) The ORDEV department has a responsibility to inspect and supervise the implementation phase to insure village commitment to the plan. This is done through site visits from the ORDEV staff to the projects to supervise technical and financial over the implementation.

7) Each village prepares monthly progress reports which are submitted to the ORDEV department at the village.

8) These reports are consolidated and submitted in turn to the ORDEV department at the markaz level, and finally to the governorate ORDEV.

9) The ORDEV at the governorate level assembles the progress reports and prepares a quarterly progress report for the Cairo ORDEV, the Financial Directorate, and the Accounting department in the governorate. On request, it submits statements of final account for completed projects to the General Agency for Accountancy (GAA)

The preparation of BAB 3, (governorate funded projects), follows a different set of procedures in which the Planning and Follow up department coordinates the BAB 3 Plan for the General Secretariat. The process starts in the budget preparation phase when the ORDEV department receives request for the plan. A series of correspondences are exchanged between the ORDEV at the governorate and the marakez and villages for the preparation and delivery of the plan. The consolidated plan is prepared at the Governorate ORDEV and then sent to the Planning and Follow up department to be included in the total governorate capital budget. Follow up of the plan is done through the ORDEV, where they collect the monthly progress reports from the villages and supervise implementation. The department sends a copy of the compiled progress report to the Planning and Follow up department for information only. The Planning and Follow up department has no authority over the ORDEV department in the Preparation of the plan or the follow up process.

4.5.2 Loan Administration Function:

The ORDEV department follows up on the payment of the installments for loans which have been made to the different local units by the Local Development Fund. The department consolidates payment in a single cheque sent to LDF Cairo.

The procedure for getting a loan for productive projects is as follows:

- 1) The village conducts a feasibility study for one of these projects using special forms.
- 2) The study is reviewed by ORDEV, approved by the general secretary, and sent to LDF at ORDEV Cairo for final revision and approval.
- 3) A condition prerequisite for the approval of the project is a village participation of at least 25% of the total cost.
- 4) The LDF extends credit for the remaining 75%. Interest rate is 6%, and the repayments return back to LDF Cairo to reloan other projects. The terms of repayments are:

- o There is a tolerance period in which no installments are paid, this period depends on the type of project and its duration (3, 6, or 12 months).
- o For the next nine months after the tolerance period, the project pays the interest only in three installments every three months.
- o After the nine month interest period, the installments are paid every three months including the interest.

The ORDEV department is also responsible for preparing training courses for the employees in the local units, and orientation sessions regarding AID projects and activities. The training courses include subjects such as:

- o Training of trainers to supervise productive projects
- o Solving problems of productive projects
- o Maintenance training courses
- o New ideas in economic development
- o Seminars for exchanging experience between governorate.

Observations:

Some automation has been implemented in the department. An IBM XT microcomputer has been installed with a dbase III + file which tracks information about maintenance projects. The existing database does not track development projects which receive funding outside AID. Five of the department employees are assigned to the computer section. They have received training on DOS and DBase III+, and are generating reports required by AID using the database.

Recommendations:

An integrated system to develop the annual budget and annual plan would provide substantive benefit to the department. The system should include a follow up feature to monitor the performance and expenditures of the projects, and should be capable of producing standardized reports for ORDEV, the Financial Directorate, and the Accounting department in the governorate.

The system should provide an efficient method of recording and reporting annual budgets for the local units. It should include performance indicators to measure project progress. Reports from the system can be coordinated with the data entry requirements of the OMED Capital Budget System. This will yield a comprehensive and effective method of consolidating a total BAB 3 budget for the governorate and provide timely information for management decision making. We estimate that six man/months of analysis will be

required to define user requirements for the department and assess the feasibility of interfaces with the Provincial Project Tracking System and Capital Budget Systems and.

A loan tracking system to automate the loan administration function will benefit the department and could potentially improve debt repayment performance. The system should include information about projects which receive loans. It should track repayment performance and assess the credit worthiness of recipients. It should be capable of producing reports of payment schedule and performance history for each loan. This will provide an concise monitoring tool, and will alleviate clerical work and improve accuracy. We estimate that six man/months of system analysis would be required to adequately assess requirements for this system and produce a logical design.

4.6 GENERAL DEPARTMENT FOR PERSONNEL AFFAIRS

4.6.1 Recruitment, Transfer, and Termination

The Recruitment, Transfers, and Termination department is responsible for appointing new employees, transferring employees from/to the governorate, and terminating employees. Procedures for each section are as follows:

4.6.1.1 Recruitment:

Direct appointment from the Central Authority of Organization and Administration (CAOA) is the process by which university graduates are granted public service appointments. Following these appointments. The recruiting department announces remaining vacant posts in the governorate, districts, local units, and villages. These personnel needs are then presented to the Governor for approval to begin recruitment. The public is invited to apply for the empty positions through newspaper announcements. Candidates are evaluated through interviews, written tests, or both. Unqualified applicants are dismissed and the qualified candidates are arranged serially according to results of tests and interviews. Vacant posts are filled with the best qualified candidates, the rest are held on a waiting list until the end of the year.

Each year, a list of new employees is prepared and laid before the personnel committee. This committee is headed by the General Secretary and includes a representative of the Syndicate of governorate employees (Union). Upon approval, an appointment decree is issued and appointment letters are prepared for each candidate asking them to commence work.

Upon appointment, the recruiting department requests candidates to submit their employment documents and to pass a medical exam. If a candidate does not show up within 15 days, another letter of notification is mailed to him. If he still does not show up, he is excluded from the list and the next candidate is invited to fill the position.

The employment documents submitted by the candidates are then sent to the Personnel Archive department. Copies of the appointment decrees are sent to the Promotions department and Compensation and Benefits department. Accordingly, these departments will record the new employees in their books. New employees then sign off on a commencement date and begin a probation period of two months after which an appraisal is performed (in a special form) by his direct boss. According to the results of the appraisal, the employee is either offered a permanent job or is transferred to another position in the governmental sectors (such transfers are extremely rare). Sometimes when an employee is dismissed due to high rate of absenteeism or any other minor reason, he can submit a request asking to be returned to service. In such cases, the recruitment department checks for an empty position. If there is one available, the employee is reappointed once more.

4.6.1.2 Transfer, and Delegation:

According to the needs of the governorate, transfers or temporary duty assignments (TDY) may be required. Determining whether the move is a transfer or a TDY depends on whether there is an empty position in the target organization/department or not. If there is, then it is a transfer, if there is no empty position, it is considered TDY which means that the employee gets his salary from the source organization/department (an employee may be delegated to a position similar to/higher than his rank but not lower).

Transfer can take any of the following types:

1. Internal transfer: among the departments of an organization.
2. External transfer: outside the governorate (to any other government organization)
3. Internal and external delegations.
4. Leave of absence: The employee takes a non-paid vacation for a certain period of time to work in another organization or country then returns back to his job.

To accomplish the transfer the general secretary or governor approves a written decree which is sent to the transfer department. The transfer department informs the recipient department and the department currently employing the transferee. A letter is sent to the accounting department to effect a formal change on the payroll.

4.6.1.3 Termination:

Termination can take place for one of the following reasons:

1. Absenteeism: if a person is absent for 15 consecutive days, a warning letter is mailed to him, after another 15 days another warning letter, if still did not show up, he is dismissed from the job.
2. Resignation: the employee submits his resignation, gets an approval from the head of his department, then he is dismissed.
3. Retirement: when the employee reaches the legal retirement age (60).
4. Death: the procedures for cashing the pension to the family takes place after getting a formal notice from the department.

Based on a decree by the governor or general secretary the procedure for termination is the same as the procedure of transfer. The volume of termination in the governorate does not exceed (10 - 20) cases per year.

The recruitment department maintains the following records :

1. Labor power record: in which the following is recorded: employee name, qualification, date and grade of graduation, address, place of appointment, date and number of the employment decree, date of commencing work.
2. Probation period record: same information in the previous record with the addition of the date of finishing probation period and the final grade he reserved.
3. Termination record: employee name, date and number of termination decree, position held when terminated, and reason for termination.
4. Military service follow up record: employee name, position, department where he is employed, number of his military unit, date of commencing the military service, decree No. for reserving the position, date of terminating service, date of recommencing work.
5. Delegation record: employee name, file No., position, organization or department to be delegated to, period, date (from-to), date and No. of decree of delegation.
6. Leave of Absence record: same as TDY record.

Observations:

The head of the department and his assistant encourage automation of the department, they think that automation would improve the quality of the job done and would save time and effort. None of the existing staff (11 employees) have any degree of exposure to computers, but they are willing to learn. The department currently administers about 1500 employees.

Recommendations:

The recruitment, transfer, and termination department is the point of entry for much of the information maintained by the personnel department as a whole. The department would benefit considerably from the implementation of an integrated personnel system. The department would retain its current responsibility for maintaining the following data: personal data, probation period records, termination records, and delegation or transfer records. An automated subsystem dedicated to this department would provide an easy, accurate, and fast method of accessing employees records. Retirements can be determined from records showing those at the mandatory retirement age and by a survey of those planning early retirement. We estimate that 20 man/months of system analysis would be needed to define requirements for an integrated personnel system for the governorate.

4.6.2 Archive and Benefits Department

This department has two major functions which are the maintenance of employee master files and coordination with the accounting department of salary administration and compensations.

4.6.2.1 Maintaining Master Files

The master files include the following information:

- o A Service file of original documents related to each employee, that includes his qualifications, experience, the languages he knows, special skills, salary, bonuses, raises, promotions, vacations and leaves, properties he owns, any disciplinary actions taken against him, transfer, and employment duration.
- o A history record containing a written chronology of the activities and documents contained in the service file.
- o A salary history record containing detailed information about the employee's salary, bonuses, and raises. This

information is obtained through the raises and/or bonuses decree.

Whenever an employee applies for vacation, transfer...etc, a memorandum is sent by his manager to this department to check his balance of vacations or his status for delegation or transfer. Depending on the reply of the archive department, the appropriate action is taken from the department requesting the information. Also, whenever an employee is terminated for any reason, documents required to finish the termination procedure are sent to the Pension department. The rest of the employee's master file is archived in the department for five years.

4.6.2.2 Salary Administration, and Compensations

The department administers the payroll process of the General Secretariat in conjunction with the Accounting department. The department maintains master payroll files for employees of the General Secretariat. These records are used to calculate gross wages, taxes, national insurance, employer's share of national insurance, other deductions, benefits, incentives, compensations, raises, and bonuses on a monthly worksheet. The worksheet is sent to the accounting department, around the 21'st of the month, where they verify it against their own set of records.

The department updates the master files whenever an employee joins the governorate or is terminated for any reason. When a new employee is added to the payroll, a memorandum is prepared listing the employees gross and net salary, insurance, deductions, and withholdings, and is sent to the Accounting department to be added to their records. When an employee is terminated, a memorandum is sent to the Accounting department to eliminate the employee from their records.

Also, the calculation of bonuses, incentives, fringe benefits, and compensations are done in the department. This could be part of the monthly process of preparing the payroll worksheet, or can be a separate function that occurs any time during the month. Such compensations are the May 1'st grant which is paid around the 20'th of the month.

Observations:

There is substantial duplication of effort between the Personnel department's Salary Administration and Compensation section and the Accounting department that can be eliminated through automation of the payroll process. Also, payroll records should be kept in one site instead of the existing situation where books and calculations take place in both the Personnel and Accounting departments. Automation of the payroll process should

take place in the Accounting department since they administer the payroll for the districts in addition to the General Secretariat.

4.6.3 Promotions, Vacations, and Penalties

The department is divided to five divisions: Promotions, Vacations, Penalties, Raises, and Reconciliation of Employment Durations.

4.6.3.1 Promotion Division:

The division is responsible for defining when promotions are due for employees of the General Secretariat and Local Units. This is based on the seniority of the candidates, performance, employment duration, and the number of vacant posts within the governorate for that grade .

The division maintains several books that hold the following information:

- o Personnel Records. name, date and place of birth, job title, grade, positional group, certificates, date and place of graduation, previous positions and date of each position, date of joining the department, and date of termination.
- o Seniority Records. The records for seniority are indexed by positional group, and include personnel data, prior employment durations, and salary history.
- o Grade Records. The Grade Records are indexed by grade and date of filling, and include each employee's name, qualification, date of birth, and date of employment.

Whenever a promotion is approved the employing organization is formally notified via letter from the department.

4.6.3.2 Vacations Division:

The Vacations Division monitors the vacations of the General Secretariat's staff. This is done by maintaining the following records:

- o General Vacations Records. Vacations are classified into annual leave, sick leave, and emergency leave. The records are indexed by employee name and include the department, hiring date, date of birth, date of commencing work, type of vacation, duration, and purpose. An employee submits an approved vacation request which

is checked against his balance. If his balance permits the new vacation, it is added to his record and approved by the head of the division. The request is then sent to Archive department to be added to the employee's master file.

- o Special Vacations Records. Special vacations are: child care, relatives sickness, husband or wife accompanying. These vacations are unpaid vacations. The records are indexed by employee name and include number of master file, date of birth, hiring date, certificates, basic salary, position, grade, duration of vacation, when the vacation starts and ends, number and date of vacation decree, and remarks.
- o Sabbatical Records. Sabbatical leave is a paid vacation, which needs a committee approval.
- o Delegation Vacations: When an employee is delegated to another job, he applies for a vacation from his current position to reserve it until he is back. Records to implement this transaction contain: employee name, employee master file number, date of birth, hiring date, certificate, contract salary, grade and position, duration of vacation, when the vacation starts and ends, number and date of vacation decree, and remarks.

4.6.3.3 Penalties Division

The Penalties division registers penalties in special records that include name, position, department, penalty type, reason, and number and date of penalty decree. The Penalty division informs the following parties to take appropriate action: Personnel is informed of the type of penalty and effective date to take immediate action in case of salary discount penalty, the Archive department to include a copy of the penalty decree in the employee's master file, Promotions department in order to consider it during the promotion process and performance appraisal, and in case of robbery or theft the Central Agency for Auditing is informed. Penalties are cancelled from the master files after a specific period prescribed by the law, and after referring to the direct superior of the employee, and to the evaluation reports. Cancellation takes place after it is approved from a personnel committee held for that purpose.

4.6.3.4 Raises Division:

The Raises Division maintains the evaluation records for the employees in the first and second grade in the General Secretariat and Local Units, and for the third, fourth, fifth and sixth grade

in the General Secretariat only. Evaluation Reports are divided to three parts: Form A which is used for department heads and managerial posts, and Form B which is used for technical, special, and clerical posts. Form C is used for workers and services employees. It includes the following data: employee name, date of birth, hiring date, position, group, department, and evaluation result.

Each department head evaluates his employees and completes a report which is presented to the personnel committee for approval. After approval, the reports are sent to the promotion division to inform the employees with the results and provide them with a copy. Another copy of the report is included in the employee's master file.

Performance appraisal is conducted on an annual basis and is used in conjunction with the seniority history for approving promotions.

4.6.3.5 Reconciliation of Employment Durations:

This division holds records of employment durations for the General Directorate's staff. Updating records includes adding public service durations, and prior employment periods. Public service durations are calculated for the university graduate employees in the General Secretariat. Prior employment periods are calculated from the master files of the employees and are used in defining seniorities and defining basic salaries.

Recommendations:

As part of the integrated personnel system, this department will share the same database and will maintain the following data: vacations and leaves, penalties, performance appraisal, seniority records, promotions and incentives, training received, prior employment durations, and public service durations. The system will have the capability to provide the following information: Track filled and vacant posts within each positional group, provide for a means of tracking the employees by name, or post, or positional group, and provide the actual operational labor power in any organization.

4.6.4 Position Control Department

The Position Control department prepares Chapter 1 (Wages and Salaries) of the Budget for the General Secretariat, and coordinates the process for the local units. This is done annually, and follows this process:

- 1) The department receives the circular, (sent from the MOF), from the Budget department requesting the preparation of the Chapter 1 budget request.
- 2) Upon receiving the MOF publishing, the department issues letters to the local units to prepare their budget requests.
- 3) The budget requests are reviewed, and approved by the Executive and Popular Councils, then are sent to the department where it is discussed then approved.
- 4) A consolidated budget is put together for the Local Units and General Secretariat.
- 5) The consolidated budget is prepared on special forms indexed by grade, containing the number of employees, estimated cost through out the year, previous year cost, number of new obligatory positions requested and its cost, number of new positions and cost, raises bonuses, incentives, etc...
- 6) A separate form is prepared containing the number of employees in the existing grades, number of new grades requested and number of employees to be assigned to them.
- 7) These forms are done for each local unit separately. They are sent to the CAO for review.
- 8) The CAO may negotiate the final request with the Position Control department and the Organization and Administration Directorate.
- 9) The MOF is notified of the final budget requests and finally approves it.
- 10) After the MOF appropriation, the Position Control department receives a budget and starts to re-allocate budget among local units. The department determines central expenditure allocations at the governorate level and the total share of each City Council to be allocated among sectors and activities.
- 11) The department prepares a form including the names of employees by positional group and grade.
- 12) The Promotion department is informed with the number of new allocated grades, which in turn allocates the new positions.
- 13) The Position Control keeps track of the promotions taking place to the new positions and among them. This is accomplished with a manual set of record books.

Observations:

The existing manual system of preparing Chapter 1 (Wages and Salaries) has already been automated by the OMED Current Budget Development System that is implemented in the governorate. The system provides four budget development phases: request, governor recommendation, Executive and Popular council action, and allocation. It accepts data from personnel by job classification: on actual salaries and number of vacant or filled positions, on budgeted salaries and number of positions by job classification, and historical data. The system allows for on-line changes to all phases during the budgetary process until the allocation of the MOF.

The existing automated system meets the needs of the Position Control department from the budget preparation side. Tracking vacant and filled positions during the fiscal year should be function considered in the design of an integrated personnel system. The Position Control department would share access to a central personnel database.

4.6.5 Personnel Care

The Personnel Care department provides medical care and social services to the General Secretariat staff. Medical care is provided through a small clinic at the General Secretariat premises. The clinic has a general practitioner who checks sick employees, and either prescribes treatment, or issues a letter to transfer the employee to a specialist. The department follows up the case till the employee gets back to work.

In the social service area, the department is responsible for investigating cases sent from the general secretary office. These investigations include: assessing employees who apply for loans, donations, or buying flats in the governorate buildings, and investigate cases of fired employees when they apply for reappointment through the personnel department. The department assesses the financial status of the candidates who apply for the loans or flats. A report is written and submitted to the general secretary which includes a summary of the investigation and recommendation of whether to approve the loan or flat or no. The general secretary discusses the results of the report, and after approval transfers the issue to the concerned organization to take the appropriate action. Another responsibility of the department is organizing recreation trips for the governorate employees.

Observations:

The department does not keep any records of the cases they investigate (which are personal in nature), except in the case of

selling flats. The responsibility of the department is primarily administrative and does not include any complicated procedures. We therefore do not recognize a critical need for automation.

4.7 CENTRAL DEPARTMENT FOR LOCAL UNITS AND COUNCILS

The Central department for Local Units and Councils is divided into four functional departments: General department for Conferences and Committees, Cemetery department, General department for Local Councils, and General department for Local Units.

4.7.1 General Department for Conferences and Committees

The General department for Conferences and Committees includes the Conferences and Committee department, and Executive Council Affairs.

4.7.1.1 Conferences and Committees

This department Prepares for conferences and committees held under the chairmanship of the Governor or General Secretary. A request is sent to the department asking them to prepare for a conference or meeting. The requests usually describes the participants and time when the conference will be held. The department prepares the site and sends invitations to the participants. A clerk from the department attends the conference to record the minutes.

After the conference, the minutes are finalized and a copy is sent to each participant. If important decisions are made, it is the responsibility of the department to inform any involved organization and follow up with relevant persons for whom action has been decried. The department has no standardized forms to be used in recording decisions, or following up execution. All correspondences between the department and other organizations are done through typed letters or memorandums. Minutes of meeting are written in non-standard format and are filed in the department.

The Conferences department administers a monthly committee, a bi-weekly committee, a weekly meeting, a quarterly conference, and other non scheduled meetings held by the governor or general secretary for special purposes.

4.7.1.2 Executive Council Affairs

The Executive Council Affairs department supervises the administrative works of the Executive Council at the governorate level. This includes preparing the monthly meetings and its agenda. The agenda issues are submitted by organizations requesting

discussion and approval by Executive Council. The Executive Council Affairs department consolidates, establishes priority, and prepares the agenda of the meeting.

The department also has follow up responsibility related to decisions of the Council. This includes only administrative supervision and not authority to take action against a deficient party. A follow up report is written including the case, the solution declared by the Executive Council, and results of investigations. This report is delivered to the governor, or his delegate.

Recommendations:

The department's responsibility is primarily administrative involving document preparation and revision. It is an area where Arabic wordprocessing can be easily and successfully implemented. A simple microcomputer based system would be able to:

- Improve the speed, accuracy, and priority of agenda preparation.
- facilitate report writing and revision.
- Save time, especially when standard letters are produced.

One man/month of analysis would be required to define final requirements for this system.

4.7.2 Cemetery Department

The department receives requests from governorate staff to buy land which is licenced for building cemeteries. These requests are submitted on standardized request forms. It is the department's duty to assess the worthiness of applicants based on criteria including: employment status (GOE employees are favored), residence in Giza, and previous purchase history.

Priority is established among the applicants and they are informed of their selection. The buyers are requested to pay a down payment after which they receive a licence to begin construction. The cemetery must follow a standard design prescribed by the governorate. Buyers are given a grace period in which construction must begin or the land is withdrawn from them. The department has a group of engineers that follow up on the construction to ensure that the regulations are followed and that standard designs are followed.

The department has 15 staff members and administer a volume of 240 correspondences per week.

Recommendations:

The current staff accomplish their workload comfortably. There are no seasonal peaks or other complications in the flow of work or information. We do not believe that automation should be applied in this department as it would provide no substantive benefit.

4.7.3 GENERAL DEPARTMENT FOR LOCAL COUNCILS

The General department for Local Councils includes two divisions: Division of Elections and Administrative Structure, and Local Councils Affairs.

4.7.3.1 Division of Elections and Administrative Structure

The Division of Elections and Administrative Structure has two main responsibilities: study suggestions to change administrative structure of the local councils, and administer the election process of the local popular councils.

Structural Change Process:

- 1) The division receives a formal request from the concerned Local Council suggesting a structural change in a subordinate local organization. Examples of such changes include: establishing a new markaz, changing a village into a city, establishing a district, changing a plantation to a village, or combining a village with a city.
- 2) The request is studied in the division then submitted to the governorate Popular Council and governorate Executive council, through the Committee department, for discussion and approval.
- 3) Upon approval, the division obtains approvals from the different service directorates: agriculture, housing, health, education, ...in order to start their activities in the new organization.
- 4) The division addresses a memorandum to the Governor explaining the new administrative change and including the obtained approvals.
- 5) The Governor delegates an administrative committee to discuss and approve the issue, after which the department addresses the appropriate central supervisory organization to obtain their final approvals. These central organization vary according to the required change. In most cases it is the Prime Minister, or

whoever he delegates, with two notable exceptions: When a new markaz is proposed, it is the Minister of Interior Affairs who must give approval. When changing plantation to a village it is the Governor.

- 6) Upon final approval, all the involved parties are informed, and each service directorate begins procedures to start acknowledge the new organization.
- 7) A memorandum stating the new organizational structure is sent to the General department of Local Units to formally establish the change.
- 8) The General department of Local Units assigns personnel and facilities as needed to accommodate the administrative reorganization.

The other main responsibility of the division is to supervise the elections of the local popular councils. Elections occur every four years and there are two types: elections by list which are limited to political parties, and open individual elections.

Local Popular Council Electoral Process:

- 1) The division receives election forms (Form 46/1 for list elections, and 46/2 for individual) from the AMANA.
- 2) These are delivered to representatives of each local unit who in turn distribute them among the representatives of the parties, or to the individuals in the local unit.
- 3) The division, after approval of the governor, administers the establishment of temporary committees to conduct the election in each local unit. A temporary election office is established at the governorate headquarters to train members of the survey committees.
- 4) The forms are delivered to the survey committee which study each form individually to check and verify the data.
- 5) The department then prepares a consolidated list (form 47/2 for individuals, and 47/1 for list elections) and sends it to the division where they finalize it and submit it to the governorate election office.
- 6) When the election results are calculated, a list of qualified candidates is prepared at the local units and is sent to the division where it is assembled and consolidated for the governorate.
- 7) The governor is informed with the results and the elected members of the local popular councils are invited to

meet, through the division, to elect the chairman and his assistants.

Recommendations:

There is no prescribed or standard form used by the department to carry on the administrative restructuring work. All the memorandums and correspondences generated by the department are custom production and are typed in-house. There are no procedures to guide their work, and therefore no real application to automate.

With respect to the electoral process, there is a lot of administrative work involved that can be simplified through automation. This could be done with a single user microcomputer application that would automate data entry from the forms used at the local unit and the division level. The system would record election results, and update the member status of the popular council. It would record resignations, replacements, meetings, decisions, and action done to carry them out.

We estimate that six man/months of system analysis would be required for this system.

4.7.3.2 Local Councils Affairs

The Local Council Affairs department supervises the administrative affairs of the governorate Local Popular Council. This function closely parallels that of the Executive Council Affairs department. It includes: receiving subjects from different organizations to be discussed in the popular councils and scheduling them in the agenda of the meetings, arranging for the meeting and preparing list of participants to be invited, recording the recommendations of meetings and informing the involved parties, and following up on the execution of the decisions.

An annual report is prepared by the department which includes all the subjects that were received for submission to the Council, activities of the Council during the past year, recommendations and decisions made by the Councils, and the subsequent progress resulting from each decision. The division keeps records that hold information about the members of the councils: name, practice, qualifications, and how long they have been elected.

Recommendations:

The Local Councils Affairs supervises administrative work with no peaks or complicated procedures. Most of the work is done through correspondences and memo between the division and the popular council. We believe that automation is not required in the division.

4.7.4 General Department for Local Units

The General department for Local Units is divided to two functional departments: Village affairs, and Markaz, City, and District affairs. The department maintains a demographic database for the local units which holds information required to assess the size and capability of the local unit. This database is primarily used when a change in the administrative structure is requested by a local unit. The department conducts a survey regarding the area, population, services, and existing government organizations. If the required changes meet the criteria prerequisite for it, the department approves the change and forwards it to the Local Councils department for consideration.

The department monitors the administrative affairs of the local units by conducting field visits. This includes checking on the productivity of the local unit staff and investigating administrative problems that prevent the work progress and solve if possible.

Recommendations:

Automation of the demographic database maintained for the local units would substantially reduce the time required to perform several functions in this department. Information could be provided instantly to support the decision making process involving potential changes in administrative structure. Queries about the status and services of the local units could be answered more accurately and efficiently. The database would hold data about population, area, services, and projects in each local unit. The department is anxious to have this activity automated.

Six man/months of analysis would be needed to define complete requirements and logical design for this system.

SECTION 5

SYSTEM EVALUATIONS

Table 5.1 presents the potential systems identified in our analysis of each department. The systems have been listed in developmental priority on the basis of three primary measures, which have been weighted according to relative significance and current feasibility. A point accumulation measure is applied that uses the following ranking criteria:

- 1) Technical Complexity: A measure of potential technology involved in providing the automated system. This has been established from preliminary estimates of data volume, communications, and potential operating systems and application software requirements. Categories are established on the basis of hardware environment, number of potential users, and analytic and developmental requirements. Less technically demanding systems receive a higher point value.

Very Low Complexity	Single user systems requiring no analysis or programming (such as implementation of an off the shelf software package). Weight: 4
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Low Complexity	Single user systems requiring some system analysis and programming. (Modification of an existing system or development of a simple database). Weight: 3
----------------	---

Medium Complexity	Single user systems requiring five to ten man/months of system analysis. Weight 2
-------------------	---

High Complexity	1 - 5 user system or microcomputer networks with one user department. Weight: 1
-----------------	---

Very High Complexity	More than 5 user minicomputer systems spanning several departments. Weight: 0
----------------------	---

- 2) Level of Benefit: A relative measure based on the potential impact of an automated system within the organization. In most cases these represent the broadest and most obvious benefits. They ignore reduction in manpower and establishment of firm procedures as potential benefits. These benefits occur in almost all cases, however they are not significant reasons to

automate in the GOE environment. High levels of benefit receive higher point values.

- Very High Benefit: Automation of a process not possible with manual procedures. Saves money, increases productivity, provides critical reporting, benefits multiple departments. Weight: 4
- High Benefit Automation of a process not addressed by manual procedures. Saves time. Improves productivity, security, and reporting. Eliminates duplicate efforts. Weight: 3
- Medium Benefit Automation of a process not adequately addressed by current manual procedures. Time saving, accuracy improvement, raises productivity, provides reports currently unavailable. Weight: 2
- Low Benefit Automation of a functioning manual process. Provides Some labor saving, some time saving. Improves reporting. Weight: 1
- Very Low Benefit: Automation of a functioning manual procedure. Provides minimal time saving or improvement in data accuracy or availability. Weight: 0

3) User Desire: A measure of desire for implementation of an information system on the part of the user department. User desire is considered a critical factor in the potential success of a system. This category establishes the ease of implementation and ongoing feasibility of a potential system. High user desire is weighted more heavily.

- Very High Desire: User actively solicits automation, clearly understands and advocates potential benefits. Weight: 4
- High Desire: User is enthusiastic toward automation, may understand some benefits. Weight: 3
- Medium Desire: User is open to the prospect of automation but does not actively

request it, does not understand potential benefits. Weight: 2

Low Desire:

User is averse to automation. May be afraid of technology, changes to the organization, erosion of power, etc.. Weight: 1

Very Low Desire:

User actively resists automation, perceives it as threatening to his job security. Weight: 0

These rankings were applied toward each system identified in the study. Priority has been established based upon their accumulated score in each category. A multiplier was used to establish relative significance among the categories. In the final ranking, Higher scoring systems recognize more potential benefit to the organization with less technical complexity and a more enthusiastic user (and therefore better chance of success) relative to other systems. Systems with tying scores were subsequently ranked on the basis of technical complexity to reflect the reality of what can be developed and sustained by the GIZA MIS department.

TABLE 5.1
SYSTEM APPRAISAL
=====

SYSTEM DESCRIPTION =====	USER DEPARTMENT(S) =====	SYSTEM ENVIRONMENT =====	LEVEL OF BENEFIT =====	USER DESIRE =====	TECHNICAL COMPLEXITY =====
1. Inventory Management	Inventory Procurement Stock Control	Micro Computer	Very High	High	Med
2. Project Tracking	Planning & Follow Up	Micro Computer	High	Very High	Med
3. Wordprocessing	Analysis & Follow Up (CAA)	Micro Computer	Med	High	Low
4. Budget Planning & Monitoring	ORDEV	Micro Computer	High	High	Med
5. Wordprocessing	Conferences & Committees (Central Department for local units/councils)	2 Micro Computers	Med	Med	Low
6. Demographic Database	General Department for Local Units	Micro Computer(1-3 Users)	Med	High	Med
7. Election Administration Application	Election Division	Micro Computer	Med	High	Med
8. Vendor Database	Procurement	Micro Computer	Med	High	Med
9. Statistical Analysis	Statistics	Micro Computer	Med	Med	Med
10. Loan Tracking System	ORDEV	Micro Computer	Med	Med	Med
11. Personnel	Personnel	Minicomputer (12 users)	Very High	High	Very High
12. Wordprocessing	Secretary and Archive (Administrative Affairs)	Micro Computer Network	Med	High	High
13. Vehicle Management	Mechanic. l Campaign (Administrative Affairs)	Micro Computer	Low	Med	Med
14. Payroll	Accounting Personnel	Minicomputer (8 users)	High	High	Very High
15. Accounts Payable General Ledger Accounts Receivable	Accounting Reconciliation Treasury, Accounting	Minicomputer (5 users) Minicomputer (10 users) Minicomputer (5 users)	Very High Very High Very High	Low Low Low	Very High Very High Very High
16. Budget Monitoring	Budget control department	Mini-Computer	High	Med	Very High

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SECTION 6

RECOMMENDATIONS AND CONCLUSION

There are sixteen potential systems or integrated system groups identified in this assessment. They range in size from microcomputer application programs to fully integrated multi-user systems requiring a central minicomputer. Generally the systems can be categorized into three classes: 1) small microcomputer applications, 2) Local Area Networks and microcomputer multi-user systems, and 3) centralized minicomputer applications. Our recommendation for developing MIS capacity in GIZA calls for a three phase program which systematically implements the applications identified herein and also builds the infrastructure to support them.

PHASE I (Fig. 6.1)

Phase I targets the development of small microcomputer applications which represent eleven of the sixteen potential systems identified in the assessment. These systems are relatively inexpensive from a hardware and software standpoint. They can be developed with the IBM XT computers and dBase III + software currently available in GIZA. Their development will provide excellent opportunities for the MIS department to apply the skills they have obtained academically through LDII sponsored training. We recommend in Phase I a joint effort between the MIS department and TA Contractor which addresses the simplest of these systems and moves gradually toward more sophisticated microcomputer applications. Specifically, the microcomputer systems identified include the following:

<u>SYSTEM DESCRIPTION</u>	<u>USER DEPARTMENTS</u>
1) Inventory Management	Inventory, Stock Control, Procurement
2) Project Tracking	Planning and Follow-up
3) Wordprocessing	Analysis and Follow-up (Central Agency for Accounting)
4) Budget Planning and Monitoring	ORDEV
5) Wordprocessing	Conferences and Committees (Central Department for Local Units and Councils)
6) Demographic Database	General Department for Local Units
7) Election Administration	Election Division

- | | |
|--------------------------|---|
| 8) Vendor Database | Procurement |
| 9) Statistical Analysis | Statistics |
| 10) Loan Tracking System | ORDEV |
| 11) Vehicle Management | Mechanical Campaign
(Administrative Affairs) |

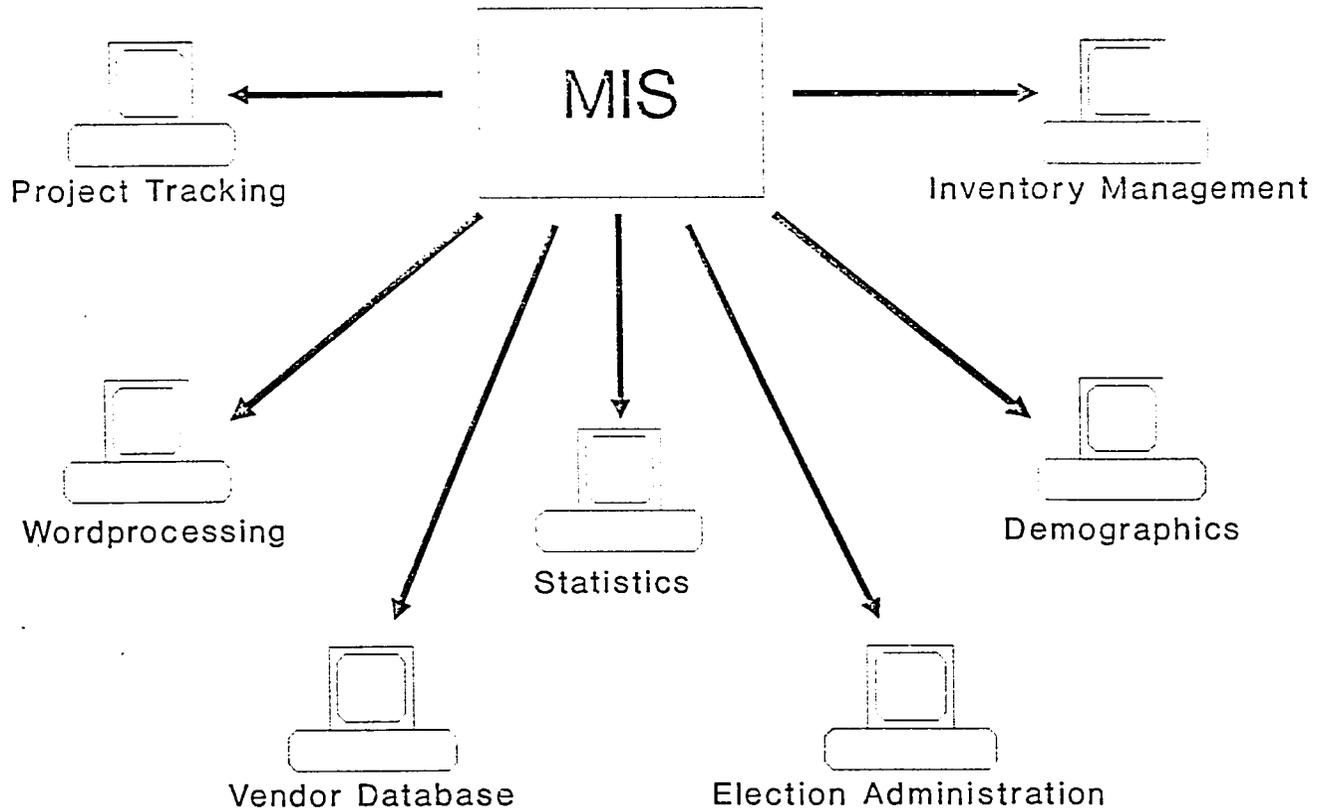
The precise order of implementation should be determined in a review of this document by the Governor and General Secretary. These systems can exist independently of one-another and can therefore be reordered in the development queue as necessary. The order shown above reflects our recommendations.

The current skill level of the MIS department in GIZA, as in most governorates, is quite modest. During Phase I, a concentration on basic system developmental techniques should pervade. Deliverable guidelines will be set including; logical design, physical design, system documentation, and user documentation. These documents can serve as benchmarks of compliance with the Yourdon/Dimarco system development methodology in which the MIS staff have received some training. The applicability of developed software in other governorates will be of paramount importance and should constrain the design specifications. The TA contractor staff will assure the quality and accuracy of the documentation and programming efforts conducted in GIZA. In addition, the Giza MIS staff will need training in the following software and automation concepts during Phase I:

- IBM DOS
- dBase III +
- Sidekick
- Feasibility Studies
- System Analysis
- Advanced Programming Concepts
- Application Development
- Microcomputer Hardware Theory
- Microcomputer Maintenance

As more systems are implemented, an investment in additional microcomputer hardware and software will be required. We hope that by providing an example of how a system can be implemented in the Governorate, enthusiasm and financial support will follow. Our measure of success will be the capability of the MIS department to undertake its own successful development and implementation of microcomputer applications. The department should also demonstrate competence in modifying software from other governorates, producing formal documentation, and in procuring and maintaining hardware. We estimate that two to three years will be needed to accomplish the objectives of Phase I.

FIGURE 6.1
PHASE I - MICROCOMPUTER SYSTEMS
Duration: 2 - 3 Years



5/9/82

PHASE II (Fig 6.2)

A second class of systems emerges in the investigation of the Secretarial and Archive department (12) where an integrated word processing system for 20 users is recommended. This system would require implementation of a microcomputer network and file server. The complexity of the application substantially exceeds the current capability of the Giza MIS department. It also requires commitment to a policy of distributed processing within the governorate which has not been adopted at this time.

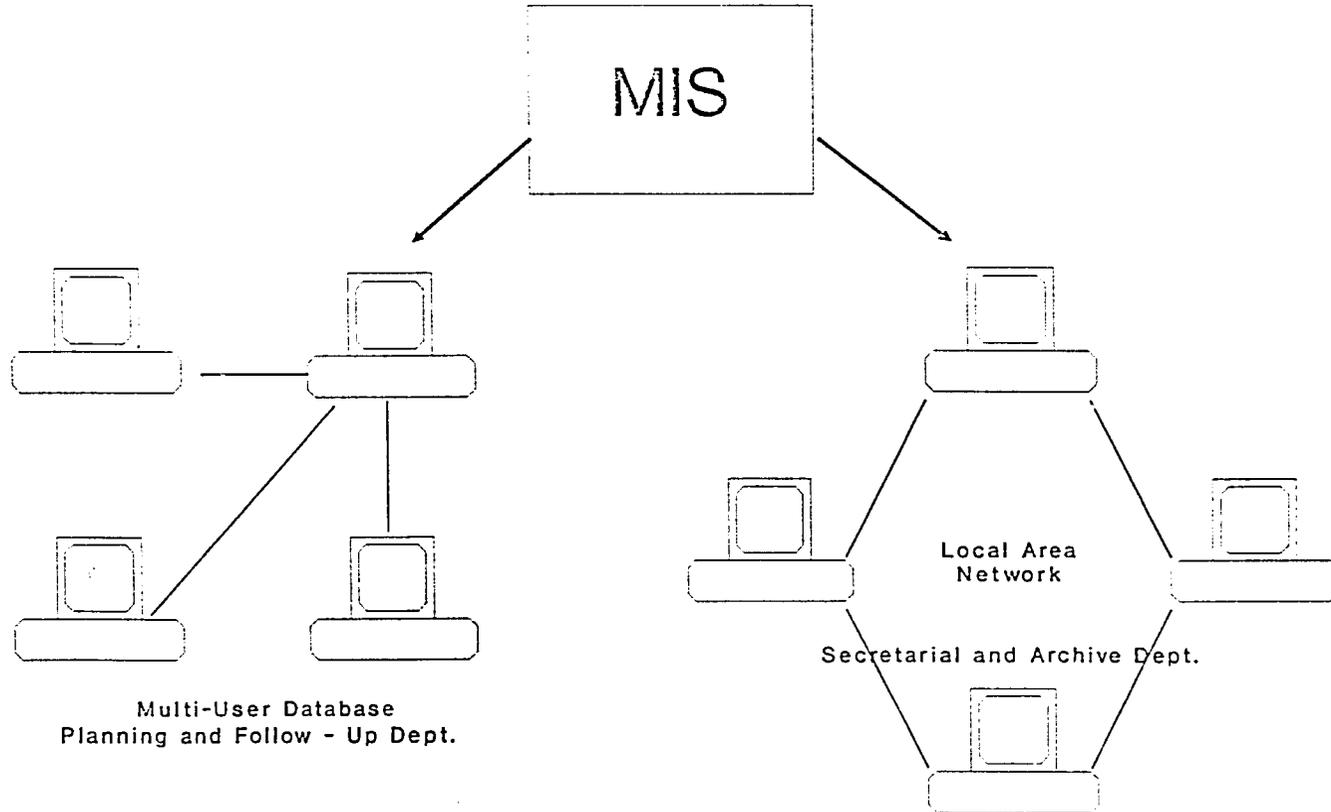
Systems developed in Phase one will grow in terms of data and processing requirements. These systems can be modified to take advantage of newly Arabized multi-user operating environments which are not available currently. Single user systems developed under Phase I will undergo enhancement to alleviate data entry bottlenecks. In addition, system investigation and feasibility studies should be conducted in areas of the governorate not originally covered by this assessment.

The implementation of network group computing will necessitate the use of Local Area Network software, communications hardware, and file servers. Administering such a network will be a challenging job for the Giza MIS department. A substantial program of training in the use of specific software selected for these application will be required which includes:

- Multi-user operating environments
- Local and Wide Area Networks
- System Security
- File Server Concepts (Theory and Maintenance)
- Data Management
- Microcomputer Communications

Completion of Phase II will be marked by the MIS department's demonstrated ability to configured and maintain multi-user systems and network environments, modify and expand existing systems, and manage independent analysis and feasibility studies. We estimate that one to two years will be needed to complete Phase II.

FIGURE 6.2
PHASE II - COMPLEX MICROCOMPUTER SYSTEMS
Duration 1 - 2 Years



10/20

PHASE III (Fig. 6.3)

The remaining four system groups identified in the study must be implemented on a centralized minicomputer. They represent core administrative functions of the governorate, and together, they would create a 40 - 50 user environment. Specifically they include:

- (13) Personnel Administration
- (14) Payroll
- (15) Integrated Accounting Functions (Accounts Receivable, Accounts Payable, and General Ledger)
- (16) Budget Monitoring

In Phase III, lengthy system analysis activities should be undertaken to define requirements for the Personnel, Accounting and Budget Monitoring Functions listed above. Hardware specifications from this analysis can be used for implementation of a central minicomputer. This machine should be powerful enough to withstand a 100% increase in throughput and data storage without substantial modification of the hardware. The MIS department facility itself will require upgrading to safely accommodate more sophisticated processing and communications hardware.

A new programming language and operating system will have to be introduced which can take advantage of the more sophisticated hardware environment. This software should include a conversion utility that can accept dBase III source code and translate it automatically to the new programming language. In this way, existing applications (developed in Phase I and II) which have outgrown their microcomputer platforms can be migrated to the new system.

Off the shelf software will be examined as an alternative to developing large applications. A substantial ongoing financial commitment would be required either by the Governorate or AID to procure equipment and software, and compensate professional staff capable of maintaining the systems. The involvement of a competent system vendor will be required to insure proper hardware and software support over the life of the equipment.

Additional training concepts which should be emphasized in Phase III include:

- Minicomputer architecture
- Advanced Multi-user, Multi-tasking Operating Environment
- Advanced Application programming
- Strategic System Planning
- Production Data Processing Techniques and utilities (Development, Testing, and Production Batch/Online Processing)
- System Migration
- System Security

Change Control

Data entry terminals will have to be implemented in each user department as new minicomputer applications are brought on-line to serve them. The access which is coincidentally granted to the central minicomputer by dozens of connected terminals presents severe administration and security challenges for the MIS department.

The benchmark of success in phase III will be the functioning implementation of core administrative systems outlined in this assessment. Formal maintenance procedures and change control should be active in the Giza MIS department. The staff should have successfully completed their training, and should be able to independently administer and maintain the provided systems. A system development and management process should be ongoing in the MIS department and subject to the review of the General Secretary and Governor. Problems which exceed the MIS departments abilities should be referred to a vendor with whom a healthy, competitive relationship is maintained. We estimate that 3 to 4 years will be required to establish this level of technical and administrative performance.

CRITICAL SUCCESS FACTORS

The same skills needed to implement an automated system are also needed to maintain it. The permanent transfer of these skills between the TA contractor and the Giza MIS staff is the most critical success factor in the establishment of systems. To insure this, development efforts should be undertaken jointly by the GOE MIS department and the TA Contractor. Working at the governorate site, the contractor should guide and assist the GIZA MIS department in the actual analysis, design, and development required for each system. To the greatest extent possible, all development activities will be performed by the Giza MIS staff so that a complete set of technical skills is transferred.

The use of Arabized off-the-shelf software (software which has been commercially produced and therefore requires no programming) will be evaluated against requirements defined by for any system resulting from this assessment. To the extent these systems prove available the time frames for implementation of systems could be reduced dramatically. At the current time however, there are very few commercial arabic applications on the market. In most cases those that are available are designed for private business or industry and do not meet the specialized needs of the governorates. Over the next few years we can reasonably expect the availability of commercial software to improve. Minor modifications to commercial software packages is a service offered by some vendors. This option will likewise be explored before engaging in development activities.

A critical factor in selecting off-the-shelf solutions is the format in which they store data. This format must be compatible with the operating and development environments selected for the governorate and anticipated in future systems. Often what appears to be an adequate off-the-shelf package in fact commits the data entered in it to a state of obsolescence. The information stored by the system is simply inaccessible to other systems and cannot be manipulated by the programming staff.

Compatibility of hardware and software are primary considerations in the formulation of an automation strategy for the governorate. It is imperative that the programming language used to develop systems in phase I be compatible with the operating environment implemented in phase II and III. This will insure that systems which are originally developed on microcomputers can be ported (moved) onto the larger capacity minicomputer without being rewritten. Money, time, and frustration will be spared as processing requirements and hardware change over time.

Jointly developed systems should be carefully documented and made available for implementation in other governorates. Likewise, systems developed in other governorates will be introduced in GIZA. By distributing development in this manner, considerable time can be saved toward the complete automation of all the governorates. In most cases, the operational procedures in Giza are the same as other governorates (They are usually defined by an oversight organization or ministry). Systems developed in other governorates therefore stand a good chance of application in Giza with little or no modification. The TA contractor will have to carefully coordinate developmental activities among the six urban governorates to eliminate duplicate efforts. The MIS departments will retain implementation and maintenance responsibility for such systems.

A significant training component will be critical to the success of system implementation in the governorate. This will require ongoing basic computer literacy courses for new systems user as well as training in the operational specifics of each application program. The technical MIS staff will need formal training in the use of each new type of hardware and software as it is implemented in the governorate. The importance of building a capable technical staff is paramount toward the lasting transfer of technology itself.

As the MIS center in Giza develops its technical knowledge base through training and experience, the personnel in the department will gain value as professionals. They will not only develop skills in computer operations, they will obtain intimate familiarity with the governorate organization and the automated systems built to support it. Their individual value to the governorate and the private sector will increase dramatically. Under the current compensation plan (LE 100 - 400 / monthly) that

these persons will very likely move on as they gain competence. Some attrition has in fact occurred been observed as a result of limited microcomputer training administered to date by LDII.

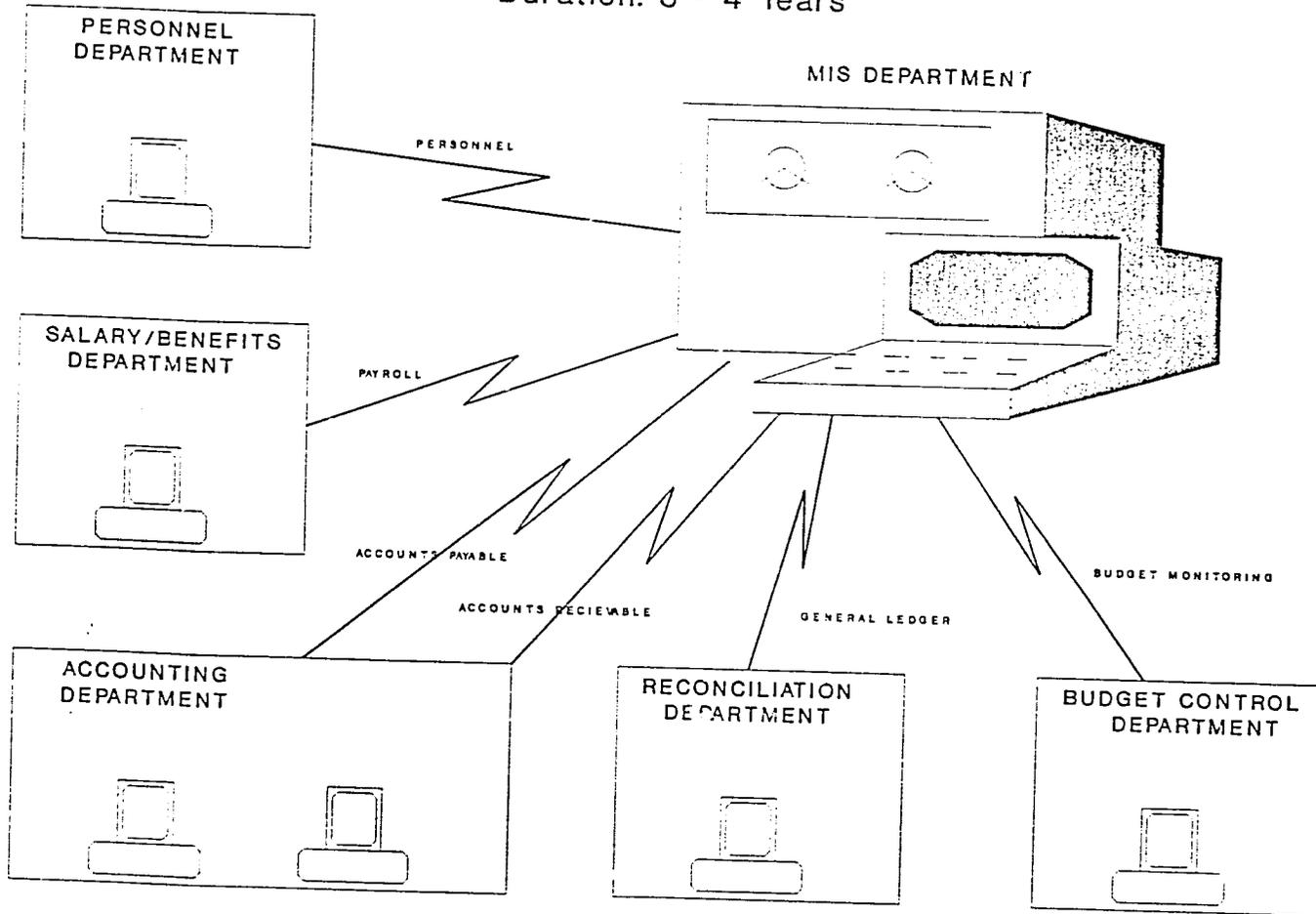
As the Phases of this program advance, the skills transferred will be even more valuable, spurring attrition of direct proportions. The governorate cannot afford to lose technical personnel who in fact are the human interfaces which make their systems run. These people are more important assets of the organization than hardware and software, which can easily be replaced. If the governorate is committed to establishing meaningful information systems, it will have to revise its compensation policy upward to retain MIS professionals.

CONCLUSION

Over time, the three phase strategy presented in this assessment will yield a comprehensive information systems for the governorate. A simultaneous development of skills and application of technology will be accomplished with minimum waste of programming time and hardware resources. More importantly, the technical staff in the governorate will receive exposure to an array of system solutions ranging from extremely simple microcomputer systems to complex applications spanning several departments. This will prepare them to meet new data processing requirements with judgement and experience. The equipment, software, and training applied will not be obsolesced by activities in a subsequent Phase. Our chronological and compatible approach virtually eliminates duplicate development efforts. The result will be a viable MIS department with the tools necessary to address the ongoing information needs of the governorate.

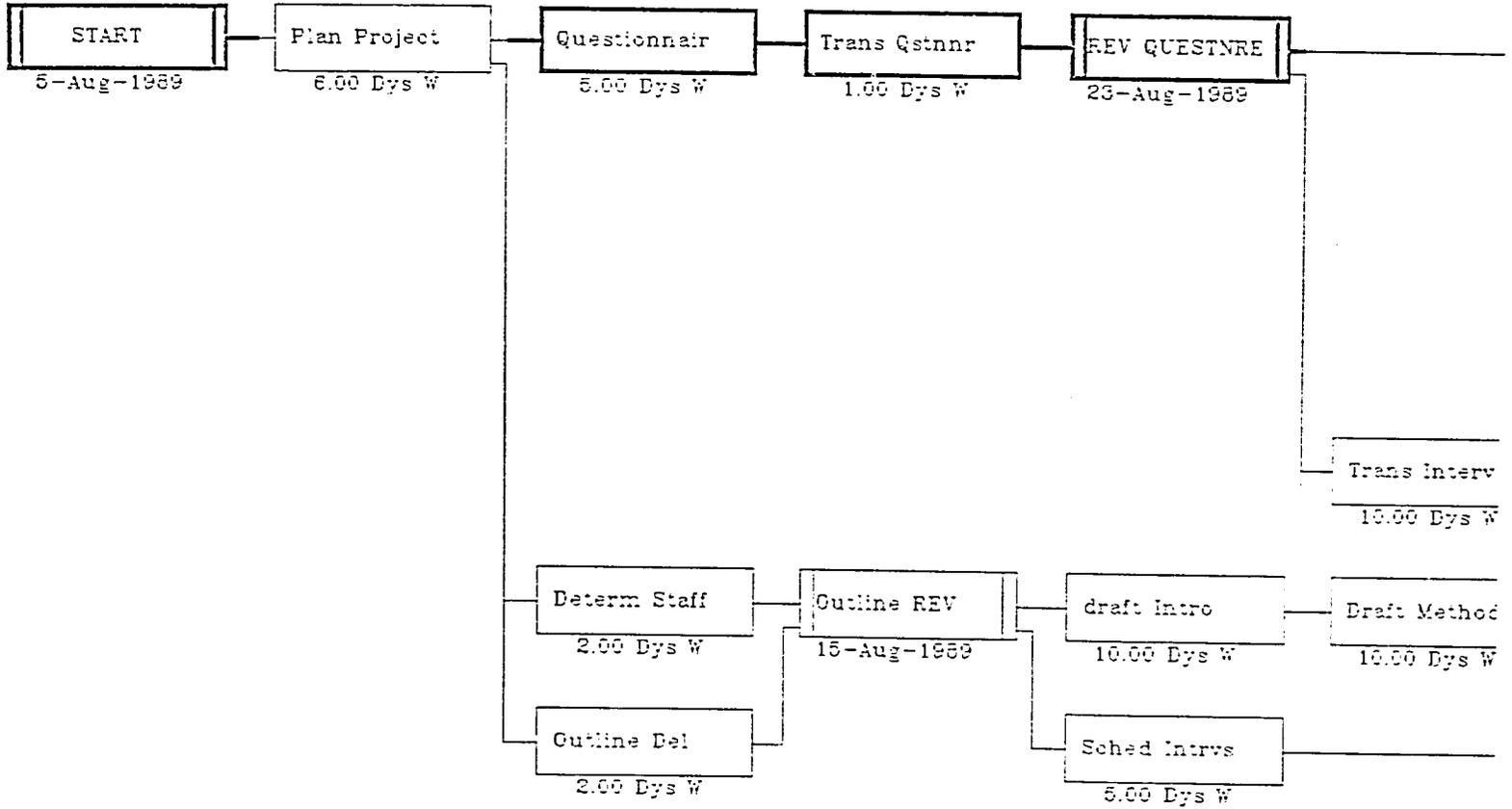
It is possible, given enough funding and contracted resources, to rapidly accelerate the process of automation in Giza. Any of the systems identified in this study could be developed in the short term by a large team of trained analysts and programmers. The likelihood that the governorate could maintain a system implemented in this way for any length of time is very slim. The ongoing availability of capable technical staff in the governorate itself is crucial to the success of any automated system placed there. Attempts to accelerate the delivery of sophisticated technology will fail to the extent they exceed the maintenance capacity of the organization. A more workable strategy calls for systematic, albeit slow, infrastructure building within MIS department itself. Given proper guidance, training, and financial support, this department can become the repository of expertise needed to sustain meaningful information systems. We strongly recommend this approach.

FIGURE 6.3
PHASE III - MINICOMPUTER
Duration: 3 - 4 Years

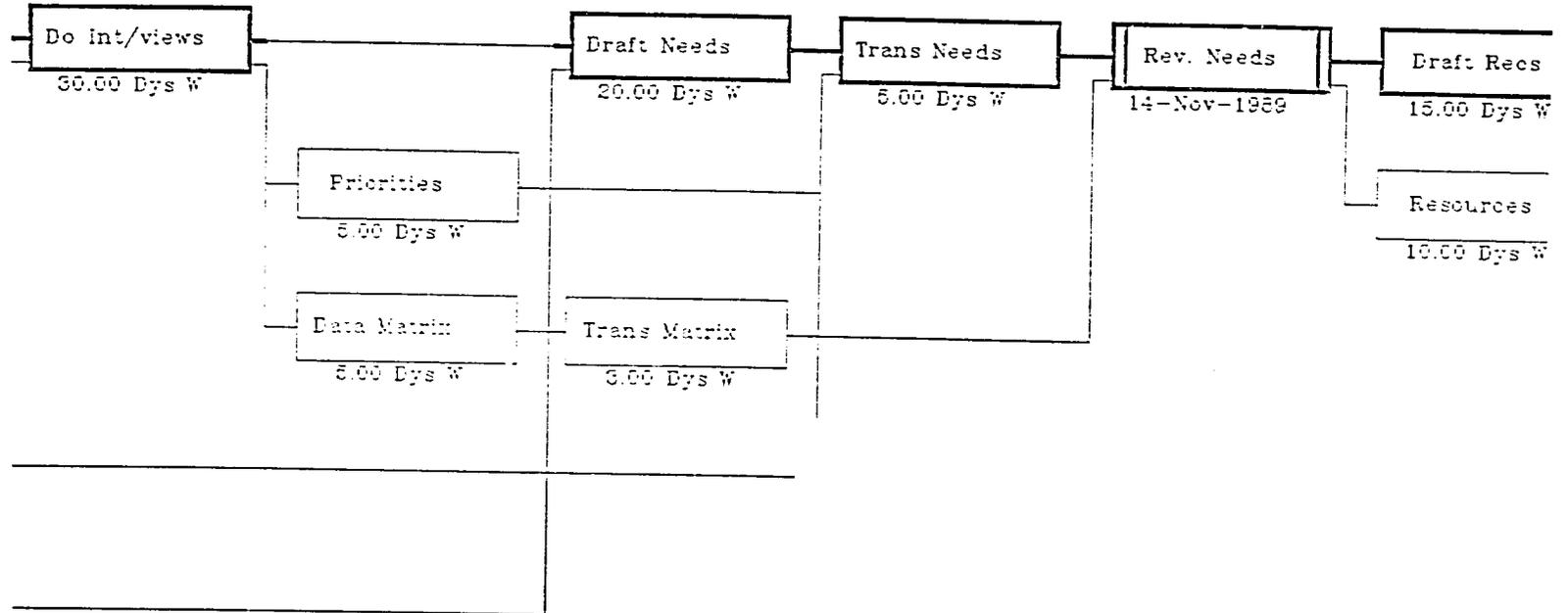


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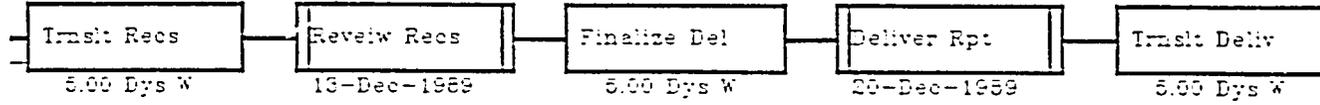
Appendix A - Management Plan



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Appendix B - Pre Interview Instructions

PRE INTERVIEW INSTRUCTIONS:

1. Consider the information requirements of your department, and prepare examples of the following:

All reports and documents routinely prepared by your department.

All reports and documents routinely received by your department.

2. Consider the filing requirements of your department, please list the type of documents filed, and the quantities of each currently maintained.
3. Please summarize the purpose and responsibilities of each staff member under your direct supervision.
4. What problems are encountered with the existing work processes in your department?
5. How do you think computers could be used effectively by your department?
6. Please list other departments or offices in the Giza governorate you routinely work with?
7. Please list organizations outside the Giza governorate do you routinely work with?

Appendix C - Interview Form

NEEDS ASSESSMENT INTERVIEW

DATE: _____

INTERVIEWEE: _____
POSITION TITLE: _____
DEPARTMENT: _____
INTERVIEWER: _____
INTERVIEW NO. : _____

POSITION

1. Describe the responsibilities of your position:

2. What decisions do you make?

What information do you need for each decision?

3. What is your level of experience with computers?
Give a rating from 1 - 5.

1 2 3 4 5

If you have any experience with computers, state the hardware you know.

4. Are you familiar with software (Y/N) _____
If YES list the software with which you are familiar, and
give a rating to your experience on a scale of 1 - 5.

_____	1	2	3	4	5
_____	1	2	3	4	5
_____	1	2	3	4	5

OPERATIONS

5. Describe the responsibilities of your department.

6. Describe the structure and responsibilities of your department.

7. List each functional task performed in the office:

- A) Describe the task:
- B) The frequency and duration of each task
- C) Details related to bottlenecks, delays, other weaknesses in the existing system. (which ones can be solved with automation)
- D) How many personnel are required to perform this task?
- E) What is the output of the activity
- F) What is used to measure effectiveness in achieving the output
- G) What other departments are involved? How?

RESOURCES

8. How many employees are there in your department. _____

9. List each staff member, and describe their responsibilities.

For each staff member, what percent of THEIR time each day is spent:

- a. Meetings
- b. Phone
- c. Typing
- d. Writing reports
- e. Financial analysis

- f. Filing
- g. Reviewing reports
- h. Decision making
- i. Coordination
- j. Other

10. How many computers are currently in use in the department: _____

Describe the application each is used for?

REPORTING

11. Describe each report received by your department

Report 1 _____

a. Where is it produced?

b. Who receives it?

c. What is it used for?

d. Is it filed by your office?

e. Frequency Daily Weekly Monthly Quarterly Yearly

f. What is its relative level of importance? 1 2 3 4 5

g. Is the information on the form adequate?

h. What else should be included?

12. Describe each report generated by your department

Report 1

Destination department(s)

What is it used for (by the other departments):

Are copies filed by your department?

Are copies filed by the recipient department?

What is its relative importance: 1 2 3 4 5

Is the content of the document adequate? Y or N_

What information should be added and why?

Frequency: Daily Weekly Monthly Quarterly Yearly

13. Describe each form received by your department

Form 1

a. Where is it produced?

b. Who receives it?

c. What is it used for?

d. Is it filed by your office?

e. Frequency: Daily Weekly Monthly Quarterly Yearly

f. What is its relative level of importance? 1 2 3 4 5

g. Is the information on the form adequate?

h. What else should be included?

14. Describe each form generated by your department

Form 1

Destination department(s)

What is it used for (by the other departments):

Are copies filed by your department?

Are copies filed by the recipient department?

What is its relative importance: 1 2 3 4 5

Is the content of the document adequate? Y or N_

What information should be added and why?

Frequency: Daily Weekly Monthly Quarterly Yearly

Filing

15. File Description:

bn

Source Documents:

Purpose for maintaining the file:

Volume of file: _____

Security Level: 1 2 3 4 5

When is it archived: _____

16. What information, not currently available, would assist you in the performance of your job?

1. Describe Information: _____

Information Source: _____

Benefit perceived: _____

2. Describe Information: _____

Information Source: _____

Benefit perceived: _____

3. Describe Information: _____

Information Source: _____

Benefit perceived: _____

4. Describe Information: _____

Information Source: _____

Benefit perceived: _____

17. List other departments in the GIZA governorate that you routinely work with, describe the information shared and the method of exchange.

PROPOSED AUTOMATION

18. Do you believe the use of computer by your department can:

- ___ Improve the accuracy of data
- ___ Improve the quality of data
- ___ Save time
- ___ Eliminate paper documents
- ___ Improve Efficiency
- ___ Productivity
- ___ Eliminate staff

What other effects do they perceive from automation?

19. Do you think your department can benefit from the use of computers? (Y/N).

20. Have any manual systems in your department been automated before?

- If yes, by whom?
- Would an upgrade to the system be a solution to your problem(s)?
- Should a new system be developed? Why?

21. What system development do you propose as needed?

List the objectives of each system?

Prioritize the systems based upon need.

22. The implementation of computer systems may require reorganization of the department, elimination of clerical staff, addition of MIS staff, and merger or division of some sections. Are you prepared to manage these changes?

23. Are your staff prepared to accept automation as a solution to information problems in the department?

24. Do you believe that computer hardware should be kept in a central office or distributed as needed throughout the governorate.

25. Are you willing to accept the costs and responsibility of maintaining a computer system?

26. What software do you believe should be used by your department? What would each package accomplish for the department? Prioritize the benefits.

SOFTWARE CHECKLIST

DATA PROCESSING

Accounts Receivable
Accounts Payable
Invoicing
General Ledger
Stock Movements
Credit Control
Inventory Control

OFFICE AUTOMATION

Word Processing
Electronic Mail
Graphics
Microfilm
Telecommunications

DECISION SUPPORT

Spreadsheet
Modeling/Simulation
Statistical Analysis
Forecasting
Linear Programming
Regression Analysis
Financial Modeling
Sensitivity/Risk analysis
Expert Systems
Project Management

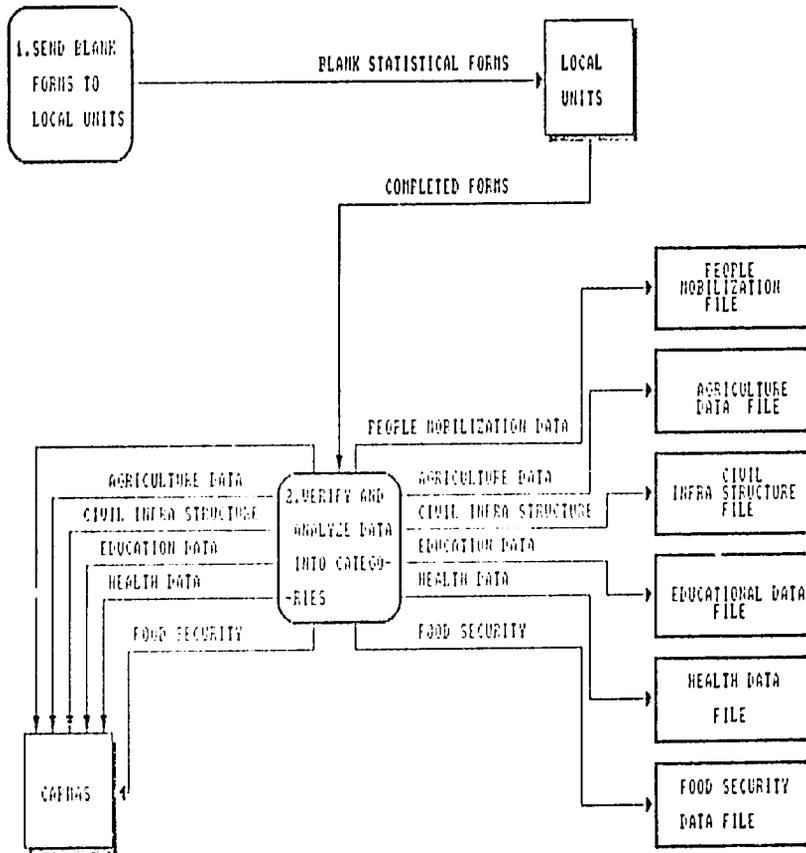
ENGINEERING SYSTEMS

CAD/CAM
Mapping

OTHER APPLICATIONS:

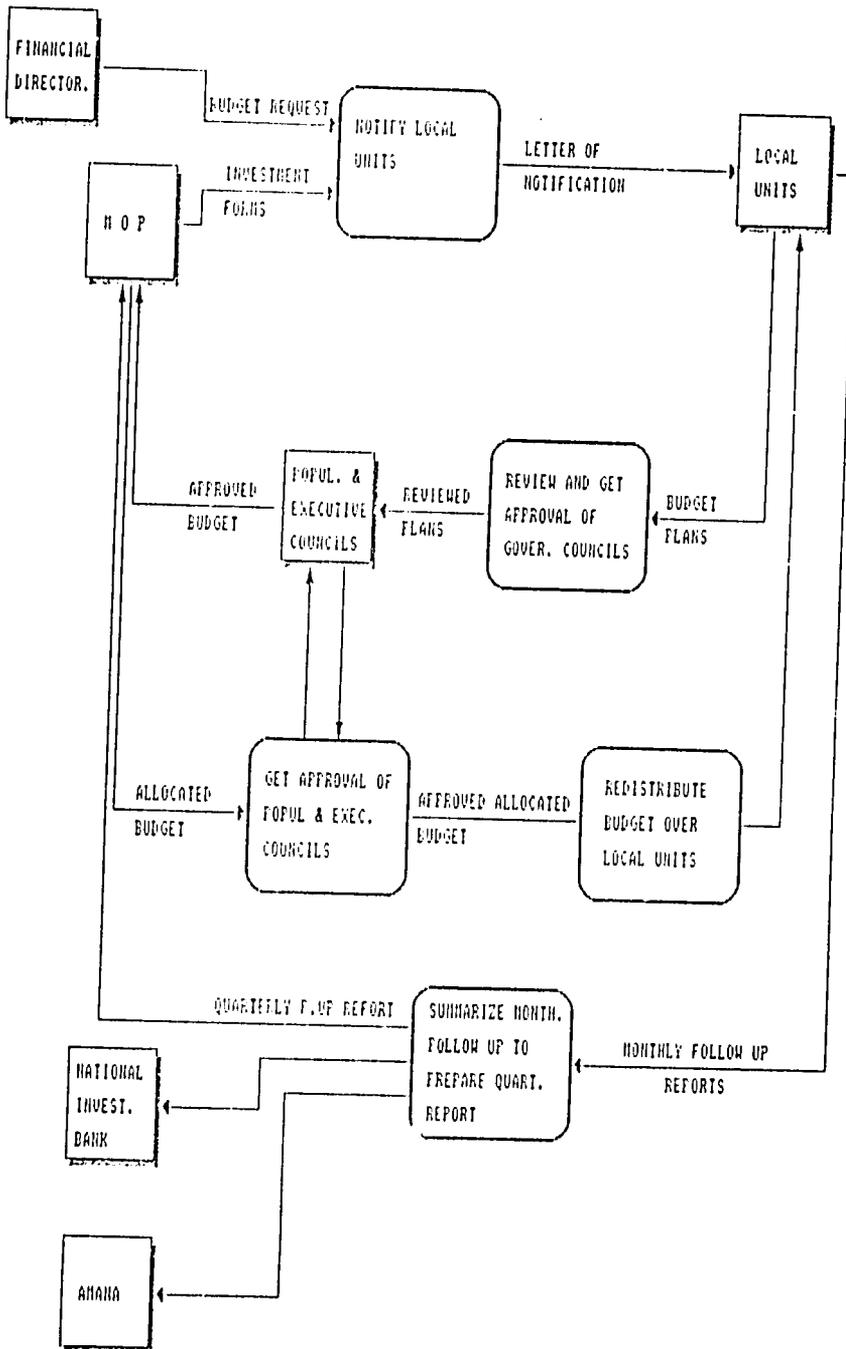
Appendix D - Data Flow Diagrams

4.1 CENTRAL STATISTICS DEPARTMENT



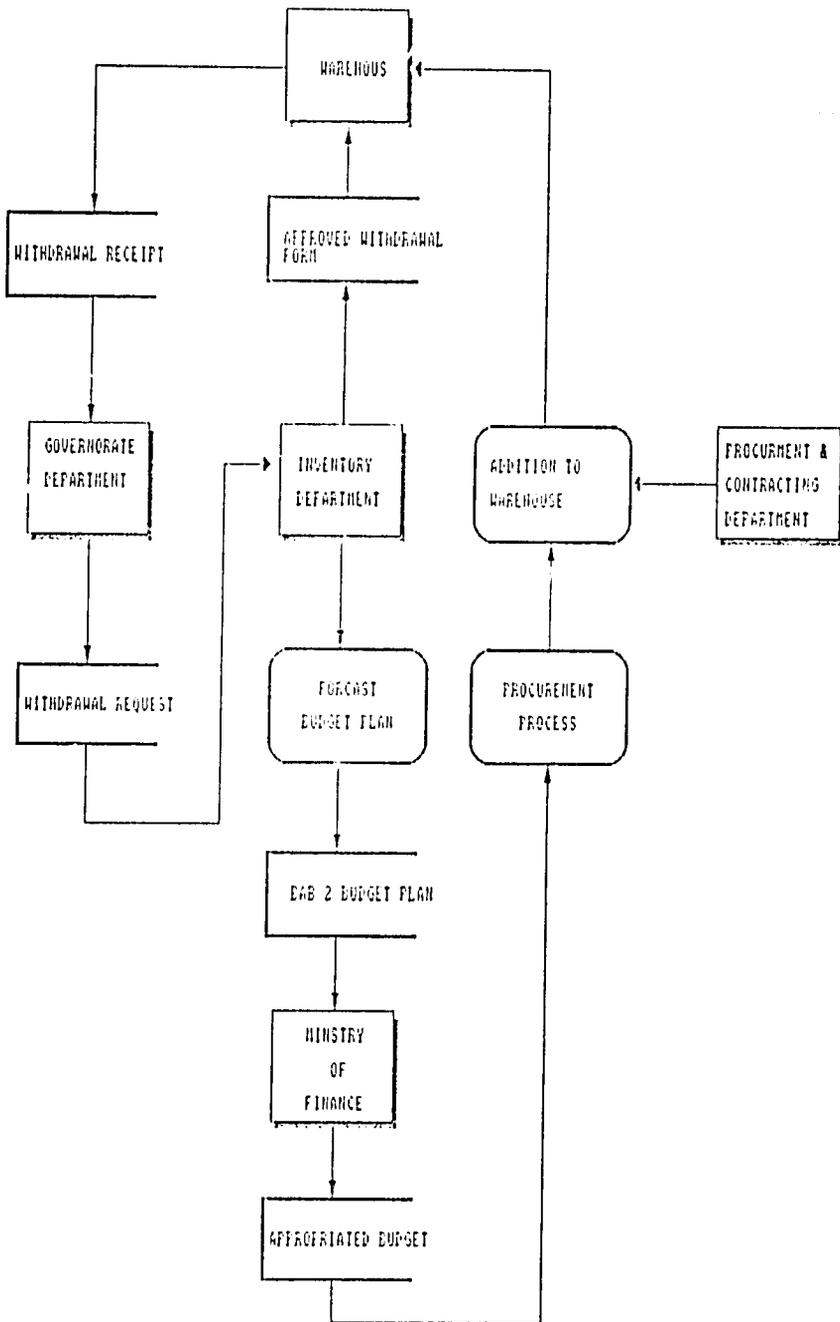
CAPMAS = CENTRAL AGENCY OF PEOPLE MOBILIZATION AND STATISTICS

4.2 PLANNING AND FOLLOW UP DEP.

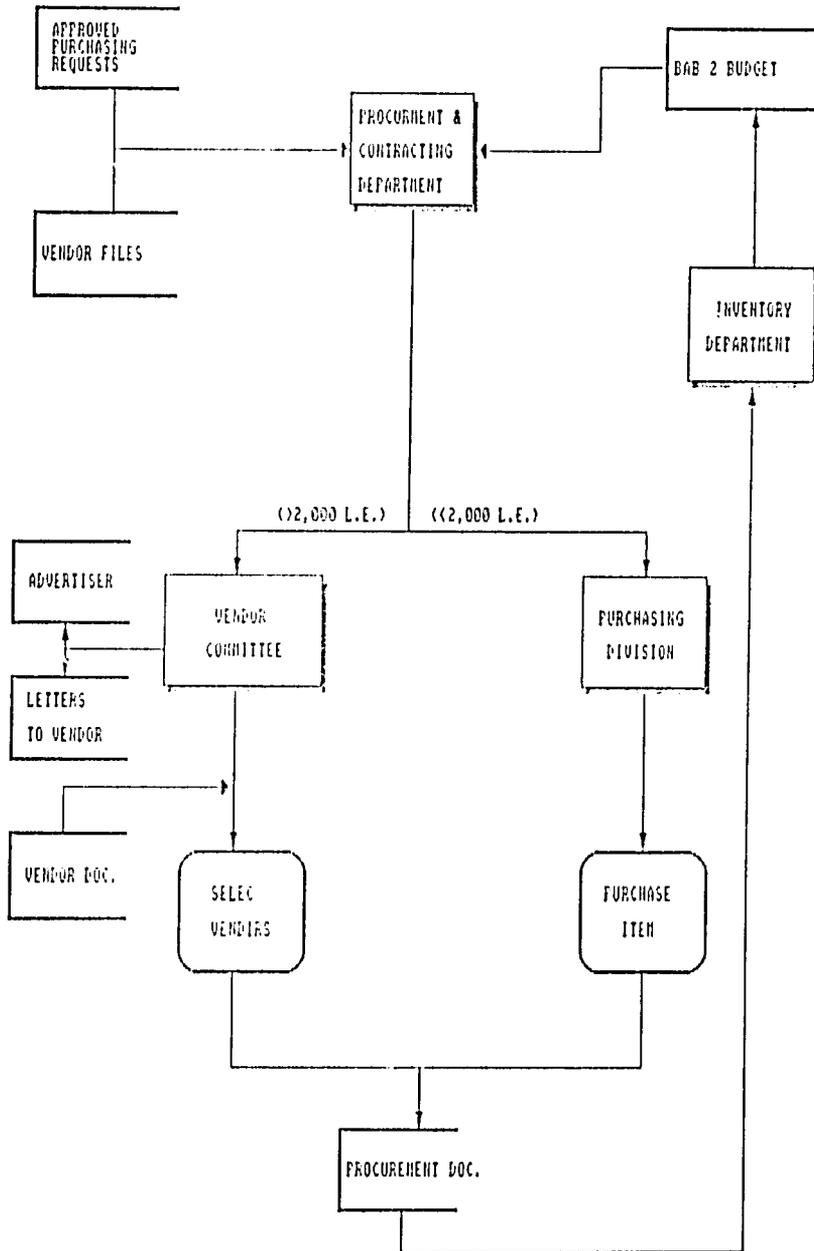


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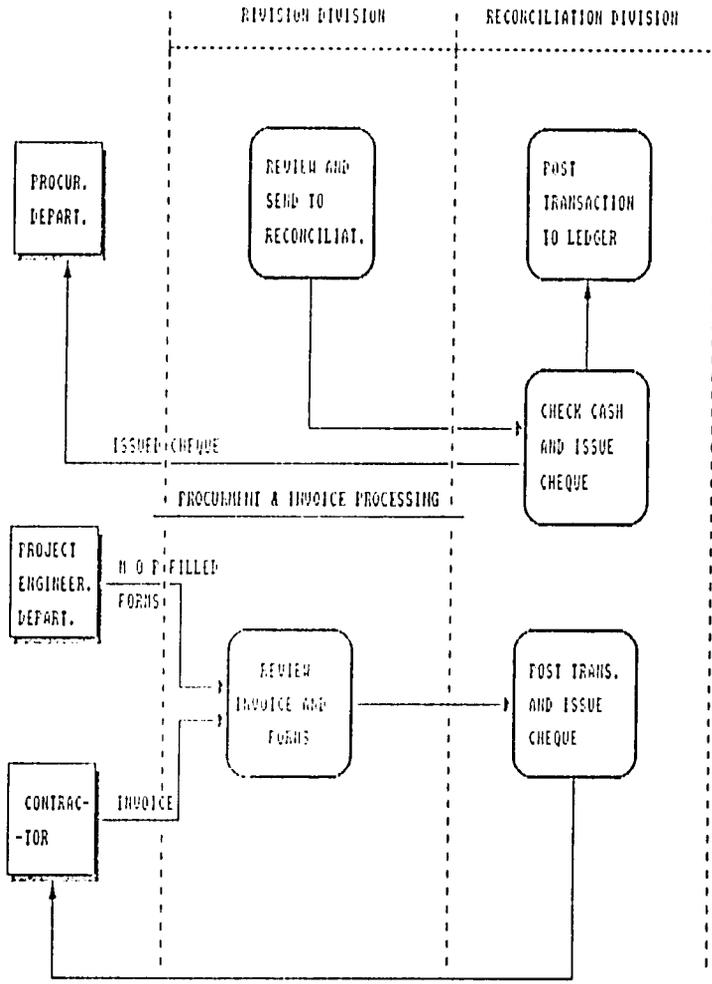
4.3.1 INVENTORY DEPARTMENT



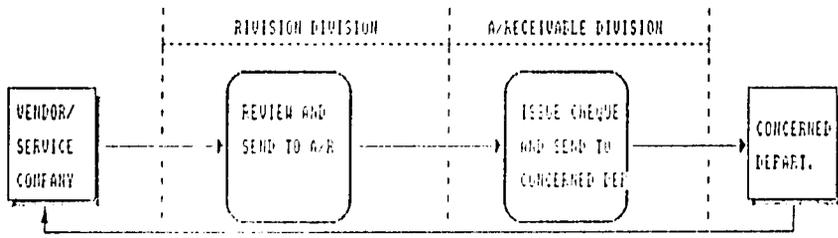
4.3.3 PROCUREMENT AND CONTRACTS DEPARTMENT



4.3.4 ACCOUNTING DEPARTMENT

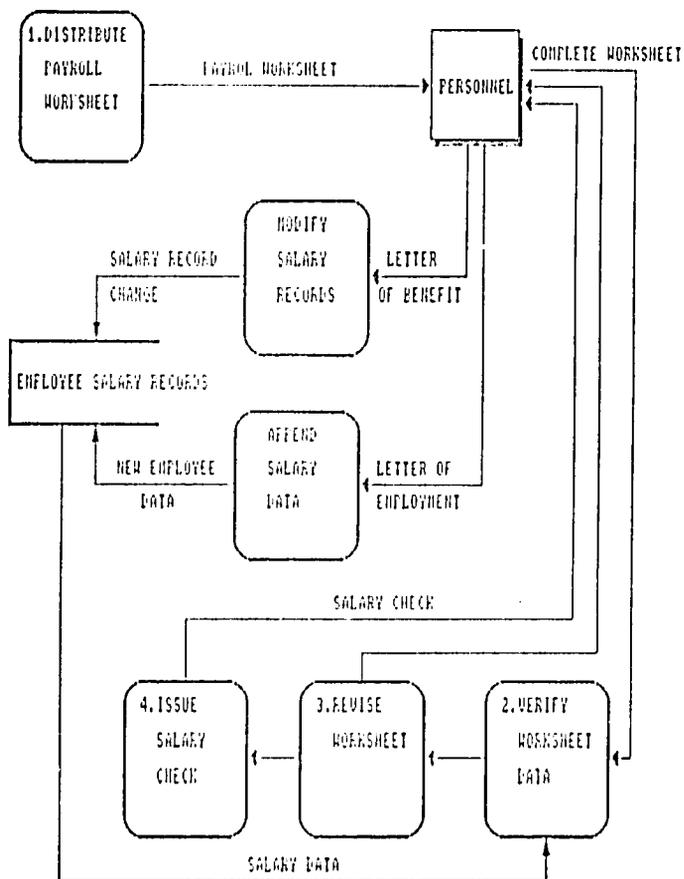


CONSTRUCTION CONTRACTS INVOICE PROCESSING



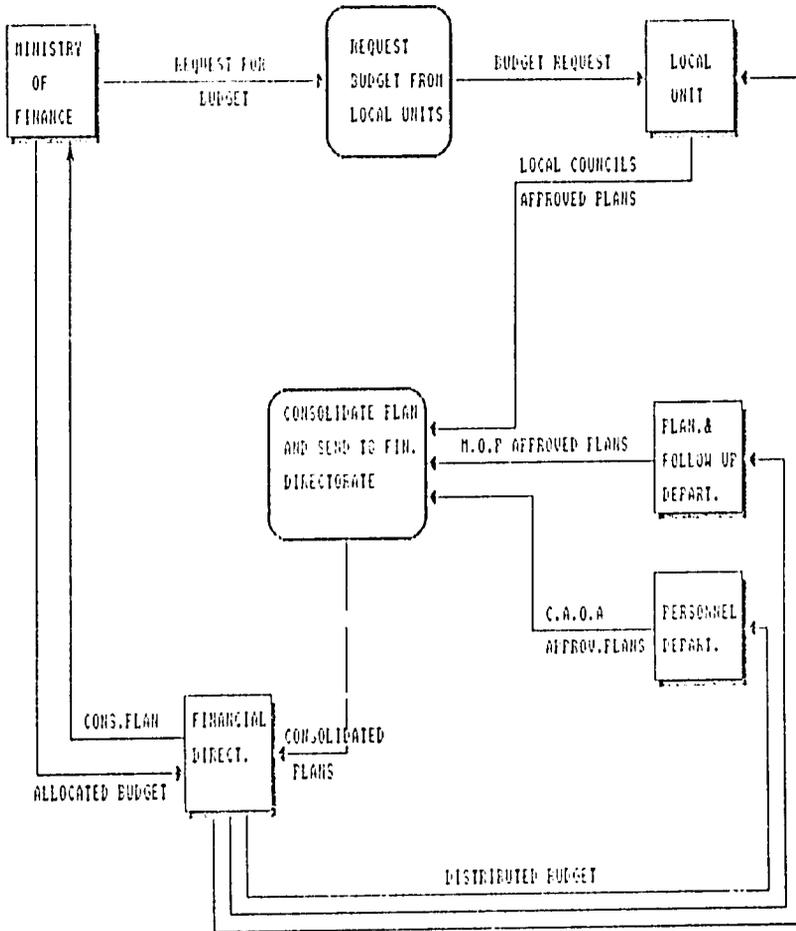
SERVICE AND MAINTENANCE INVOICE PROCESSING

4.3.4 ACCOUNTING DEPARTMENT
SALARY ADMINISTRATION

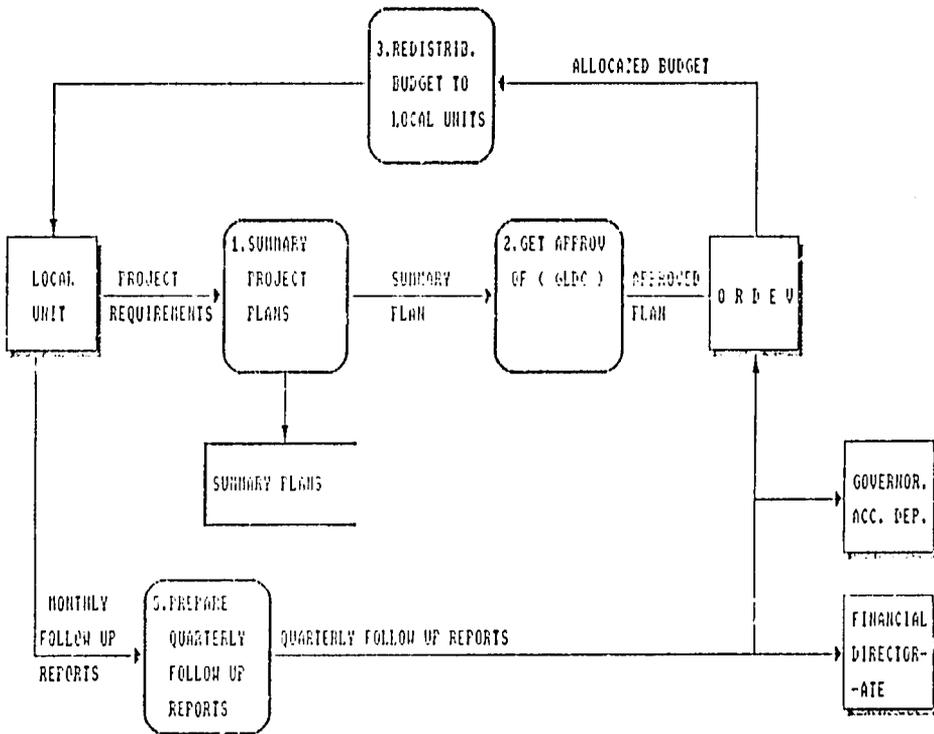


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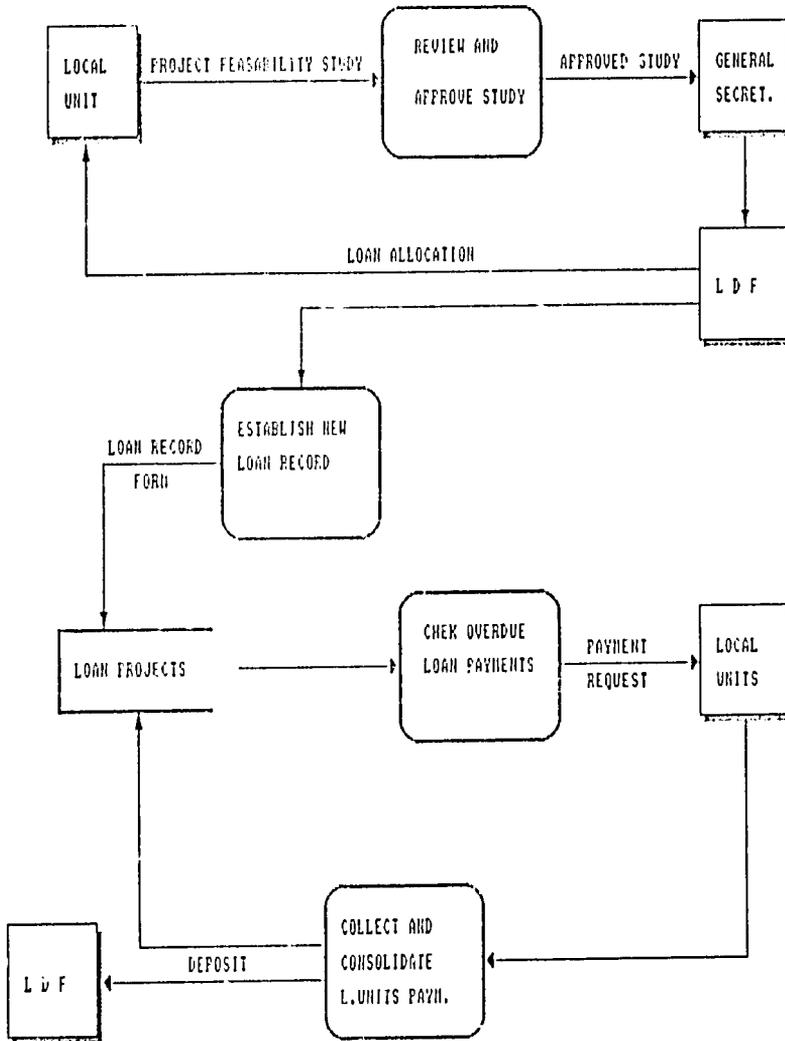
4.3.6 BUDGET CONTROL DEPARTMENT



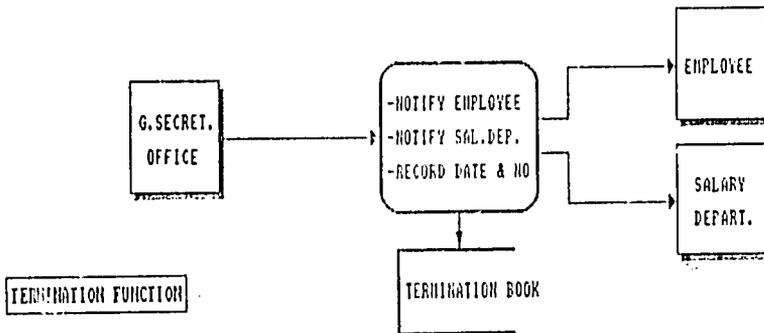
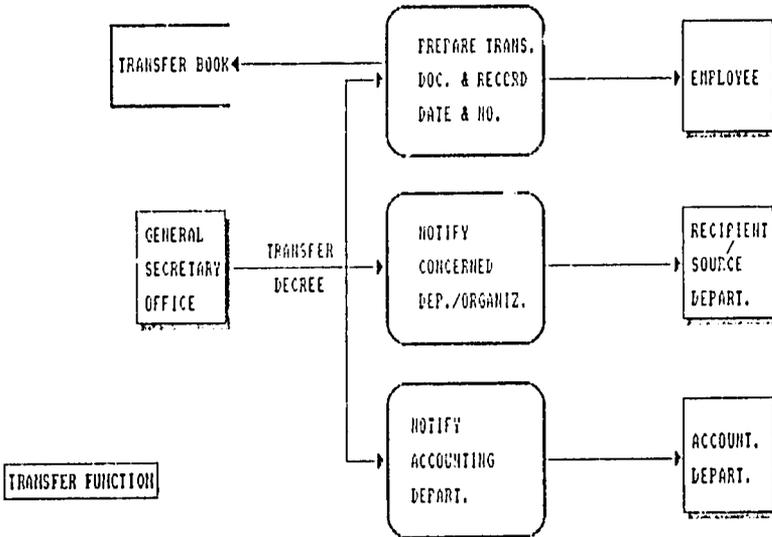
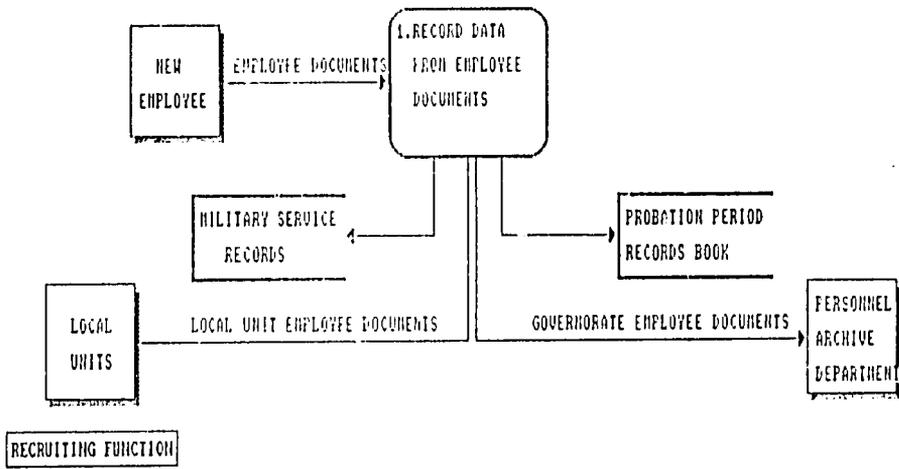
4.5 ORDEU DEPARTMENT
 (C) PLANNING AND FOLLOW UP



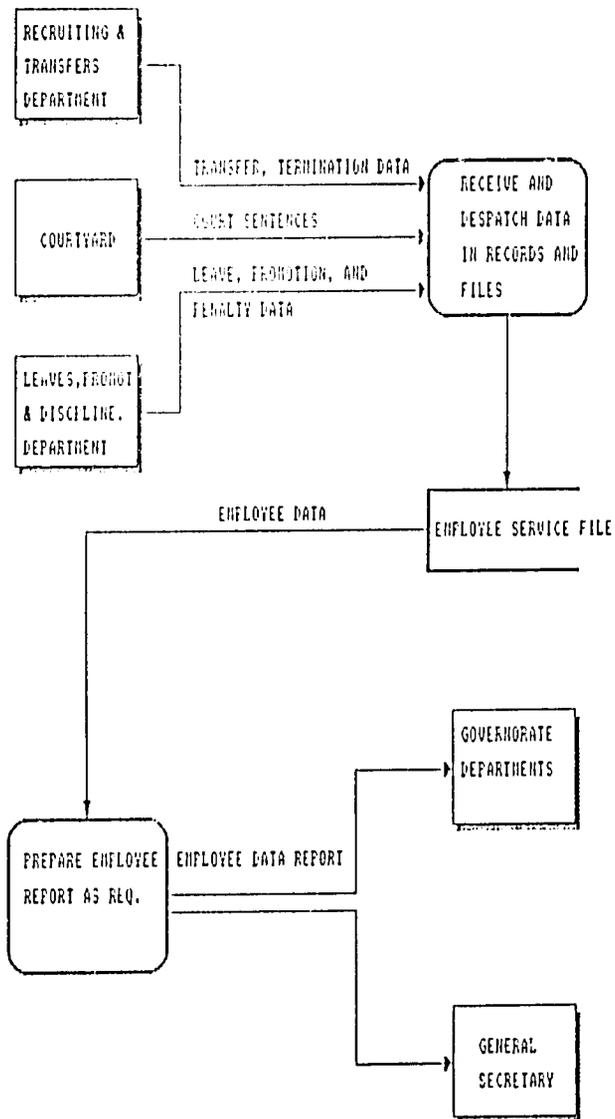
4.5 ORDEU DEPARTMENT
 (II) LOAN GENERATING AND TRACKING



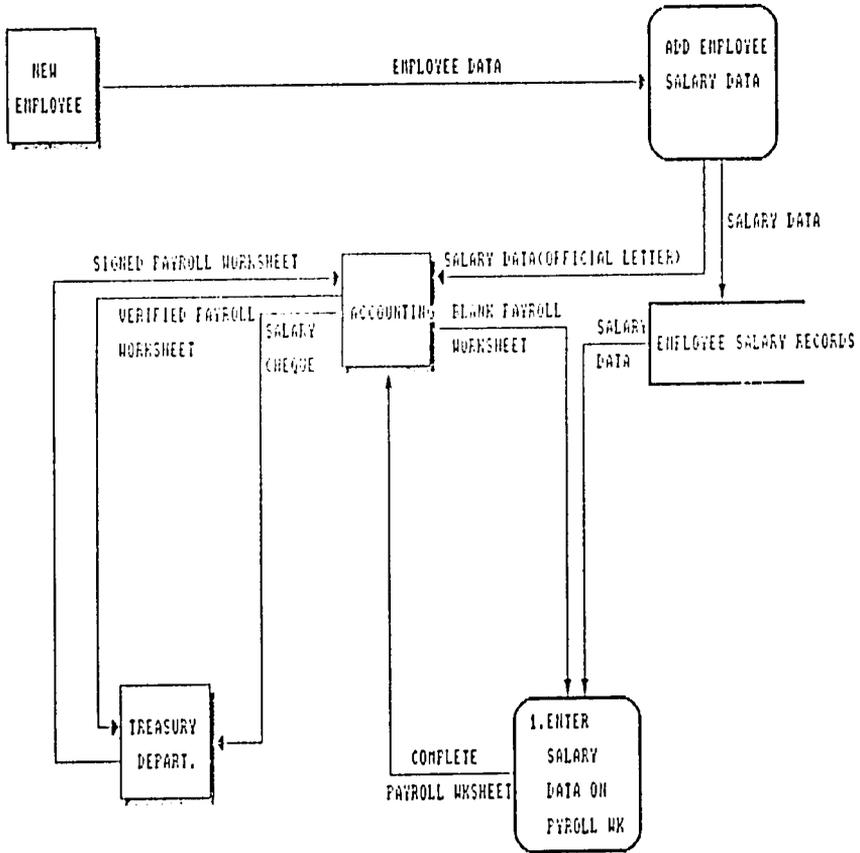
4.6.1 RECRUITING, TRANSFER, AND TERMINATION



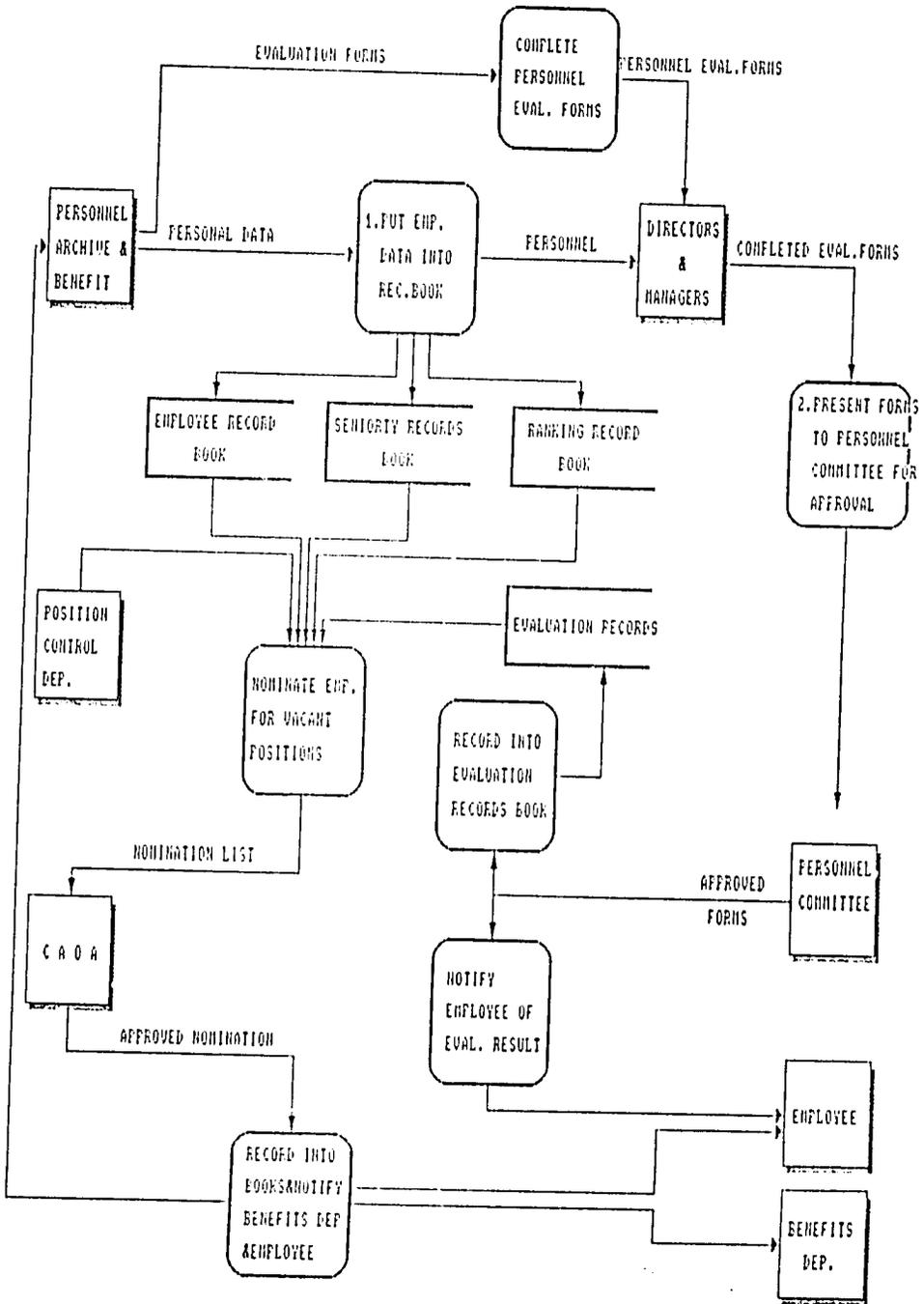
4.6.2 ARCHIVE AND BENEFITS DEPARTMENT
(1) ARCHIVE DIVISION



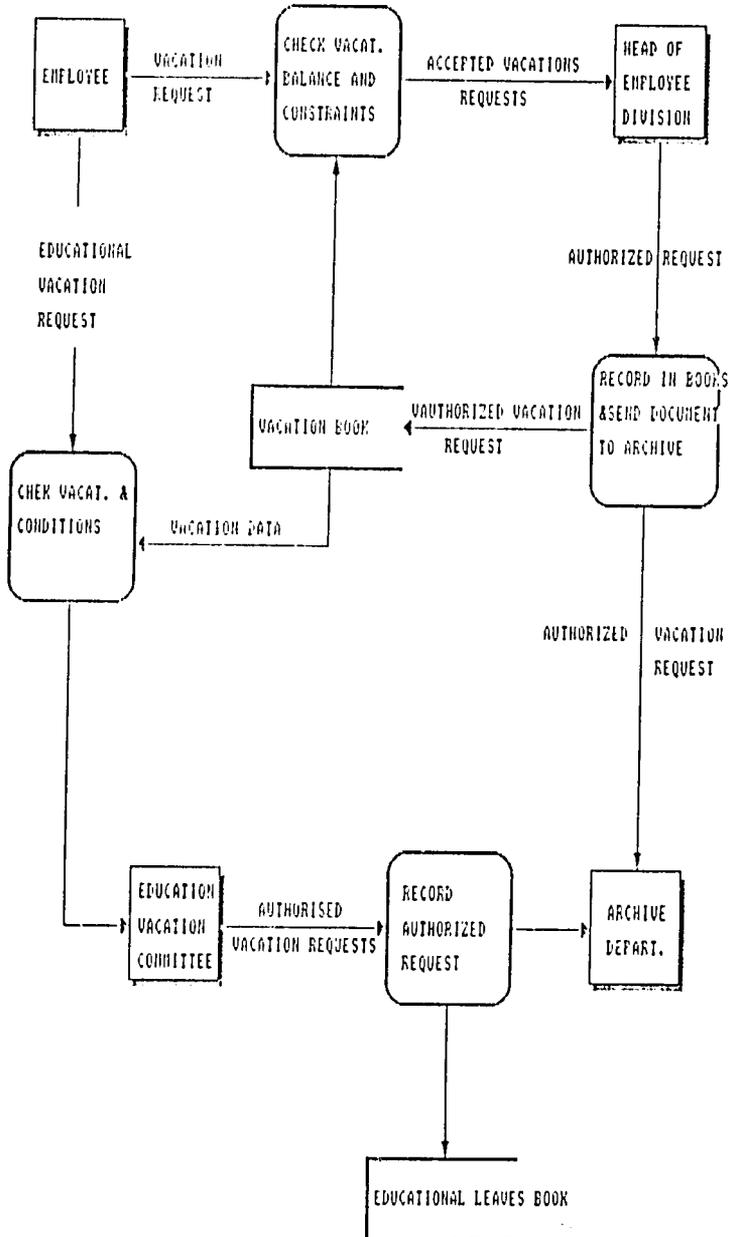
4.6.2 ARCHIVE AND BENEFITS DEPARTMENT
 (II) SALARY ADMINISTRATION



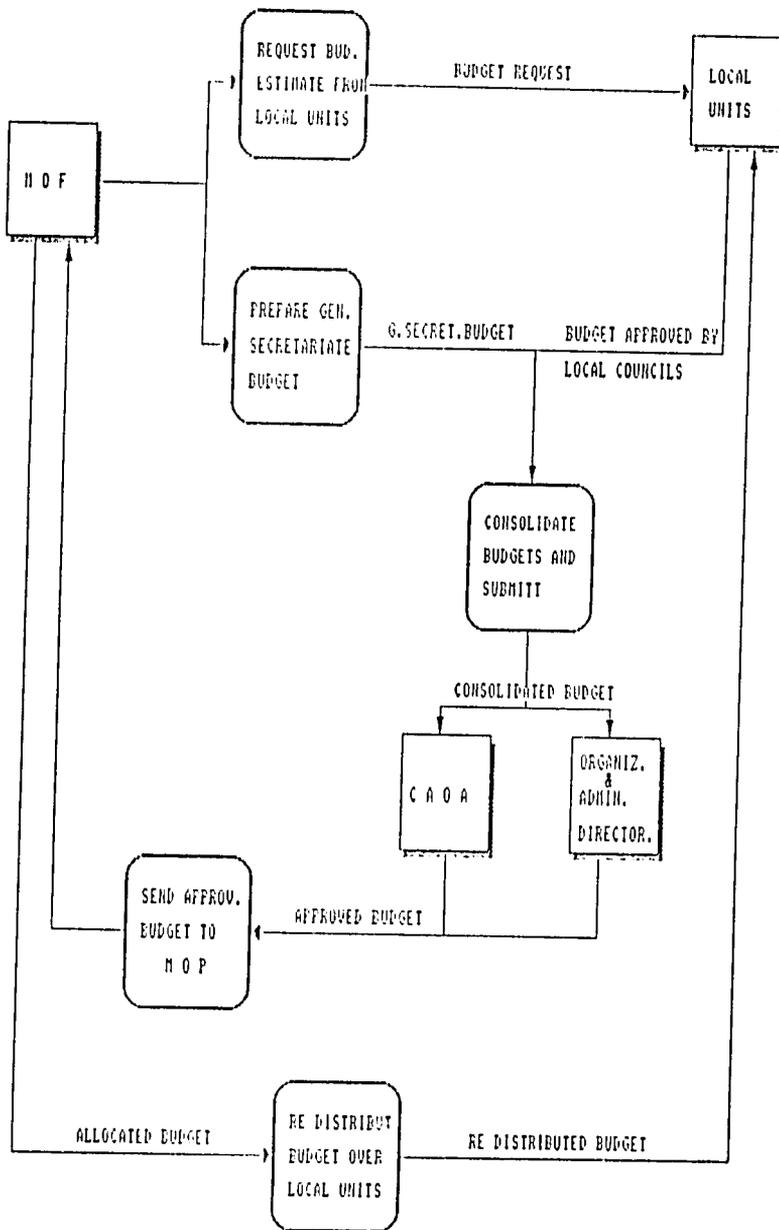
4.6.3 PROMOTIONS, PENALTIES, AND VACATIONS
 (1) PROMOTIONS DIVISION



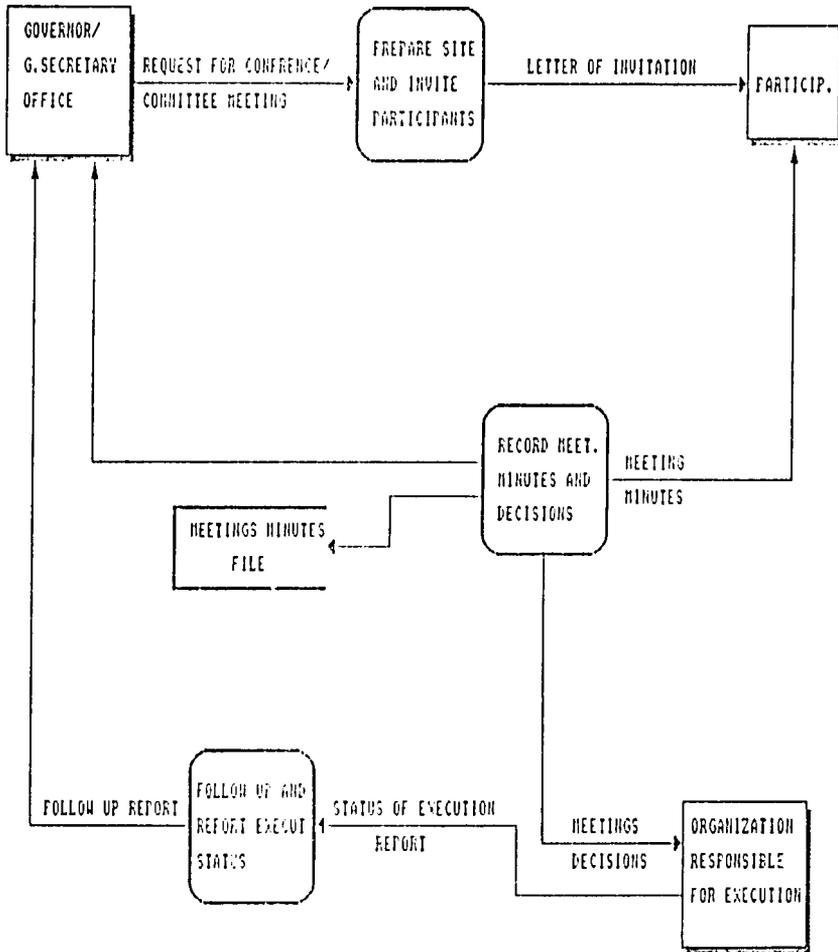
4.6.3 PROMOTION, PENALTIES, AND VACATIONS
 (11) VACATION DIVISION



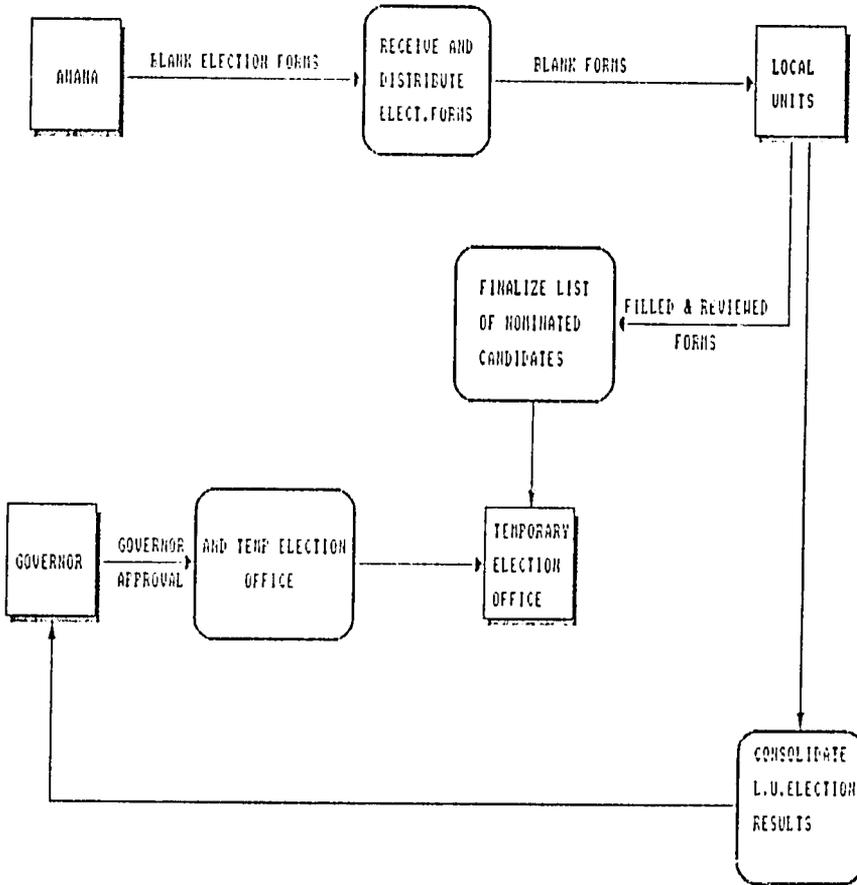
4.6.4 POSITION CONTROL DEPARTMENT



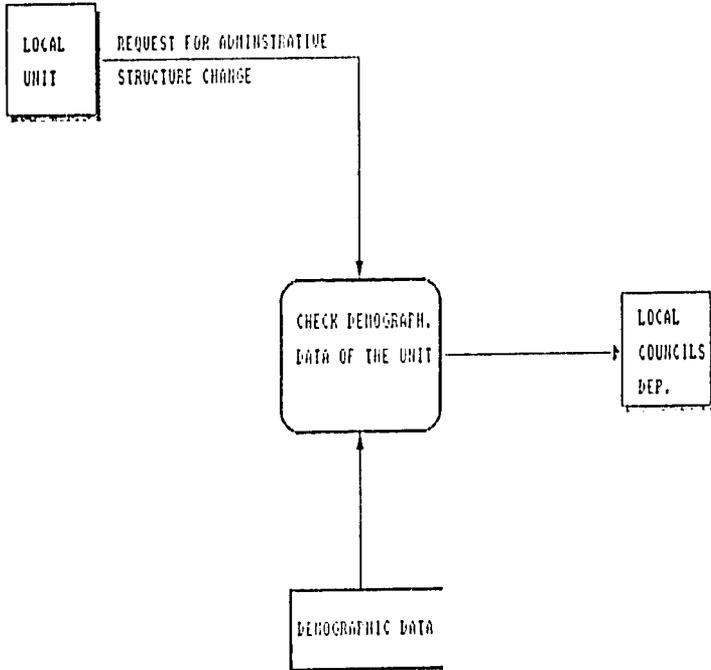
4.7.1 CONFERENCES AND COMMITTEES



4.7.3 GENERAL DEPARTMENT FOR LOCAL COUNCILS
ELECTION ADMINISTRATION



4.7.4 GENERAL DEPARTMENT FOR LOCAL UNITS
DEMOGRAPHIC DATA



Appendix E - List of Interviewees

LIST OF INTERVIEWEES

<u>Name</u>	<u>Title</u>
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1. Administrative Affairs Department

Mr. Yehea Sheta	General Manager
Mr. Adel Moselhi	Head of Secretary and Archive
Mrs. Fatma Allam	Head of Building Affairs
Eng. Mohamed Abdel Hamid	Head of Mechanical Campaign

2. Central Department for Financial Affairs

Mr. Mostafa El-Zait	General Manager
Mr. Handy Ibrahim	Head of Accounting
Mrs. Omayma Fathallah	Chief of Auditors
Mr. Ahmed Abdel-Moneim	Head of Reconciliation
Mr. Abdel-Rased Youssef	Head of Treasury
Mr. Adley Aly Abuel-Alaa	Head of Budget Control
Mr. Refaat Abdel-Maksoud	Head of Follow-up
Mr. Mohamed Hessien	Head of Stock Control
Mrs. Sabah Aoud	Procurement Staff
Mr. Aly Mohamed Moustafa	Procurement Staff
Mrs. Fatima Hosny	Accounting Staff

3. Central Department for Planning and Follow-up

Mr. Zaki Taha	General Manager
Mrs. Regaa	Head of Follow-up
Mrs. Wafaa	Head of Planning
Mr. Ahmed Kilani	Head of Educational building
Mrs. Sohier	Head of Housing project

4. Central Statistics Department

Mrs. Taghreed	General Manager
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5. ORDEV Department

Dr. Nazek Saleh	Head of department
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6. General Department for Personnel Affairs

Mr. Moris Beshay	Head of Recruitment
Mr. Hassen Shebl	Head of Penalties
Mr. Mohamed Youssif	Head of Promotions

7. Central Department for Local Units and Councils

Mr. Ahmed Gaber	General Manager
Mr. Ahmed Tallat	Head of Local Councils
Mr. Amin Abdel-Said	Head of Local Units
Mr. Mohamed Shehata	Head of Councils and Committees
Mr. Maher Abdel-Hamid	Head of Cemetery
Mr. Mahmoud Ismail	Head of Election Section